

Telefonica UK Ltd (“Telefonica”) welcomes the opportunity to respond to the CMA’s provisional findings report¹.

Our comments focus on the CMA’s analysis in sections 11 – 16 and the associated appendices.

¹ Anticipated acquisition by BT Group plc of EE Ltd, Provisional findings report, 28 October 2015. See: <https://assets.digital.cabinet-office.gov.uk/media/56339544ed915d566a00000f/BT-EE ->

Retail mobile competitive assessment: unilateral effects

Likely future capacity constraints from MNOs

The CMA states that the nature of capacity constraints appears to be time limited and that there are a range of non-spectrum investments that operators can make to improve their networks over time². The CMA sets out its analysis in greater detail in Appendix G.

In relation to Telefonica, the CMA reports that the Parties argued that Telefonica's behaviour in the wholesale market suggests that it will not face capacity constraints³. Elsewhere in the report⁴, the CMA notes that:

“certain MVNOs are particularly attractive to MNOs because they allow them to target customer segments that the MNO's core brand is not as effective at reaching. For this reason, [redacted]”

Telefonica concurs with this provisional finding. It is important to appreciate fully the nature of the “hedge”. If bundled offerings become popular, then, to some extent, the capacity required to service fixed-MVNOs substitutes for the capacity that would otherwise have been required to service Telefónica's own retail customers. That is, under this scenario retail market share of existing providers would fall, at the expense of MVNOs providing bundled offerings. As a standalone mobile provider, Telefonica might be expected to lose proportionately more retail customers compared to those mobile providers that offer bundled services. Therefore, there is nothing inconsistent with this approach to the MVNO market and the capacity challenges faced by Telefonica.

However, as we note in our comments on the CMA's analysis of the wholesale market, [redacted].

At paragraph 146 of Appendix G, (and referring to a Telefonica internal document) the CMA states that:

“We consider that the above evidence suggests that should Telefonica face capacity challenges, these would be substantially eased either by 2.3 GHz spectrum (in the medium term) or 3.4 GHz spectrum and small cells and densification (in the longer term), and that in combination they would have greater effect. We also note that 700 MHz spectrum will become available by the beginning of 2022, and possibly up to two years sooner”

Telefonica believes that the CMA might have misinterpreted this document. [redacted] Telefonica sets out below an assessment on the limitations of 3.4 GHz spectrum and why it is an inadequate substitute for other high frequency 4G capacity spectrum.

The CMA also states that it has arrived at a provisional view is that mobile operators can make a range of non-spectrum investments to address capacity challenges⁵. In Telefonica's case, [redacted].

In addition to possible spectrum acquisition, [redacted]

² Paragraph 11.79 refers

³ Paragraph 137 in Appendix G refers

⁴ Paragraph 14.10 refers

⁵ See paragraph 11.80

A chart summarised Telefonica's Strategic Plan for 2015-18 (attached to this submission as Annex A) showing the "levers" that Telefonica has potentially available together with each lever's feasibility, cost and estimated capacity benefit is set out below:

[X]

In practice these capacity levers bring significant challenges [X]. A brief summary of these issues is set out below, including issues with: [X]:

[X]

[X] Cross-operator site sharing arrangements are not a solution to the challenges associated with site densification. Telefonica is already actively sharing sites with other MNOs where feasible, particularly in urban areas. However, there are limitations to how useful these arrangements are in practice. Some sites have limited physical space which prevents multi-operator sharing, giving rise to a "race for space" with MNOs competing for access to the same sites. Even taking into account use of multi-operator sites in London, Telefonica has concluded that it still requires an additional [X] new sites in London to meet its site expansion requirements.

Telefonica has investigated the possibility of obtaining sites via tower companies such as Arqiva, Transport for London etc. However, in practice, Telefonica has often found that these companies are unable to deliver useable sites as: (i) they lack the rights to build on the towers and so require third party consents (which raises the same issues as set out above); or (ii) the location itself is not usable.⁶

Small cells: These can provide additional capacity within a small area, but have their own set of challenges. Small cells must be placed in specific locations in order to alleviate congestion on a particular cell, which can be difficult in very dense urban areas.⁷ Telefonica typically would need to place the small cells on street furniture (i.e. lamp-posts). However, only [X] of street furniture can support small cells and in some cases there may not be an appropriate piece of street furniture in the right location (or it might already be in use by another mobile provider). There are also issues with landlord agreement for small cells, as outlined above for macro cells. These challenges for small cell deployment are well recognised in the industry.⁸ Within nine districts of London, Telefonica has reviewed thousands of lamp-posts to identify suitable locations for small cells and [X] were found to be acceptable. However, many of these lampposts cannot be used to deploy small cells for various reasons out of Telefonica's control.⁹ Further, once a site has been identified and is able to be used, small cells can only be deployed there if there is fibre available. In many cases in London, this is not the case. If fibre and transmission

⁶ For example, although Transport for London owns bus stops around London, it is not physically possible to build new macro sites on them, nor would it be possible to obtain planning permission.

⁷ Ideally, small cells need to be placed within 10 metres – 15 metres of the specific traffic source.

⁸ See, e.g., Light Reading, "Urban jungle is still too wild for small cells", 6 November 2014, available at <http://www.lightreading.com/mobile/small-cells/urban-jungle-is-still-too-wild-for-small-cells/d/d-id/709395>.

⁹ Reasons the lampposts could not be used include, e.g., the relevant local council will not grant permission, the vegetation cover is more extensive than expected upon a site visit, the local council is already using the lamppost for signage, there is on-going construction in the street which blocks coverage of the cell or the lamppost is too close to an existing building which blocks coverage.

had to be installed in new locations for small cells, it would extend the timeframe for deployment by least [X] months.

6 sector upgrades: Telefonica is already deploying 6 sector upgrades for UMTS across both L800 and L1800 in order to increase capacity, but 6 sector technology has its challenges. Deployment can be slow as it involves, inter alia, acquiring legal rights to deploy the antenna on third party land. This often involves a long period of negotiations given the number and size of antenna to be deployed and obtaining planning permission. In addition, 6 sector upgrades can degrade the quality of other sites/cells because the additional cell sectors can cause interference in the network. Telefonica considers that 6 sector upgrades are useful in the short-term only as they are incompatible with and inhibit the use of future technologies, such as MMIMO (i.e. 6-sector cells and MMIMO cannot be used in the same location). If Telefonica acquired additional spectrum, 6 sector cells would need to be removed on smaller sites in order to make available sufficient physical space for Telefonica to deploy the additional spectrum. 6 sector upgrades are therefore not a long-term solution to [X].

Spectrum: Even if Telefonica were able to win further spectrum (which is a significant assumption), there are a number of further costs and time required to deploy that spectrum. For example, Telefonica would need to acquire additional equipment, remove any 6-sector upgrades installed where space is limited and acquire the necessary rights and planning permission to install the new spectrum.

[X].

Wifi: Telefonica is [X] to offload Telefonica customers to Telefonica wifi hotspots where geographically possible and insofar as the Telefonica wifi network would offer customers better coverage. However, the use of the wifi network to address capacity constraints carries a number of technical and commercial challenges. As with small cells, wifi hotspots must be positioned in specific locations in order to offload traffic in the congested cell. Wifi hotspots are better used indoors due to their low power output. Telefonica's wifi network has limited geographical coverage and more than one hotspot may be required in the same area to provide effective outdoor coverage. In addition, Telefonica's wifi network is open,¹⁰ meaning that non-Telefonica consumers also can use the capacity, reducing the efficacy for Telefonica mobile customers.

Traffic management: Telefonica has already been investing in a variety of techniques to help manage its traffic in urban areas. This offers some benefits in terms of "smoothing" and increasing the consistency of the quality received by customers in congested and capacity constrained areas, but it also results in a reduction in customer experience overall. Traffic management is therefore not sustainable as a long-term approach to addressing Telefonica's capacity constraints, particularly as it is simply insufficient to offset the pace at which data demand is growing on Telefonica's network.

[X]

[X]

[X]

[X]

[X].

¹⁰ [X].

Contrary to the view expressed by the CMA in paragraph 11.81 of the report, [X].

Retail mobile: dynamic loss of competition

In this section of the report, the CMA considers the greater capabilities that EE would have post-merger and the effect that this could have on competition¹¹.

Increased incentive to bid strategically

The CMA's discussion on this is set out in paragraphs 12.26 – 12.40. At paragraph 12.33, the CMA says that it agrees with Ofcom's reasoning that strategic bidding in the forthcoming PSSR award is unlikely, such reasons set out in paragraph 12.32.

Telefonica is predominantly concerned about the possibility of strategic bidding in relation to the 40 MHz of the 2.3GHz spectrum available in the award (and not the 190 MHz of 3.4 GHz spectrum). As the CMA notes, 2.3 GHz will be useable in the short term. Conversely, 3.4 GHz spectrum will not be useable for several years since mobile infrastructure and devices that are compatible with this spectrum are not yet available. Further, even when devices capable of using 3.4 GHz are made available, there is an additional period of time that needs to be factored to allow a sufficient number of customers to acquire such devices (thereby allowing alleviation of network capacity problems). Accordingly, Telefonica believes that 3.4GHz spectrum is of no significance in terms of addressing congestion problems, for several years.

However, more fundamentally, it is important to note the limited benefit of 3.4 GHz spectrum. Performance data that Telefonica has acquired recently reveals that 3.4 GHz spectrum is an inadequate substitute for other high frequency spectrum (such as 2.1 GHz, 2.3 GHz and 2.6 GHz spectrum), due to its poorer propagation properties.

It is well understood that typical mobile system radio propagation loss in urban environments exhibits a 4th power dependency on distance and frequency due to effect of ground reflections or reflections from surrounding buildings (see for example ITU-R P1411-7, Propagation Data And Prediction Methods For The Planning Of Short-Range Outdoor Radiocommunication Systems And Radio Local Area Networks In The Frequency Range 300 MHz to 100 GHz (attached at Annex B)).

Considering the propagation differences between 3.4 GHz and 2.6GHz on this basis, one would expect to see the 5.2dB reduction in outdoor received signal between these bands at the same distance (equivalent to 70% reduction in received power), and, indeed, this aligns with experimental data Telefonica has seen in real networks.

Further, building entry losses also increases with frequency because the dielectric losses associated with building material and content have a frequency dependent component. For example, the model proposed in ITU document UKSG3 CP(15)21, Proposal For The Development Of A New Recommendation On The Measurement And Modelling Of Building Entry Loss (attached at Annex C), demonstrates that, other things being equal, building entry loss associated with 3.4 GHz spectrum to be 2.7dB higher than 2.6 GHz, again wholly consistent with the real world data Telefonica has observed.

The predicted mean indoor coverage area of 3.4 GHz is, therefore, only around 40% of 2.6 GHz, and around 20% of 2.1 GHz spectrum. This limits the ability of 3.4 GHz spectrum to provide capacity relief on macrocell grids. 3.4 GHz spectrum cannot, therefore, be regarded as an acceptable substitute for 2.3 GHz spectrum .

The CMA refers to an internal Telefonica document showing that:

“[X].”¹²

¹¹ Paragraph 12.2 refers

¹² Paragraph 14.51 refers

The inference that the CMA appears to draw is that Telefonica regards 2.3 GHz spectrum and 3.4 GHz spectrum as effectively substitutable. As noted in the previous section of this response, this document sets out theoretical possibilities, only. In practice, Telefonica does not believe that it is practicable to build [3G] densification sites (it is these that provide the additional capacity, and not the 3.4 GHz spectrum *per se*).

The relatively low value of 3.4 GHz for mobile use is reflected in the reserve price that Ofcom has placed on it in the forthcoming award (£1m for a 5 MHz 3.4 GHz lot compared to £10m for a 10 MHz 2.3 GHz lot¹³).

As noted above, only 40 MHz of 2.3 GHz is to be made available in the forthcoming award. Given Telefonica's and Hutchison's likely demand for this spectrum, Telefonica remains firmly of the view that it would be very easy for any of the other participants to engage in strategic bidding. As the CMA notes¹⁴, if the BT/EE merger makes the parties stronger than EE alone (and Telefonica's case is that it would, by the parties' admission), the merged entity would be more likely to benefit from any weakening of competitors achieved through strategic bidding, increasing the value of such bidding.

Accordingly, in Telefonica's view, the merged entity would be in a position to implement a policy of strategic bidding and would have the incentive to do so. We disagree with the CMA's provisional reasoning¹⁵:

- Such a strategy is unlikely to be costly, given the potential to weaken competitors;
- The payoff is reasonably certain because:
 - 3.4 GHz spectrum is an inadequate substitute for other high frequency spectrum available to mobile operators; and
 - contrary to the CMA's provisional finding, Telefonica does not have effective commercial responses to not obtaining spectrum

Further, Telefonica disagrees that Ofcom is capable of discouraging, monitoring and preventing strategic bidding or that it is likely to do so, given that it fails to recognise the likelihood of such a strategy being successful.

Telefonica remains of the view that the acquisition is likely to result in an SLC by further increasing the likelihood of strategic bidding.

Harm through weakening competitors

The CMA's analysis is set out at paragraphs 12.47 – 12.51. The CMA has provisionally found that the merged entity's additional assets (in the form of BT's spectrum, WiFi hotspots and street furniture) would not be expected to result in an SLC because competitors are able to utilise alternatives, and, in the medium to long term, have the opportunity to acquire more spectrum.

As we set out above, [3G].

Further, as described above, 3.4GHz spectrum is an inadequate substitute for other high frequency spectrum available to mobile operators. In view of this, the 40 MHz of 2.3 GHz spectrum available in the forthcoming award is the only high frequency spectrum available to mobile operators that can reasonably be regarded as fully substitutable for other high frequency spectrum already allocated to mobile operators. In this context, BT's 2.6 MHz spectrum holding (2 x 15 MHz of paired 2.6 GHz and 15 MHz of unpaired 2.6 GHz spectrum), which would be added to EE's market leading spectrum holding in the event that the acquisition proceeds, is significant, increasing the merged entity's capacity by around 25%,

¹³ See paragraph 1.5 of Ofcom's decision: <http://stakeholders.ofcom.org.uk/binaries/consultations/2.3-3.4-ghz-auction-design/statement/pssr-statement.pdf>

¹⁴ At paragraph 12.33

¹⁵ At paragraph 12.38

compared to EE, and enabling it to provide services that other mobile operators will not be able to, such as video services either at all or at the same level of quality.

It follows that Telefonica does not agree with the CMA's reasoning in relation to harm through weakening competitors.

Wholesale mobile

Our comments on this part of the CMA's provisional findings report are restricted to:

- the CMA's observations on Telefonica as a potential provider of wholesale services to Virgin Media¹⁶; and
- the circumstances that would need to exist in order for Telefonica to be capable of providing wholesale service to additional MVNOs, in relation to the CMA's provisional finding on the likelihood of the merged entity adopting a total foreclosure strategy in the wholesale market.

[REDACTED]

[REDACTED]

Conclusion

Telefonica notes the provisional findings set out in paragraphs 14.276 – 14.280 of the report. Telefonica submits that [REDACTED] is relevant to the CMA's consideration of the matter. The CMA's provisional findings are deficient in this regard and factually incorrect. Telefonica would urge the CMA to take proper account of this issue in its final report and to address the consequential implications accordingly.

Telefonica also notes that H3G does not appear to be a significant provider of wholesale services to MVNOs.

The CMA cannot assume that Telefonica will have access to further useable spectrum in the medium term. 2.3GHz is the only realistic opportunity. Telefonica submits that there is an obvious likelihood of strategic bidding in the forthcoming PSSR award and in light of the statements in the provisional decision, BT/EE and Vodafone are very aware of the benefits to them of strategically bidding on this spectrum. As noted above, even in the unlikely event that [REDACTED].

This SLC should give rise to a remedy to ensure that [REDACTED].

¹⁶ See paragraphs 14.47 – 14.61

Mobile backhaul: competitive assessment – input foreclosure

Our comments on this section are restricted to the possible foreclosure strategies (d) and (e) set out in paragraph 16.9 of the provisional findings report.

Foreclosure through supply of BT wholesale's managed backhaul services at contract renewal

The CMA discusses the extent to which it is possible for alternative suppliers to replicate BT Wholesale's managed backhaul services, at paragraphs 16.88 – 16.90. In Telefonica's experience, alternative providers, such as Virgin Media, are not able to replicate BT Wholesale's managed backhaul services, even with access to BT Openreach inputs on identical terms, for the reasons stated in paragraph 16.90. It is BT Wholesale's scale and geographic scope that sets it apart from other potential providers.

Telefonica agrees with the CMA's analysis that the merged entity could have the ability to increase the cost or reduce the quality of managed backhaul services, when the current MEAS contract is due for renewal¹⁷. The CMA provisionally finds that the merged entity is likely to lack the incentive to do so, however, essentially because the additional retail revenues it can expect are unlikely to be as high as the revenues it would forego¹⁸. In Telefonica's view, the CMA's evaluation of this issue is rather mechanistic. It is conceivable that BT's incentive to implement a foreclosure strategy might be based on factors other than pure short-term financial considerations, particularly if those financial considerations are marginal, as the CMA's analysis appears to suggest they might be. For example, a mobile operator would need to dedicate significant time and effort to selecting and setting up alternative backhaul arrangements. This acts as a significant barrier to switching and, if alternative arrangements (either self-supply or an alternative provider) are to be put in place, would absorb scarce management resource. In other words, there would be an opportunity cost involved in making alternative backhaul arrangements which would be likely to have an adverse effect on the mobile operator's ability to compete with the merged entity.

Accordingly, Telefonica does not agree with the CMA's provisional finding that the merged entity would lack the incentive to implement a total foreclosure strategy when the contract between Telefonica and BT Wholesale is due for renewal.

In Telefonica's view, the viability of a total foreclosure strategy would mean that BT Wholesale would have the ability partially to foreclose MNOs in the event of new backhaul contracts between them and BT Wholesale, contrary to the CMA's provisional conclusion in paragraph 16.131.

Foreclosure by increasing the price or reducing the quality of BT Wholesale's managed backhaul services under the current contract

Since the bilateral hearing between the CMA and Telefonica in July 2015, [redacted]¹⁹. The main component of this is an Openreach product which is already launched (EAD 10Gbps). BT Wholesale has advised Telefonica that it expects to support this product in Q1 2016, in relation to the managed backhaul services supplied to Telefonica.

The CMA's analysis on the total foreclosure strategy appears to permeate its thinking in relation to this possible foreclosure strategy²⁰. As noted above, Telefonica does not agree with the CMA's provisional finding that the merged entity would lack the incentive to implement a total foreclosure strategy when the contract between Telefonica and BT Wholesale is due for renewal. It follows that Telefonica does not agree with the CMA's provisional conclusion that the merged entity is unlikely to have the ability or incentive to foreclose other MNOs in relation to price increases or service quality reduction in relation to managed backhaul services.

¹⁷ Paragraph 16.102 refers

¹⁸ Paragraph 16.115 refers

¹⁹ Paragraph 16.146 refers.

²⁰ See paragraphs 16.156(c), 16.163, 16.166 and 16.170