Your response

Question	Your response
Question 1: (Section 2) Do you have any comments on our assessment of potential use cases, demand and deployment strategies for new uses of mmWave spectrum?	*Is this response confidential? – No* Please see my attached document
Question 2: (Section 2) Do you have any comments on our proposed overall approach to mmWave spectrum (including our aim to make the 26 GHz and 40 GHz bands available for new uses on the same or similar timeframe)?	*Is this response confidential? – No* Please see my attached document
Question 3: (Section 3) Do you agree with our approach of specifying high and low density areas in the UK, and authorising new uses differently in those areas?	*Is this response confidential? – No* Please see my attached document
Question 4: (Section 3) Do you agree with our overall authorisation approach in high density areas for the 26 GHz band (i.e. to grant Shared Access licences on a first come, first served basis for the bottom 850 MHz of the 26 GHz band, (24.25-25.1 GHz), and to auction citywide licences for the rest of the 26 GHz band (25.1-27.5 GHz))?	*Is this response confidential? – No* Please see my attached document
Question 5: (Section 3) Do you agree with our overall authorisation approach in low density areas for the 26 GHz band (i.e. to grant Shared Access licences on a first come, first served basis)?	*Is this response confidential? – No* Please see my attached document
Question 6: (Section 3) Do you agree with adopting a similar approach to authorising the 40 GHz band as our proposals for the 26 GHz band, if we were to decide to re-allocate the 40 GHz band?	*Is this response confidential? – No* Please see my attached document

Question 7: (Section 4) Do you agree with our proposed methodology for identifying and defining high density areas?	*Is this response confidential? – No* Please see my attached document
Question 8: (Section 4) Do you agree with our proposed cut-off point of 40 high density areas?	*Is this response confidential? – No* Please see my attached document
Question 9: (Section 5) Do you agree with our proposal to clear the fixed links in and around high density areas from the 26 GHz band?	*Is this response confidential? – No* Please see my attached document
Question 10: (Section 5, Annex 8) Do you agree with our estimates of the cost of migrating fixed links into alternative spectrum bands?	*Is this response confidential? – No* Please see my attached document
Question 11: (Section 6) Do you agree with the proposed approaches we have outlined to manage coexistence between new 5G users and the different existing users in the 26 GHz band? In particular, do you have any views on our proposals to limit future satellite earth stations in this band to low density areas only, and to end access to this band for PMSE users with five years' notice?	*Is this response confidential? – No* Please see my attached document
Question 12:(Section 7) Do you agree with our initial assessment on which option for enabling the 40 GHz band for new uses would best achieve our objectives?	*Is this response confidential? – No* Please see my attached document
Question 13: (Section 7, Annex 8) Do you agree with our analysis of the impact on existing 40 GHz licensees, including our estimates of the cost of moving fixed links under the options involving revocation (options 2, 3 and 4)?	*Is this response confidential? – No* Please see my attached document

Question 14: (Section 8) Do you have any comments on our high-level Shared Access proposals (including technical and non-technical licence conditions and proposed approach to setting fees)?	*Is this response confidential? – No* Please see my attached document
Question 15: (Section 8) Do you agree with the overall approach we have set out to coordination and coexistence between new Shared Access users in the 26 GHz band and existing users?	*Is this response confidential? – No* Please see my attached document
Question 16: (Section 9) Do you have any comments on our initial thinking in relation to auction design?	*Is this response confidential? – No* Please see my attached document
Question 17: (Section 10) Do you have any comments on the licence duration options we have considered in this section for new licences for the 26 GHz and 40 GHz bands that we would auction?	*Is this response confidential? – No* Please see my attached document
Question 18: (Section 11) Do you agree with our assessment of potential competition concerns and that it may be appropriate to impose a competition measure such as a 'precautionary cap'?	*Is this response confidential? – No* Please see my attached document

Please complete this form in full and return to mmwave.allocation@ofcom.org.uk

'Enabling mmWave spectrum for new uses' consultation

Response from Julia Burgess:

Ofcom is proposing to add spectrum in the 26 and 40 GHz range to enable broader use of 5G. I am writing to express my strong opposition to this. 5G, which employs millimeter-wave technology in the high band, is new and largely untested. However, all indications, based on what we do know about wireless technology, are that we risk killing the bees and other pollinators, thereby destroying our ecosystem and food supplies by:

1) using biologically untested millimeter-wave spectrum, and
2) deploying such spectrum on a massive scale via small cells.

All wireless technology is dangerous to living things. Studies by independent scientists have shown that electromagnetic radiation (EMR) causes oxidative stress in all living creatures. This in turn leads to all sorts of other adverse effects: neurological damage, cancer, sterility and much more.

A quick look at the database of the excellent German site https://www.emf-portal.org/en will give an idea how very many studies on all aspects of wireless technology have found serious adverse effects on trees, plants, insects, birds, animals and human beings. Even microbes and bacteria are affected. 5G is especially dangerous because it uses millimeter waves, which disproportionately affect smaller forms of life such as insects.

5G is also especially harmful because, unlike previous wireless technologies which depended solely on mobile masts, it will employ thousands, perhaps millions, of small cells which will be placed on lamp-posts and along roads throughout the country. Thus mobile masts and small cells will be everywhere, and there will be nowhere any creature can go to get away from direct sources of EMR.

All over the world, insects have declined by about 75%. This includes the pollinators on which we depend to grow food. This includes the food which we grow here in the U.K. We depend on bees and other pollinators in order to grow fruit and vegetables. There has been a lot of research on how bees are affected by EMR, and I would ask you to read just one article that sums up the state of what we know already. You can find it here:

https://thepulse.one/2021/12/31/5g-other-wireless-radiation-is-destroying-bees/

The author, Arjun Walia, gives a brief summary of some of the more important studies on bees (for all of which there are links) and argues that, although we do not know everything about

how EMR affects bees, we do know enough to anticipate that 5G could very well cause them to become extinct. In adding mmWave spectrum to the existing 5G wavelengths, we may very well wipe out all of our pollinators. It is a risk we cannot afford to take.

He says, “Clearly, more research is necessary to understand the full impact of RFR [Radio Frequency Radiation] on bees and other insects. However, *enough* research has been performed to indicate an urgent need to reduce electromagnetic radiation exposures to protect the bee population and in turn, protect the environment. As 5G will increase radiation exposures and use new higher frequencies shown to be highly absorbed into insects , scientists are calling for a moratorium on 5G. “

Food is infinitely more important than mobile communications. Adding spectrum to existing 5G wavelengths, while multiplying exponentially the sources of EMR throughout the country via small cells, puts at risk our nation’s food security. MmWaves should not be allowed to saturate the environment unless extensive and objective scientific research on insects, especially pollinators, proves without any doubt that these frequencies will not harm them.

Ofcom is basing the rollout of mmWave wireless technologies on the EMR ‘safety limits’ that are contained in the ICNIRP (International Commission on Non-Ionizing Radiation Protection) Guidelines. The problem that this situation presents is twofold:

1) ICNIRP’s Guidelines **do not** apply to non-human species, and
2) ICNIRP’s Guidelines are for short-term exposures only; they are based on preventing a significant rise in bodily temperature, and they ignore all evidence of harmful non-thermal effects in humans.

ICNIRP’s limits are of very dubious benefit to humans, but when it comes to other species, they are utterly irrelevant. We are about to commence the rollout of mmWave-emitting infrastructure that is intended to blanket whole areas, on top of existing microwave frequencies, and yet there are no meaningful, ecologically-based, restrictions in place, and no real scientific examination of the likely effects on flora and fauna. To quote U.S. Senator Richard Blumenthal, when he confronted the wireless industry over 5G, ‘So there really is no research ongoing. We’re kind of flying blind here, as far as health and safety is concerned’.

Ofcom is flying blind. It presumably has a duty to protect life, and yet it is rolling out 5G mmWave technologies based upon ‘safety limits’ that completely ignore human-non-thermal effects and chronic exposures, and which do not even apply to non-human species. Ofcom urgently needs to have a rethink, otherwise it will surely be responsible for what follows.