



## 5G - The Next Mobile Generation

More than any previous generation of mobile networks, 5G has the potential to transform the way we live and improve economic productivity. Networks will have the capacity for millions more devices to be connected at the same time, enabling businesses and communities to operate more efficiently. It will allow cities and communities to manage traffic flow, monitor air quality and control energy usage through real-time management of high volumes of data.

A recent report estimated that local authorities will share collectively an annual £2.35 billion of efficiency savings, from reduced social care costs for the elderly through 5G monitoring, to savings through smarter street lighting.<sup>1</sup> We want the UK to take early advantage of these benefits, so it is good news that all of the four main mobile network operators - EE, O2, Three and Vodafone - have started to deploy 5G networks. We expect 5G to go live in up to 50 cities and towns by the end of 2020. In order to support the deployment of 5G and extend mobile coverage, particularly in rural areas, the Government recently published a consultation on the principle of proposed reforms to permitted development rights, which closes on 4 November.

The National Planning Policy Framework ("the Framework") for England<sup>2</sup> supports the expansion of high quality communications, including next generation mobile technology, such as 5G. The Framework states that planning applications for mobile base stations should include a statement of compliance with international guidelines on limiting exposure to electromagnetic fields known as the International Commission on Non-Ionizing Radiation Protection guidelines ("the ICNIRP guidelines"<sup>3</sup>). It also states: "Local planning authorities must determine applications on planning grounds only. They should not seek to prevent competition between different operators, question the need for an electronic communications system, or set health safeguards different from the International Commission guidelines for public exposure."

Public Health England ("PHE") has recently updated its advice in respect of 5G and states: "It is possible that there may be a small increase in overall exposure to radio waves when 5G is added to an existing network or in a new area. However, the overall exposure is expected to remain low relative to guidelines and, as such, there should be no consequences for public health."<sup>4</sup> I understand that PHE colleagues regularly provide

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<sup>1</sup> "The value of 5G for cities and communities", Juniper Research and O2

<https://d10wc7q7re41fz.cloudfront.net/wp-content/uploads/2018/03/Smart-Cities-Report.pdf>

<sup>2</sup> <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

<sup>3</sup> <https://www.icnirp.org/cms/upload/publications/ICNIRPemfgdl.pdf>

<sup>4</sup> <https://www.gov.uk/government/publications/5g-technologies-radio-waves-and-health>

advice to your public health officers across a range of health topics.

In compliance with PHE advice, mobile network operators have committed to follow the ICNIRP guidelines. ICNIRP is an independent organisation which is formally recognised by the World Health Organisation. It issues guidelines on human exposure to electromagnetic fields, based upon the consensus view of a large amount of research carried out over many years. This includes the frequencies used by 5G and all other mobile / wireless technologies. Over the last two decades there have been over 100 expert reports on EMF and health published internationally<sup>5</sup> with well over 3,000 studies<sup>6</sup> informing these reviews and the existing scientific exposure guidelines.

Ofcom will carry out audits of mobile base stations on an ongoing basis to ensure that ICNIRP guidelines are not exceeded and publish the results of these audits on its website.

The Department for Digital, Culture, Media and Sport (DCMS) is working with colleagues in Ofcom, PHE and the network operators to provide some workshops for the benefit of council officials to help them understand the technology and the science relating to these health concerns. DCMS officials are also working with both the Local Government Association and the Association of Directors of Environment, Economy, Planning and Transport to support local authorities in this regard and would welcome any further feedback through those channels or directly.

If you or any of your colleagues have any questions, please contact DCMS at [enquiries@culture.gov.uk](mailto:enquiries@culture.gov.uk).

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<sup>5</sup> <https://www.gsma.com/publicpolicy/consumer-affairs/emf-and-health/expert-reports>

<sup>6</sup> <https://www.emf-portal.org/en>