



DEBATE PACK

Number CDP 2016/0211, 14 November 2016

Release of the 700 MHz spectrum band for mobile data in 2020

This pack has been prepared ahead of the debate on the Release of the 700 MHz spectrum band for mobile data in 2020, to be held in Westminster Hall on Tuesday 15 November at 4.30pm. The Member in charge of the debate is Calum Kerr MP.

The House of Commons Library prepares a briefing in hard copy and/or online for most non-legislative debates in the Chamber and Westminster Hall other than half-hour debates. Debate Packs are produced quickly after the announcement of parliamentary business. They are intended to provide a summary or overview of the issue being debated and identify relevant briefings and useful documents, including press and parliamentary material. More detailed briefing can be prepared for Members on request to the Library.

Sara Priestley
Alison Pratt

Contents

1.	Release of the 700 MHz spectrum band for mobile data in 2020	2
1.1	Background	2
1.2	Release of the 700 MHz band for mobile data	3
2.	Press Articles	5
3.	Press Releases	7
4.	Parliamentary material	9
5.	Further reading	11

1. Release of the 700 MHz spectrum band for mobile data in 2020

1.1 Background

The widespread use of smartphones and tablets has led to a large growth in demand for mobile data services. Ofcom (the communications regulator) states that total data traffic across networks in recent years has been growing at around 60% per year.¹

Ofcom is responsible for allocating the frequencies for what is referred to as the radio spectrum to different mobile operators. To do so it allocates licences – effectively licences to transmit radio waves over defined frequency ranges.

The [Wireless Telegraphy Act 1998](#) (as amended) enabled the use of auctions to grant licences, where appropriate.

The first UK spectrum auction was in 2000 for 3G mobile phone licences and raised £22 billion.²

The second auction was in 2013 and auctioned radio spectrum licences in the 800 MHz (megahertz) and 2.6 GHz (gigahertz) frequency bands to provide spectrum for new 4G mobile services in the UK. This auction raised £2.34 billion.

In November 2014, Ofcom decided to make the 700 MHz band available for mobile data. More information on this is provided in Section 1.2 below.

In July 2015, Ofcom set out that an auction was expected on 190 MHz of radio spectrum being transferred from the Ministry of Defence to civilian use. 40 MHz is located in the 2.3 GHz band and another 150 MHz above 3.4 GHz and this spectrum is suitable for mobile broadband uses. This auction was delayed by proposed mergers between EE and BT and between Telefonica UK and Hutchinson 3G UK.³ On 20 July 2016, Ofcom provided the following update on this auction:

Following the European Commission's decision to block the proposed acquisition of O2 by CK Hutchison (H3G), Ofcom intends to publish in the autumn a further consultation on competition measures and on specific aspects of auction design for the award of the 2.3 and 3.4 GHz spectrum bands.⁴

¹ Ofcom Statement, [Maximising the benefits of 700 MHz clearance](#)

² BBC News, [UK mobile phone auction nets billions](#), 27 April 2000 [accessed 10 November 2016]

³ Ofcom, [Public Sector Spectrum Release](#), updated 3 December 2015

⁴ Ofcom website, [Spectrum Management: Ongoing Projects](#)

1.2 Release of the 700 MHz band for mobile data

In November 2014, Ofcom decided to make the 700 MHz band available for mobile data. This is part of Ofcom's broader strategy to ensure that sufficient spectrum is available to meet projected increases in demand for mobile data. The 700 MHz band is currently used for Digital Terrestrial Television (DTT); wireless communication for theatrical, musical and sporting events (referred to as audio Programme Making and Special Events or PMSE services); and white space devices (WSDs).⁵

In Budget 2015, the Government announced that it would provide up to £600 million funding to support the delivery of the change of use of the 700 MHz spectrum:

1.125 The government will provide up to £600 million to support the delivery of the change of use of 700MHz spectrum, which will further enhance the UK's mobile broadband connectivity. These funds will support the infrastructure costs of clearing the spectrum frequency, including support to consumers where appropriate, and retuning broadcast transmitters to enable broadcasters to move into a lower frequency. This will free up 700MHz spectrum for 4G mobile communications use through an auction next Parliament. The government will also centralise the operational management of public sector spectrum, and will reset the release target.⁶

Ofcom expects to auction mobile licences for the band in late 2018 or 2019.⁷ A statement from Ofcom on 17 October 2016 stated that it planned that the 700 MHz band will be available for use by no later than Q2 2020:

Our objective is to make the band available for mobile as soon as practicable, by 2022 at the latest. On 11 March, we published a consultation on maximising the benefits of 700 MHz clearance. This set out proposals which would enable us to bring forward the point at which this spectrum is nationally available for mobile data to a target of no later than Q2 2020.⁸

The Ofcom diagram below shows the configuration of the 700MHz band once it becomes available for mobile data:⁹

Configuration of 700 MHz band after clearance



⁵ Ofcom Decision, [Decision to make the 700 MHz band available for mobile data](#). Note that WSDs are innovative new devices which are able to identify and make use of previously unused gaps in frequency bands.

⁶ HM Treasury, [Budget 2015](#), HC 1093

⁷ Ofcom, [Strategic Review of Digital Communications, initial conclusions](#), February 2016, para 1.15

⁸ Ofcom Statement, [Maximising the benefits of 700 MHz clearance](#)

⁹ Ofcom Statement, [Maximising the benefits of 700 MHz clearance](#)

Ofcom's analysis in 2014 and 2016 includes the following benefits of making the 700 MHz band available for mobile use by 2020:

- Mobile network cost savings from deploying fewer base stations;
- Improvements in mobile performance in hard to serve locations;
- Potential for lower consumer prices;
- Extending data coverage;
- Potential for new services or technology to be deployed in the band.

In its Report on [Establishing world-class connectivity throughout the UK](#), the Culture, Media and Sport Select Committee concluded that better coverage for mobile will be achieved through the release of the 700 MHz band and others:

The Government and Ofcom have worked well together to secure investment from the mobile network operators to achieve agreement on reaching a 90% geographical coverage by 2017. Ofcom has successfully designed spectrum auctions so that coverage obligations are a key part of these exercises. The Government will undoubtedly achieve better coverage for mobile through the release of 700 MHz band and others once they become available. When these bands are auctioned there will clearly be a trade-off between spectrum price and the obligations on the licence holders. To facilitate investment by the operators, the Government may well need to place additional emphasis on achieving coverage, and on the role that mobile will play in meeting the universal service obligation for broadband, rather than primarily maximising revenue from the auction.¹⁰

In its Response to this Report, the Government stated:

With regards to spectrum, the role of spectrum auctions is not primarily to raise revenue but to allocate scarce spectrum where demand is likely to exceed supply, as has generally been the case for mobile networks. The issue of how 700 MHz spectrum will be allocated and the terms of 700 MHz licences are for Ofcom in the first instance; Ofcom has already indicated in its [Strategic Review of Digital Communications](#) (initial conclusions, February 2016, pp. 4, 26) an intention to look at coverage obligations in 700 MHz licences.¹¹

For detailed information on the impact of the changes needed to release the spectrum (around DTT and PMSE services) as well as more detail on the potential benefits, please see the Ofcom Statements on [Maximising the benefits of 700MHz clearance \(2016\)](#) and [Decision to make the 700 MHz band available for mobile data \(2014\)](#).

¹⁰ Culture, Media and Sport Committee, *Establishing world-class connectivity throughout the UK*, 19 July 2016, [HC147](#) 2016-17, para 57

¹¹ Culture, Media and Sport Committee, *Establishing world-class connectivity throughout the UK: Responses to the Committee's Second Report of Session 2016-17*, 12 October 2016, HC 714

2. Press Articles

Mobile Europe

Work begins on using TV white spaces

11 November 2016

<http://www.mobileeurope.co.uk/press-wire/work-begins-on-using-tv-white-spaces-to-connect-rural-scotland>

BBC online

Dead TV signals offer broadband hope in rural Scotland

Jane Wakefield 10 November 2016

<http://www.bbc.co.uk/news/technology-37936118>

ISPreview

White Space Tech Brings Wireless Broadband to Isle of Arran in Scotland

Mark Jackson 10 November 2016

<http://www.ispreview.co.uk/index.php/2016/11/white-space-tech-brings-wireless-broadband-island-scotland.html>

DTG

Three calls for Spectrum cap on EE

19 September 2016

<http://dtg.org.uk/news/news.html?id=5632>

Telecoms.com

Europe proposes 700Mhz reallocation for wireless broadband

Tim Skinner 26 May 2016

<http://telecoms.com/472800/europe-proposes-700-mhz-reallocation-for-wireless-broadband/>

Total Telecom

Ofcom targets Q2 2020 for clearing 700 MHz band

Nick Wood 11 March 2016

<http://www.totaltele.com/view.aspx?C=0&ID=493121>

Independent

Ofcom: UK can raise its game on mobile signals

Simon Neville 26 February 2016

<http://www.independent.co.uk/business/ofcom-uk-can-raise-its-game-on-mobile-signals>

TechUK

EC proposes to coordinate the use of the 700MHz band for mobile services

Paul Hide 2 February 2016

<http://www.techuk.org/insights/news/item/7369-ec-proposes-to-coordinate-the-use-of-the-700-mhz-band-for-mobile-services>

3. Press Releases

Ofcom

Managing the effects of 700MHz clearance on PMSE and DTT viewers

31 March 2016

In November 2014 we decided to make some changes to the frequencies Digital Terrestrial Television and wireless microphones use in order to make valuable spectrum in the 700 MHz band available for mobile data.

This will deliver significant net benefits, including benefits to citizens and consumers. However, the process will also have a number of effects on DTT viewers and users of wireless microphones.

For the vast majority of viewers the only effect of the change will be that they need to retune their television – a process most people find easy. Nonetheless, a small minority will need to replace their aerials or pay for an installer to point them in a different direction. In addition, the change will mean that some people need to replace their wireless microphones.

Government is considering whether there is a case for making public funding available to support viewers and wireless microphone owners with these changes. In order to aid its thinking on this matter, it has requested advice from Ofcom on the effects the changes will have on stakeholders, the options for addressing these effects and the associated costs.

The purpose of this document is to gather information to inform this advice. The document asks for stakeholder input on a range of questions about the effect the change will have on DTT viewers and wireless microphone owners.

We would particularly welcome responses from groups that might be affected by change of use of the 700 MHz band – for example, DTT viewers, consumer groups, wireless microphones owners as well as interested industry bodies.

In addition to the questions asked in this document, we also invite PMSE stakeholders that are likely to be affected by clearance to fill in a separate financial questionnaire found here. Information submitted in this questionnaire will be treated as strictly confidential and will only be presented to Government in anonymised and aggregate form, without individual respondents being identified.

Update – 5th April

We have now published associated research into viewers' experience of television reception which can be viewed via the link below.

[Managing the effects of 700 MHz clearance on PMSE and DTT viewers - Call for input.](#) PDF, 333.3 KB

4. Parliamentary material

[Radio Frequencies: Mobile Phones](#)

Asked by: Sir Greg Knight

To ask the Secretary of State for Culture, Media and Sport, what measures her Department is taking to ensure that all mobile phone operators have sufficient spectrum to meet future demands for mobile data; and what steps her Department is taking to prevent a dominant company controlling the market on spectrum availability.

Answering member: Matt Hancock | Department: Department for Culture, Media and Sport

All mobile network operators face rapidly growing demand for data, and need spectrum to meet that demand. Since 2010 the Government has made 384 MHz of spectrum used by the public sector available for private sector use, including 190 MHz of spectrum suitable for mobile data. This mobile spectrum is being assigned by Ofcom through an auction; a consultation on the auction rules is expected soon.

Ofcom's duties include the promotion of competition and efficient use of spectrum, and it has indicated that it remains committed to the principle of a four-operator UK market – and therefore to four operators with sufficient spectrum to be credible. The Government therefore believes that Ofcom will set rules that ensure serious bidders approaching the forthcoming auction with realistic valuations of the scarce spectrum on offer can obtain the spectrum they need.

In the next 3-5 years the government and Ofcom will provide additional spectrum for mobile data including the 700 MHz band.

HC Deb 18 October 2015 | HC48050W

[Mobile Phones: Radio Frequencies](#)

Asked by: Chi Onwurah

To ask the Secretary of State for Culture, Media and Sport, what consideration his Department has given to making funding available for equipment manufacturers to research and develop equipment for operation in new spectrum allocated for use by the Programme Making and Special Events sector since the reallocation of the 700MHz band.

Answering member: Mr Edward Vaizey | Department: Department for Culture, Media and Sport

Ofcom have published a consultation outlining alternative spectrum bands for PMSE users. The PMSE community have been involved in the process to identify alternative suitable spectrum. We are currently working closely with Ofcom to look at how PMSE users can be supported if they need to purchase new equipment.

HC Deb 24 Feb 2016 | HC23960W

[Radio Frequencies](#)

Asked by: Nigel Huddleston

To ask the Secretary of State for Culture, Media and Sport, what the evidential basis is for clearing the 700 MHz band of spectrum requiring £600 million in funding; and what discussions his Department had with representatives of the programme making and special events sector prior to agreeing that figure.

**Answering member: Mr Edward Vaizey | Department:
Department for Culture, Media and Sport**

In March 2015, Government announced funding of up to £600m to fund the clearance of the 700MHz band and, as part of the programme, we are committed to safeguarding the ongoing benefits of PMSE to the UK economy. Ofcom have published a consultation outlining alternative spectrum bands for PMSE users, and we are currently working with Ofcom to look at how PMSE users can be supported if they need to buy new equipment.

HC Deb 11 Feb 2016 | HC25626W

[Radio Frequencies: Auctions](#)

Asked by: Chi Onwurah

To ask the Secretary of State for Culture, Media and Sport, what funding is available for programme making and special events licence users to encourage them to leave the 700 MHz band.

**Answering member: Mr Edward Vaizey | Department:
Department for Culture, Media and Sport**

Ofcom have published a consultation outlining alternative spectrum bands for PMSE users. The PMSE community have been involved in the process to identify alternative suitable spectrum. We are currently working closely with Ofcom to look at how PMSE users can be supported if they need to purchase new equipment.

HC Deb 05 Feb 2016 | HC22982W

5. Further reading

Ofcom, *Spectrum management*, 19 October 2016

<https://www.ofcom.org.uk/spectrum/spectrum-management>

Ofcom statement: *Maximising the benefits of 700MHz clearance*, 17 October 2016

https://ofcom-build.squiz.co.uk/_data/assets/pdf_file/0031/92659/Maximising-the-benefits-of-700-MHz-clearance-Statement.pdf

Ofcom consultation: *Maximising the benefits of 700MHz clearance*, 11 March 2016

https://www.ofcom.org.uk/_data/assets/pdf_file/0026/84176/maximising-benefits-of-700mhz-clearance.pdf

Ofcom, *Mobile Data Strategy: Update on our strategy for mobile spectrum*, 30 June 2016

https://www.ofcom.org.uk/_data/assets/pdf_file/0033/79584/update-strategy-mobile-spectrum.pdf

Ofcom, *Making communications work for everyone: Initial conclusions from the strategic Review of Digital Communications*, 25 February 2016

https://www.ofcom.org.uk/_data/assets/pdf_file/0016/50416/dcr-statement.pdf

Commons Briefing Paper: *Mobile Coverage in the UK: Government plans to tackle 'mobile not-spots'*, 22 September 2016

<http://researchbriefings.files.parliament.uk/documents/SN07069/SN07069.pdf>

Commons Library analysis: *Digital Economy Bill*, 9 September 2016

<http://researchbriefings.files.parliament.uk/documents/CBP-7699/CBP-7699.pdf>

Commons Briefing Paper: *The UK 4G spectrum auction and mobile coverage*, 29 July 2016

<http://researchbriefings.files.parliament.uk/documents/SN06383/SN06383.pdf>

Culture, Media and Sport Committee, *Establishing world-class connectivity throughout the UK*, 19 July 2016, HC147 2016-17

<http://www.publications.parliament.uk/pa/cm201617/cmselect/cmcmds/147/147.pdf>

Culture, Media and Sport Committee, *Establishing world-class connectivity throughout the UK: Responses to the Committee's Second Report of Session 2016-17*, 12 October 2016, HC 714

<http://www.publications.parliament.uk/pa/cm201617/cmselect/cmcmds/714/714.pdf>

POSTNOTE: *UK Broadband Infrastructure* May 2015

<http://researchbriefings.files.parliament.uk/documents/POST-PN-0494/POST-PN-0494.pdf>

About the Library

The House of Commons Library research service provides MPs and their staff with the impartial briefing and evidence base they need to do their work in scrutinising Government, proposing legislation, and supporting constituents.

As well as providing MPs with a confidential service we publish open briefing papers, which are available on the Parliament website.

Every effort is made to ensure that the information contained in these publically available research briefings is correct at the time of publication. Readers should be aware however that briefings are not necessarily updated or otherwise amended to reflect subsequent changes.

If you have any comments on our briefings please email papers@parliament.uk. Authors are available to discuss the content of this briefing only with Members and their staff.

If you have any general questions about the work of the House of Commons you can email hcinfo@parliament.uk.

Disclaimer

This information is provided to Members of Parliament in support of their parliamentary duties. It is a general briefing only and should not be relied on as a substitute for specific advice. The House of Commons or the author(s) shall not be liable for any errors or omissions, or for any loss or damage of any kind arising from its use, and may remove, vary or amend any information at any time without prior notice.

The House of Commons accepts no responsibility for any references or links to, or the content of, information maintained by third parties. This information is provided subject to the [conditions of the Open Parliament Licence](#).