
Wholesale Voice Markets Review 2021–26

Annexes 1 to 8

CONSULTATION:

Publication date: 13 August 2020

Closing date for responses: 8 October 2020

Contents

Annex

A1. Responding to this consultation	3
A2. Ofcom's consultation principles	5
A3. Consultation coversheet	6
A4. Consultation questions	7
A5. Regulatory Framework	9
A6. Mobile call termination rate modelling	22
A7. Glossary	34
A8. Legal tests	39

A1. Responding to this consultation

How to respond

- A1.1 Ofcom would like to receive views and comments on the issues raised in this document, by 5pm on 8 October 2020.
- A1.2 You can download a response form from <https://www.ofcom.org.uk/consultations-and-statements/category-2/2021-26-wholesale-voice-markets-review>. You can return this by email to the address provided in the response form.
- A1.3 If your response is a large file, or has supporting charts, tables or other data, please email it to voice.review2021@ofcom.org.uk, as an attachment in Microsoft Word format, together with the [cover sheet](#). This email address is for this consultation only, and will not be valid after 8 October 2020.
- A1.4 We welcome responses in formats other than print, for example an audio recording or a British Sign Language video. To respond in BSL please upload a video of you signing your response directly to YouTube (or another hosting site) and send us the link.
- A1.5 We will publish a transcript of any audio or video responses we receive (unless your response is confidential)
- A1.6 We do not need a paper copy of your response as well as an electronic version. We will acknowledge receipt if your response is submitted via the online web form, but not otherwise.
- A1.7 It would be helpful if your response could include direct answers to the questions asked in the consultation document. The questions are listed at Annex 4. It would also help if you could explain why you hold your views, and what you think the effect of Ofcom’s proposals would be.
- A1.8 If you want to discuss the issues and questions raised in this consultation, please contact Jack Gaches by email to Jack.Gaches@ofcom.org.uk

Confidentiality

- A1.9 Consultations are more effective if we publish the responses before the consultation period closes. In particular, this can help people and organisations with limited resources or familiarity with the issues to respond in a more informed way. So, in the interests of transparency and good regulatory practice, and because we believe it is important that everyone who is interested in an issue can see other respondents’ views, we usually publish all responses on [the Ofcom website](#) as soon as we receive them.
- A1.10 If you think your response should be kept confidential, please specify which part(s) this applies to, and explain why. Please send any confidential sections as a separate annex. If you want your name, address, other contact details or job title to remain confidential, please provide them only in the cover sheet, so that we don’t have to edit your response.

- A1.11 If someone asks us to keep part or all of a response confidential, we will treat this request seriously and try to respect it. But sometimes we will need to publish all responses, including those that are marked as confidential, in order to meet legal obligations.
- A1.12 Please also note that copyright and all other intellectual property in responses will be assumed to be licensed to Ofcom to use. Ofcom’s intellectual property rights are explained further in our [Terms of Use](#).

Next steps

- A1.13 Following this consultation period, Ofcom plans to publish a statement in Spring 2020/21.
- A1.14 If you wish, you can [register to receive mail updates](#) alerting you to new Ofcom publications.

Ofcom's consultation processes

- A1.15 Ofcom aims to make responding to a consultation as easy as possible. For more information, please see our consultation principles in Annex 2.
- A1.16 If you have any comments or suggestions on how we manage our consultations, please email us at consult@ofcom.org.uk. We particularly welcome ideas on how Ofcom could more effectively seek the views of groups or individuals, such as small businesses and residential consumers, who are less likely to give their opinions through a formal consultation.
- A1.17 If you would like to discuss these issues, or Ofcom's consultation processes more generally, please contact the corporation secretary:

Corporation Secretary

Email: corporationsecretary@ofcom.org.uk

A2. Ofcom's consultation principles

Ofcom has seven principles that it follows for every public written consultation:

Before the consultation

A2.1 Wherever possible, we will hold informal talks with people and organisations before announcing a big consultation, to find out whether we are thinking along the right lines. If we do not have enough time to do this, we will hold an open meeting to explain our proposals, shortly after announcing the consultation.

During the consultation

A2.2 We will be clear about whom we are consulting, why, on what questions and for how long.

A2.3 We will make the consultation document as short and simple as possible, with a summary of no more than two pages. We will try to make it as easy as possible for people to give us a written response. If the consultation is complicated, we may provide a short Plain English / Cymraeg Clir guide, to help smaller organisations or individuals who would not otherwise be able to spare the time to share their views.

A2.4 We will consult for up to ten weeks, depending on the potential impact of our proposals.

A2.5 A person within Ofcom will be in charge of making sure we follow our own guidelines and aim to reach the largest possible number of people and organisations who may be interested in the outcome of our decisions. Ofcom's Consultation Champion is the main person to contact if you have views on the way we run our consultations.

A2.6 If we are not able to follow any of these seven principles, we will explain why.

After the consultation

A2.7 We think it is important that everyone who is interested in an issue can see other people's views, so we usually publish all the responses on our website as soon as we receive them. After the consultation we will make our decisions and publish a statement explaining what we are going to do, and why, showing how respondents' views helped to shape these decisions.

A3. Consultation coversheet

BASIC DETAILS

Consultation title:

To (Ofcom contact):

Name of respondent:

Representing (self or organisation/s):

CONFIDENTIALITY

Please tick below what part of your response you consider is confidential, giving your reasons why

Nothing

Name/contact details/job title

Whole response

Organisation

Part of the response

If there is no separate annex, which parts? _____

If you want part of your response, your name or your organisation not to be published, can Ofcom still publish a reference to the contents of your response (including, for any confidential parts, a general summary that does not disclose the specific information or enable you to be identified)?

DECLARATION

I confirm that the correspondence supplied with this cover sheet is a formal consultation response that Ofcom can publish. However, in supplying this response, I understand that Ofcom may need to publish all responses, including those which are marked as confidential, in order to meet legal obligations. If I have sent my response by email, Ofcom can disregard any standard e-mail text about not disclosing email contents and attachments.

Ofcom seeks to publish responses on receipt. If your response is non-confidential (in whole or in part), and you would prefer us to publish your response only once the consultation has ended, please tick here.

Name

Signed (if hard copy)

A4. Consultation questions

Question 4.1: Do you agree with our proposal not to regulate the WCO market on the basis that it no longer fulfils the three criteria test set out in the 2014 EC Recommendation? Please set out your reasons and supporting evidence for your response.

Question 5.1: Do you agree with our proposed market definition in relation to WCT? Please set out your reasons and supporting evidence for your response.

Question 5.2: Do you agree with our proposed market definition in relation to MCT? Please set out your reasons and supporting evidence for your response.

Question 5.3: Do you agree with our provisional conclusion that each provider of WCT has SMP in the market served by that provider? Please set out your reasons and supporting evidence for your response.

Question 5.4: Do you agree with our provisional conclusion that each provider of MCT has SMP in the market served by that provider? Please set out your reasons and supporting evidence for your response.

Question 6.1: Do you agree with our proposal to maintain a network access obligation on all WCT providers? Please provide reasons and evidence in support of your views.

Question 6.2: Do you agree with our proposed remedies that would be specific to BT's provision of WCT? We welcome evidence on all aspects of our proposals and in particular whether we should maintain BT's obligation of no undue discrimination. Please provide reasons and evidence in support of your views.

Question 6.3: Do you agree with our proposed charge control on WCT and the analysis that informed this proposal? Please provide reasons and evidence in support of your views.

Question 6.4: Do you agree with our proposal to maintain an access obligation on all MCT providers? Please provide reasons and evidence in support of your views.

Question 6.5: Do you agree with our proposed charge control on MCT and the analysis that informed this proposal? Please provide reasons and evidence in support of your views?

Question 6.6: Do you agree with our proposal to introduce a reciprocity condition on the termination of international calls and the analysis that informed this proposal? Please provide reasons and evidence in support of your views.

Question 7.1: Do you agree with our proposed non-pricing remedies specific to BT? Please set out your reasons and supporting evidence for your response.

Question 7.2: Do you agree with our proposals relating to BT providing transparency on its migration timetable? Please set out your reasons and supporting evidence for your response.

Question 7.3: Do you agree with our proposal to require BT to provide WCT for all geographic calls as if its migration to IP is complete, from 1 April 2025? Please set out your reasons and supporting evidence for your response.

Question 7.4: Do you agree with our proposal to subject BT's provision of TDM interconnection circuits to a charge control which expires on 1 April 2025? Please set out your reasons and supporting evidence for your response.

Question 7.5: Do you agree with our proposal to require BT to provide IP interconnection on fair and reasonable terms, conditions and charges supplemented by guidance? Please set out your reasons and supporting evidence for your response.

Question 7.6: Do you have any concerns regarding the existing obligations, which do not require a hosting party to ensure that hosted providers can make WCT available at an accessible POC? Please set out your reasons and supporting evidence for your response.

Question 8.1: Do you agree with our proposed regulatory reporting requirements on BT? Please set out your reasons and supporting evidence for your response.

Question 9.1: Do you agree with our initial view that the risks associated with IP interconnection should be manageable by industry?

Question 9.2: Do you agree with our proposed guidance concerning IP interconnection? Please set out your reasons and supporting evidence for your response.

Question 10.1: Do you agree with our proposed market definition and SMP assessment for termination on the 070 number range? Please set out your reasons and supporting evidence for your response.

Question 10.2: Do you agree with our proposed remedies for operators holding SMP for termination on the 070 number range? Please set out your reasons and supporting evidence for your response.

Question 11.1: Do you agree with the analysis and conclusion of our general position on not renewing the DCC price cap? Please provide reasons and evidence in support of your views

A5. Regulatory Framework

- A5.1 This annex provides an overview of the regulatory framework relevant to the market review process, to give some additional context to the matters discussed in this consultation, including the legal instruments published in Annex 9.
- A5.2 Market review regulation is technical and complex; and requires us to apply legislation and to take into account a number of relevant recommendations and guidelines. This overview identifies some of the key aspects relevant to this market review but does not purport to give a full and exhaustive account of all materials that we have considered in reaching our proposals for these markets.

Market review concept

- A5.3 A market review is a process by which, at regular intervals, we identify relevant markets appropriate to national circumstances and carry out analyses of these markets to determine whether they are effectively competitive. Where an operator has significant market power (SMP) in a market, we impose appropriate remedies, known as SMP obligations or conditions, to address this. We explain the concept of SMP below.
- A5.4 In carrying out this work, we act in our capacity as the telecommunications sector-specific regulator for the UK communications industries. Our functions in this regard are to be found in Part 2 of the Communications Act 2003 (the Act). We exercise those functions within the framework harmonised across the European Union for the regulation of electronic communications by the Member States (known as the Common Regulatory Framework or CRF), as transposed by the Act. The currently applicable rules are contained in a package of five European Directives, of which two Directives are particularly relevant for present purposes, namely:
- Directive 2002/21/EC on a common regulatory framework for electronic communications networks and services (the Framework Directive); and
 - Directive 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities (the Access Directive).¹
- A5.5 The Directives require that National Regulatory Authorities (NRAs) such as Ofcom carry out reviews of competition in communications markets to ensure that SMP regulation remains appropriate and proportionate in the light of changing market conditions.
- A5.6 Each market review normally involves three analytical stages, which are normally carried out together, namely:
- the identification and definition of the relevant markets (the market definition stage);

¹ The Directives were subsequently amended on 19 December 2009. The amendments have been transposed into the national legislation and applied with effect from 26 May 2011 and any references in this document to the Act should be read accordingly. The Directives will be repealed by Directive (EU) 2018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code (EECC). The EECC has not yet been transposed into UK national legislation.

- the assessment of competition in each market, in particular whether the relevant market is effectively competitive (the market analysis stage); and
- the assessment of appropriate regulatory obligations (the remedies stage).

A5.7 The European Electronic Communications Code (the EECC), established by Directive EU 2018/1972, entered into force on 20 December 2018. The EECC amends and replaces the current CRF, including the Framework Directive and the Access Directive. It maintains the requirements on NRAs to review markets on a periodic basis, although there are changes to some of the detail of the obligations. Member States have until 21 December 2020 to transpose the EECC into national law. The UK Government consulted in July 2019 on its proposed approach to implementing the EECC into national law² and published a response to this consultation on 22 July 2020³. Its consultation included proposals on the key legislative changes that will be required to implement the EECC in the UK. We therefore anticipate that the Act may be amended before we reach our final decisions on the matters set out in this consultation (our final statement is currently planned for early 2021).

Market definition

Relevant markets

- A5.8 The Act provides that, before making a market power determination⁴, we must identify *“the markets which in [our] opinion are the ones which in the circumstances of the United Kingdom are the markets in relation to which it is appropriate to consider whether to make such a determination”* and analyse those markets.
- A5.9 The Framework Directive requires that NRAs shall, taking the utmost account of the 2014 Recommendation on Relevant Markets (2014 EC Recommendation)⁵ and EC SMP Guidelines⁶ published by the European Commission (EC), define the relevant markets appropriate to national circumstances, in particular relevant geographic markets within their territory, in accordance with the principles of competition law.
- A5.10 The 2014 EC Recommendation identifies a set of product and service markets within the electronic communications sector in which *ex ante* regulation may be warranted. Its purpose is twofold. First, it seeks to achieve harmonisation across the single market by ensuring that the same markets will be subject to a market analysis in all Member States.

² Department for Digital, Culture, Media and Sport, Implementing the European Electronic Communications Code, 16 July 2019.

³ Government response to the public consultation on implementing the European Electronic Communications Code, 22 July 2020.

⁴ The market power determination concept is used in the Act to refer to a determination that a person has SMP in an identified services market.

⁵ Commission Recommendation of 9 October 2014 on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (2014/710/EU).

⁶ Guidelines on market analysis and the assessment of significant market power under the EU regulatory framework for electronic communications networks and services (2018/C 159/01).

Second, the 2014 EC Recommendation seeks to provide legal certainty by making market players aware in advance of the markets to be analysed.

- A5.11 However, NRAs are able to regulate markets that differ from those identified in the 2014 EC Recommendation where this is justified by national circumstances by demonstrating that three criteria referred to in the 2014 EC Recommendation (the three-criteria test) are satisfied and where the EC does not raise any objections.
- A5.12 The three criteria, which are cumulative, are:
- the presence of high and non-transitory structural, legal or regulatory barriers to entry;
 - a market structure which does not tend towards effective competition within the relevant time horizon, having regard to the state of infrastructure-based and other competition behind the barriers to entry; and
 - competition law alone is insufficient to adequately address the identified market failure(s).⁷
- A5.13 The fact that an NRA identifies the product and service markets listed in the 2014 EC Recommendation or identifies other product and service markets that meet the three-criteria test does not automatically mean that regulation is warranted. Market definition is not an end in itself but rather a means of assessing effective competition.
- A5.14 The relationship between the market definitions identified in this review and those listed in the 2014 EC Recommendation is discussed in relevant parts of this document.

Forward look

- A5.15 The EC SMP Guidelines make clear that market definition is not a mechanical or abstract process. It requires an analysis of any available evidence of past market behaviour and an overall understanding of the mechanics of a given market sector. As market analysis has to be forward-looking, the EC SMP Guidelines state that NRAs should determine whether the market is prospectively competitive, and thus whether any lack of effective competition is durable, by taking into account expected or foreseeable market developments over the course of a reasonable period.⁸ The EC SMP Guidelines clarify that NRAs enjoy discretionary powers which reflect the complexity of all the relevant factors that must be assessed (economic, factual and legal) when identifying the relevant market and assessing whether an undertaking has SMP.

Modified Greenfield

- A5.16 The EC SMP Guidelines state that the starting point for the identification of wholesale markets susceptible for *ex ante* regulation should always be the analysis of corresponding retail market(s). NRAs should determine whether the underlying retail market(s) is (are)

⁷ The three-criteria test and the SMP assessment may make use of similar indicators – see 2014 EC Recommendation, paragraph 11.

⁸ EC SMP Guidelines, paragraphs 15-18. The EC SMP Guidelines provide that the actual period used should reflect the specific characteristics of the market and the expected timing for the next review of the relevant market by the NRA.

prospectively competitive in absence of wholesale regulation based on a finding of SMP, and therefore whether any lack of effective competition is durable. However, the analysis should take into account the effects of other types of (sector-specific) regulation, decisions or legislation applicable to the relevant retail and related wholesale market(s) during the relevant period. This is known as a Modified Greenfield approach.⁹

- A5.17 If the underlying retail market(s) is (are) prospectively competitive under the Modified Greenfield approach, the NRA should conclude that regulation is no longer needed at wholesale level. If the underlying retail market(s) is (are) not prospectively competitive, then the corresponding wholesale markets susceptible to regulation should be assessed. Where wholesale markets are vertically linked, the most upstream market should be analysed first. The NRA should conduct a gradual analysis of the markets that are downstream from a regulated input, to determine whether they would be effectively competitive in the presence of regulation upstream, until it reaches the final retail market. A downstream market should only be subject to *ex ante* regulation if competition on that market still exhibits SMP despite the presence of *ex ante* regulation on the related wholesale upstream market.¹⁰

Product and geographic dimensions

- A5.18 The EC SMP Guidelines also describe how competition law methodologies may be used by NRAs in their analysis. In particular, there are two dimensions to the definition of a relevant market: the relevant products to be included in the same market and the geographic extent of the market.
- A5.19 The boundaries between markets are determined by identifying competitive constraints on the price setting behaviour of firms. The EC SMP Guidelines set out that there are two main constraints to consider:¹¹
- to what extent it is possible for a customer to substitute other services for those in question in response to a relative price increase (demand-side substitution); and
 - to what extent suppliers can switch, or increase, production to supply the relevant products or services in response to a relative price increase (supply-side substitution).
- A5.20 The hypothetical monopolist test is a tool used to identify close demand-side and supply-side substitutes. In this test, a product is considered to constitute a separate market if the hypothetical monopolist supplier could impose a small but significant non-transitory increase in price (SSNIP) above the competitive level without losing sales to such a degree as to make this price rise unprofitable.¹² If such a price rise would be unprofitable, because consumers would switch to other products or because suppliers of other products would

⁹ EC SMP Guidelines, paragraphs 15-18.

¹⁰ 2014 EC Recommendation, Recitals 7, 10 18 and 21.

¹¹ See paragraph 27 of the EC SMP Guidelines, which also notes that potential competition also acts as a third source of competitive constraint on an operator's behaviour but is taken into account in the SMP assessment.

¹² EC SMP Guidelines, paragraph 29.

begin to compete with the hypothetical monopolist, then the market definition should be expanded to include the substitute products.

- A5.21 The starting point for the application of hypothetical monopolist test can be referred to as the ‘focal product’,¹³ and typically starts from the narrowest potential market definition.¹⁴
- A5.22 Having considered demand-side substitution we then, where relevant, assess supply-side substitution possibilities to consider whether they provide any additional constraints on the pricing behaviour of the hypothetical monopolist which have not been captured by the demand-side analysis. In this assessment, supply-side substitution is considered to be a low-cost form of entry which can take place within a reasonable timeframe (e.g. up to 12 months). For supply-side substitution to be relevant not only must suppliers be able, in theory, to enter the market quickly and at low cost by virtue of their existing position in the supply of other products or geographic areas, but there must also be an additional competitive constraint arising from such entry into the supply of the service in question.
- A5.23 Therefore, in identifying potential supply-side substitutes, it is important that providers of these services have not already been taken into consideration. There might be suppliers who provide other services but who might also be materially present in the provision of demand-side substitutes to the service for which the hypothetical monopolist has raised its price. Such suppliers are not relevant to supply-side substitution since they supply services already identified as demand-side substitutes. However, the impact of expansion by such suppliers can be taken into account in the assessment of market power.
- A5.24 In relation to defining the relevant geographic markets, the EC SMP Guidelines explain this comprises an area in which the undertakings concerned are involved in the supply and demand of the relevant products or services, in which the conditions of competition are sufficiently homogeneous, and which can be distinguished from neighbouring areas in which the prevailing conditions of competition are significantly different. Areas in which the conditions of competition are heterogeneous do not constitute a uniform market.¹⁵
- A5.25 Ofcom’s approach to market definition follows that used by the UK competition authorities, is consistent with the EC SMP Guidelines and in line with the approach adopted by the EC.

Relationship with *ex post* competition law

- A5.26 While competition law methodologies are used in identifying the relevant markets *ex ante*, the markets identified will not necessarily be identical to markets defined in *ex post* competition law cases, especially as the markets identified *ex ante* are based on an overall forward-looking assessment of the structure and the functioning of the market under examination. Accordingly, the economic analysis carried out for the purpose of this review,

¹³ This reflects the terminology used by the OFT Market Definition Guidelines (OFT, December 2004. [Market definition](#) OFT403 [Accessed 8 July 2020]).

¹⁴ Paragraph 3.2 of the OFT Market Definition Guidelines explains that ‘previous experience and common sense will normally indicate the narrowest potential market definition, which will be taken as the starting point for the analysis’.

¹⁵ EC SMP Guidelines, paragraph 48.

including the markets we have identified, is without prejudice to any analysis that may be carried out in relation to any investigation pursuant to the Competition Act 1998¹⁶ (relating to the application of the Chapter I or II prohibitions or Article 101 or 102 of the Treaty on the Functioning of the European Union) or the Enterprise Act 2002.¹⁷

Market analysis

Effective competition

- A5.27 The Act requires that we carry out market analyses of identified markets for the purpose of making or reviewing market power determinations. Such analyses are normally to be carried out within two years from the adoption of a revised recommendation on markets, where that recommendation identifies a market not previously notified to the EC, or within three years from the publication of a previous market power determination relating to that market. Exceptionally, the three-year period may be extended for up to three additional years where the NRA notifies the EC, and it does not object.
- A5.28 The EECC amends these time periods such that market power analyses should be carried out within three years from the adoption of a revised recommendation on markets, for markets not previously notified to the EC, or within five years from the adoption of a previous market power determination. Exceptionally, the five-year period may be extended for up to one additional year, where the NRA notifies the EC, and it does not object.¹⁸
- A5.29 In carrying out a market analysis, the key issue for an NRA is to determine whether the market in question is effectively competitive. Recital 27 to the Framework Directive clarifies the meaning of that concept:
- “It is essential that *ex ante* regulatory obligations should only be imposed where there is not effective competition, i.e. in markets where there are one or more undertakings with significant market power, and where national and Community competition law remedies are not sufficient to address the problem”.
- A5.30 The definition of SMP is equivalent to the concept of dominance as defined in competition law. In essence, it means that an undertaking in the relevant market is in a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers, and ultimately consumers. The Framework Directive requires that NRAs must carry out their market analysis taking utmost account of the EC SMP Guidelines, which emphasise that NRAs should undertake a thorough and overall analysis of the economic characteristics of the relevant market before coming to a conclusion as to the existence of SMP.

¹⁶ [Competition Act 1998](#), [Accessed 8 July 2020].

¹⁷ [Enterprise Act 2002, Chapter 40](#), [Accessed 8 July 2020].

¹⁸ EECC, Article 67(5).

- A5.31 In line with the EC SMP Guidelines we consider that market shares provide a useful first indication of competitive conditions in the market, and that they should however be interpreted in light of the relevant market conditions.¹⁹
- A5.32 In that regard, the EC SMP Guidelines set out, additionally to market shares, criteria that can be used by NRAs to measure the power of an undertaking to behave to an appreciable extent independently of its competitors, customers, and consumers, including:
- barriers to entry;
 - barriers to expansion;
 - absolute and relative size of the undertaking;
 - control of infrastructure not easily duplicated;
 - technological and commercial advantages or superiority;
 - absence of or low countervailing buying power;
 - easy or privileged access to capital markets/financial resources;
 - product/services diversification (for example, bundled products or services);
 - economies of scale and economies of scope;
 - direct and indirect network effects;
 - vertical integration;
 - a highly developed distribution and sales network;
 - conclusion of long-term and sustainable access agreements;
 - engagement in contractual relations with other market players that could lead to market foreclosure; and
 - absence of potential competition.²⁰
- A5.33 A dominant position can derive from a combination of these criteria which when taken separately may not necessarily be determinative. However, according to established case law, a market share in excess of 50% is itself evidence of a dominant position, save in exceptional circumstances.²¹

Sufficiency of competition law

- A5.34 As part of our overall forward-looking analysis, we also assess whether competition law by itself (without *ex ante* regulation) is sufficient, within the relevant markets we have defined, to address the competition problems we have identified. We consider this matter in our assessment of the appropriate remedies which, as explained below, are based on the nature of the specific competition problems we identify within the relevant markets as defined. We also note that the EC SMP Guidelines clarify that, if NRAs designate undertakings as having SMP, they must impose on them one or more regulatory obligations.
- A5.35 In considering this matter, we bear in mind the specific characteristics of the relevant markets we have defined. Generally, the case for *ex ante* regulation is based on the existence of market failures which, by themselves or in combination, mean that the

¹⁹ EC SMP Guidelines, paragraph 54.

²⁰ EC SMP Guidelines, paragraph 58.

²¹ EC SMP Guidelines, paragraph 55.

establishment of effective competition might not be possible if the regulator relied solely on *ex post* competition law powers which are not specifically tailored to the sector. Therefore, it may be appropriate for *ex ante* regulation to be used to address such market failures along with any entry barriers that might otherwise prevent effective competition from becoming established within the relevant markets we have defined. By imposing *ex ante* regulation that promotes competition, it may be possible to reduce such regulation over time as markets become more competitive, allowing greater reliance on *ex post* competition law.

- A5.36 *Ex post* competition law is also unlikely in itself to bring about (or promote) effective competition, as it prohibits the abuse of dominance rather than the holding of a dominant position itself. In contrast, *ex ante* regulation is normally aimed at actively promoting the development of competition through attempting to reduce the level of market power (or dominance) in the identified relevant markets, thereby encouraging the establishment of effective competition.
- A5.37 We generally take the view that *ex ante* regulation provides additional legal certainty for the market under review and may also better enable us to intervene in a timely manner. We may also consider that certain obligations are needed as competition law would not remedy the particular market failure, or that the specific clarity and detail of the obligation is required to achieve a particular result.

Remedies

Powers and legal tests

- A5.38 The Framework Directive²² prescribes what regulatory action NRAs, such as Ofcom, must take depending upon whether or not an identified relevant market has been found effectively competitive. Where a market has been found effectively competitive, Ofcom is not allowed to impose SMP obligations and must withdraw such obligations where they already exist. On the other hand, where the market is found not effectively competitive, we must identify the undertakings with SMP in that market and then impose appropriate obligations.
- A5.39 Ofcom have a suite of regulatory tools at their disposal, as reflected in the Act and the Access Directive²³. Specifically, Ofcom can impose a number of SMP obligations, including those related to transparency, non-discrimination, accounting separation, access to and use of specific network elements and facilities, price control and cost accounting. When imposing a specific obligation, the NRA will need to demonstrate that the obligation in

²² The Framework Directive (Directive 2002/21/EC) will be repealed by The European Electronic Communications Code (Directive (EU) 2018/1972) (EECC) on 21 December 2020

²³ The Access Directive (Directive 2002/19/EC) will be repealed by The European Electronic Communications Code (Directive (EU) 2018/1972) (EECC) on 21 December 2020

question is based on the nature of the problem identified, proportionate and justified in the light of the policy objectives as set out in Article 8 of the Framework Directive.²⁴

The test in section 47 of the Act

A5.40 Specifically, for each and every SMP obligation, we will explain in Annex 8 (legal tests) why it satisfies the requirement in section 47(2) of the Act that the obligation is:

- objectively justifiable in relation to the networks, services, facilities, apparatus or directories to which it relates;
- not such so as to discriminate unduly against particular persons or against a particular description of persons;
- proportionate to what the condition or modification is intended to achieve; and
- transparent in relation to what is intended to be achieved.

The test in section 87 and 88 of the Act

A5.41 Additional legal requirements may also need to be satisfied depending on the SMP obligation in question. For example, we are subject to additional requirements when imposing price controls and cost recovery obligations.²⁵

A5.42 Specifically, we will explain why any such SMP obligation satisfies the requirements of section 88 of the Act. Namely:

- our analysis indicates a risk that the telecoms provider concerned might fix and maintain prices at an excessively high level or impose a price squeeze so as to have adverse consequences for end-users of public electronic communications services;
- we consider the setting of the obligation is appropriate for the purposes of promoting efficiency, promoting sustainable competition and conferring the greatest possible benefits on the end-users of public electronic communications services; and
- we have taken account of the extent of investment by the telecoms provider in the matters to which the SMP obligation relates.

A5.43 Where an obligation to provide third parties with network access is considered appropriate, NRAs must take into account factors including the feasibility of the network

²⁴ Access Directive, Article 8(4). The equivalent requirement can be found in Article 68 of the EEC which provides that the obligation imposed is based on the nature of the problem identified, where appropriate taking into account the identification of transnational demand; proportionate, having regard, where possible, to the costs and benefits; justified in light of the objectives set out in Article 3 of the EEC; and imposed following consultation in accordance with Articles 23 and 32 of the EEC.

²⁵ Access Directive, Article 13. The equivalent provisions in Article 74 of the EEC are broadly similar. However, in determining whether price controls would be appropriate, NRAs are required to take into account the need to promote competition and long-term end-user interests related to the deployment and take-up of next-generation networks, and in particular of very high capacity networks. When NRAs consider it appropriate to impose price controls on access to existing network elements, they are also required to take account of the benefits of predictable and stable wholesale prices in ensuring efficient market entry and sufficient incentives for all undertakings to deploy new and enhanced networks. In addition, any mandated cost recovery mechanism or pricing methodology must promote the deployment of new and enhanced networks (in addition to the existing requirements to promote efficiency and sustainable competition and maximise end-user benefits).

access, the technical and economic viability of creating networks that would make the network access unnecessary, the investment of the network operator who is required to provide access (taking account of any public investment made), and the need to secure effective competition (including, where it appears to us to be appropriate, economically efficient infrastructure-based competition) in the long term.²⁶

A5.44 We demonstrate the application of these requirements to our proposed SMP obligations, to the extent relevant, in this consultation document including the annexes attached. In doing so, we also set out our assessment of how, in our opinion, the performance of our general duties under section 3 of the Act will be secured or furthered by our proposed regulatory intervention, and that it is in accordance with the requirements in section 4 of the Act (set out below). This is also relevant to our assessment of the likely impact of implementing our decisions.

Ofcom’s general duties – section 3 of the Act

A5.45 Under the Act, our principal duty in carrying out our functions is to further the interests of citizens in relation to communications matters and to further the interests of consumers in relevant markets, where appropriate by promoting competition.

A5.46 In doing so, we are required to secure a number of specific objectives and to have regard to a number of matters set out in section 3 of the Act.

A5.47 In performing our duties, we are also required to have regard to a range of other considerations, as appear to us to be relevant in the circumstances. For the purpose of this review, we consider that a number of such considerations are relevant, in particular:

- the desirability of promoting competition in relevant markets; and
- the desirability of encouraging investment and innovation in relevant markets;

A5.48 We are also required to have regard to the principles under which regulatory activities should be transparent, accountable, proportionate, consistent, and targeted only at cases in which action is needed, as well as to the interest of consumers in respect of choice, price, quality of service and value for money.

A5.49 However, Ofcom has a wide measure of discretion in balancing its statutory duties and objectives. In doing so, we take account of all relevant considerations, including responses received during our consultation process, in reaching our conclusions.

European Community requirements for regulation – sections 4 and 4A of the Act, Article 3 of the BEREC Regulation and Article 3 of the EECC

A5.50 As noted above, our functions exercised in this review fall under the CRF. Section 4 of the Act currently requires us to act in accordance with the six Community requirements for

²⁶ Section 87 of the Act; Access Directive, Article 12. The equivalent provisions are in Article 73 of the EECC.

regulation, which are derived from Article 8 of the Framework Directive²⁷. In summary, these six requirements are:

- a) to promote competition in the provision of electronic communications networks and services, associated facilities and the supply of directories;
- b) to contribute to the development of the European internal market;
- c) to promote the interests of all persons who are citizens of the EU;
- d) to take account of the desirability of Ofcom's carrying out of its functions in a manner which, so far as practicable, does not favour one form of or means of providing electronic communications networks, services or associated facilities over another (i.e. to be technologically neutral);
- e) to encourage, to such extent as Ofcom considers appropriate for certain prescribed purposes: the provision of network access and service interoperability; securing efficient and sustainable competition; efficient investment and innovation; and the maximum benefit for customers of telecoms providers; and
- f) to encourage compliance with certain standards in order to facilitate service interoperability and secure freedom of choice for the customers of telecoms providers.

A5.51 These requirements are to be amended with effect from 31 December 2020 under Part 1 of Schedule 1 to the Electronic Communications and Wireless Telegraphy (Amendment etc) (EU Exit) Regulations 2019. In particular, the second requirement will no longer apply and the third will be amended so that it is a requirement to promote the interests of members of the public in the UK. We are satisfied that the proposals in this consultation are consistent with the five requirements under section 4 of the Act, as they will apply when these amendments come into force.

A5.52 Article 3 of the EECC amends and replaces Article 8 of the Framework Directive. NRAs' general obligations in Article 3 of the EECC mirror to a large extent the Community requirements currently in section 4 the Act. The objective to promote competition includes an explicit reference to promoting efficient infrastructure-based competition. One of the changes from the current framework is that Article 3 of the EECC specifies that the promotion of citizens' interests includes ensuring connectivity and the widespread availability and take-up of very high capacity networks.

A5.53 Section 4A of the Act currently requires Ofcom, in carrying out certain of its functions (including, among others, Ofcom's functions in relation to market reviews under the CRF), to take due account of applicable recommendations issued by the EC under Article 19(1) of the Framework Directive²⁸. Where we decide not to follow such a recommendation, we must notify the EC of that decision and the reasons for it.

²⁷ Article 3 of the EECC amends and replaces Article 8 of the Framework Directive. NRAs' general obligations in Article 3 of the EECC mirror to a large extent the Community requirements currently in section 4 the Act.

²⁸ Post-Brexit, Section 4A may be amended.

A5.54 Further, Article 4(4) of the Regulation establishing BEREC²⁹ requires NRAs to take utmost account of any guideline, opinion, recommendation, common position and best practices adopted by BEREC.

Impact assessment – section 7 of the Act

A5.55 The analysis presented in this consultation document represents an impact assessment, as defined in section 7 of the Act.

A5.56 Impact assessments provide a valuable way of assessing different options for regulation and showing why the preferred option was chosen. They form part of best practice policy-making. This is reflected in section 7 of the Act, which means that generally Ofcom has to carry out impact assessments where there is likely to be a significant effect on businesses or the general public, or when there is a major change in Ofcom’s activities. However, as a matter of policy, Ofcom is committed to carrying out and publishing impact assessments in relation to the majority of its policy decisions.³⁰

A5.57 Specifically, pursuant to section 7, an impact assessment must set out how, in our opinion, the performance of our general duties (within the meaning of section 3 of the Act) is secured or furthered by or in relation to the regulation we impose.

A5.58 Ofcom must also assess the potential impact of all our functions, policies, projects, and practices on equality.³¹ This assessment is set out in Section 2 of this consultation.

Regulated entity

A5.59 The power in the Act to impose an SMP obligation by means of an SMP services condition provided that it is to be applied only to a “person” whom we have determined to be a person having SMP in a specific market for electronic communications networks, electronic communications services or associated facilities (i.e. the “services market”).

A5.60 The Framework Directive requires that, where an NRA determines that a relevant market is not effectively competitive, it shall identify “undertakings” with SMP in that market and impose appropriate specific regulatory obligations. For the purposes of EU competition law, “undertaking” includes companies within the same corporate group (for example, where a company within that group is not independent in its decision making).³²

A5.61 We consider it appropriate to prevent a dominant provider to whom an SMP services condition is applied, which is part of a group of companies, exploiting the principle of corporate separation. The dominant provider should not use another member of its group

²⁹ Regulation (EU) 2018/1971 of the European Parliament and of the Council of 11 December 2018 establishing the Body of European Regulators for Electronic Communications (BEREC) and the Agency for Support for BEREC (BEREC Office), amending Regulation (EU) 2015/2120 and repealing Regulation (EC) No 1211/2009.

³⁰ For further information about Ofcom’s approach to impact assessments, see the guidelines, Ofcom 2005, [Better Policy Making: Ofcom’s approach to Impact Assessment](#).

³¹ Ofcom has a general duty under the 2010 Equality Act to advance equality of opportunity in relation to age, disability, sex, gender reassignment, pregnancy and maternity, race, religion or belief, and sexual orientation.

³² Case C-73/95 P [Viho v Commission](#), [1996] ECR I-5447, [Accessed 8 July 2020].

to carry out activities or to fail to comply with a condition, which would otherwise render the dominant provider in breach of its obligations.

- A5.62 To secure that aim, we apply the SMP conditions to the person in relation to which we have made the market power determination in question by reference to the so-called “Dominant Provider”, which we define in the proposed legal instrument.

A6. Mobile call termination rate modelling

- A6.1 In Section 6 we briefly summarised our approach to using a cost model to estimate the LRIC of MCT. This annex provides further information on the modelling approach we have taken and explains the functionality of the 2020 MCT model. Our proposals are informed by this model, which is published alongside this document. It uses a bottom-up approach to estimate the costs of MCT for an average efficient national mobile provider, and is closely based on the 2018 MCT model.
- A6.2 In this annex we explain in greater detail our approach to:
- a) Model structure and calculation;
 - b) Updating the MCT model regarding:
 - i) Traffic volumes;
 - ii) Cost of capital;
 - iii) Technology choice;
 - iv) Equipment unit costs;
 - c) Calibration.

At the end of this annex, we set out the range of MTRs resulting from our model on which we are consulting.

Model structure and calculation

- A6.3 For the purposes of this review, we believe that the 2018 MCT model is the appropriate starting point for our analysis. It models the cost of MCT of a hypothetical national mobile network operator (MNO) and has been scrutinised over multiple rounds of consultation by both Ofcom and our stakeholders. As such, we consider it provides the best estimate of the LRIC of MCT in the UK that is available to us.
- A6.4 The structure of the 2020 MCT model is the same as the 2015 and 2018 MCT models and was explained in the 2015 MCT Market Review Statement. As outlined in Section 6, it comprises five modules, each of which is a separate Excel workbook. The functions of these modules and the linkages between them are as follows and are described in more detail further below:
- a) The **‘Scenario Control’** module defines and allows the selection of the model scenarios and sensitivities. It also contains a summary of the key results.
 - b) The **‘Traffic’** module contains the service demand forecasts and network coverage assumptions.
 - c) The **‘Network’** module contains network dimensioning algorithms and forecasts the quantities of 2G, 3G and 4G network equipment required to provide network coverage and meet service demand ahead of time.

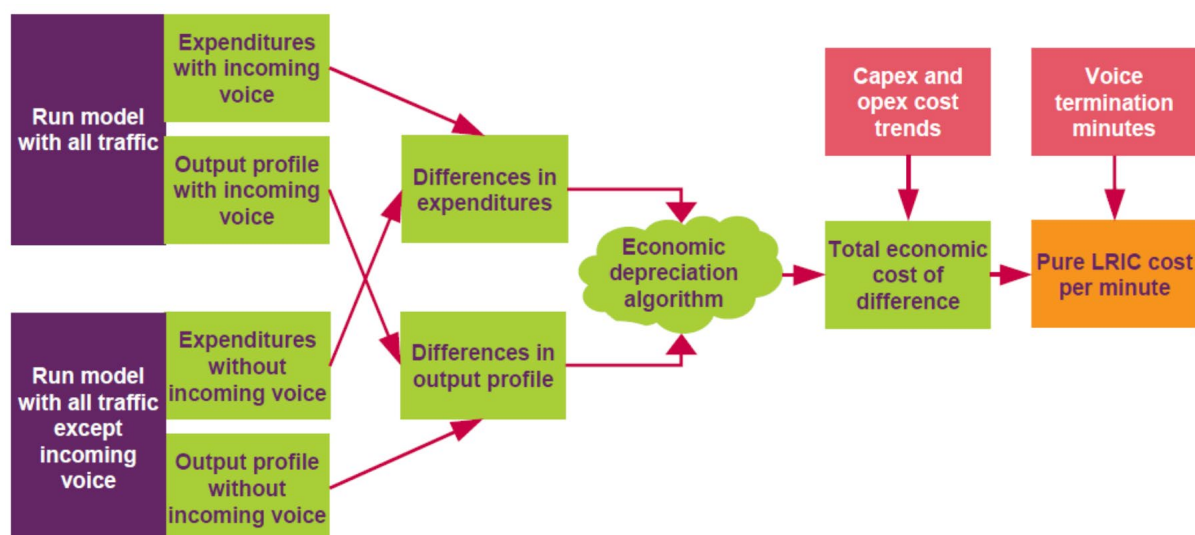
- d) The **‘Cost’** module uses the calculated equipment quantities (as derived in the network module) and unit equipment prices to calculate network costs (both capital and operating) over time.
- e) The **‘Economic’** module calculates service costs from the forecast network costs, based on economic depreciation. The outputs of this module form the model results.

A6.5 The 2020 MCT model calculates the LRIC of MCT using a decremental approach. This calculation involves considering MCT as a ‘final increment’ with no common costs (such as the common costs of a ‘coverage network’) being allocated to MCT. This approach to calculating LRIC is consistent with previous MCT models and the 2009 EC Recommendation.

A6.6 The calculation flow used to determine LRIC is shown in Figure A6.1 below (with MCT referred to as ‘incoming voice’ in the flow chart).

Figure A6.1: How the LRIC of MCT is calculated

This figure depicts how the LRIC of MCT is calculated.



Source: Ofcom.

A6.7 The outputs of the 2020 MCT cost model are unit costs (either LRIC or LRIC+) in each year for MCT. The model works in real terms (relative to CPI inflation) indexed to 2015/16 prices, and all outputs are stated in 2015/16 prices.

Scenario control module

A6.8 The scenario control module contains the main parameters that affect the cost of MCT. These parameters then feed through to all other relevant modules. The Scenario worksheet in the module is constructed to allow the user to choose between different scenarios, with a macro enabling the calculation of either LRIC+ or LRIC results pertaining to these scenarios.

A6.9 The Outputs worksheet contains the most important results from the model. The functionality of the scenario control module in the 2020 MCT model remains unchanged from that published in the 2018 MCT model, with changes only to update the scenarios.

Traffic module

A6.10 The traffic module of the 2020 MCT model uses demand forecasts and network coverage assumptions to derive service traffic forecasts which are used in the Network module to dimension the 2G, 3G and 4G networks. The 2020 MCT model has the functionality to forecast out to 2039/40; however, we only included explicit traffic forecasts to Q4 2025/26 after which volumes are held constant.

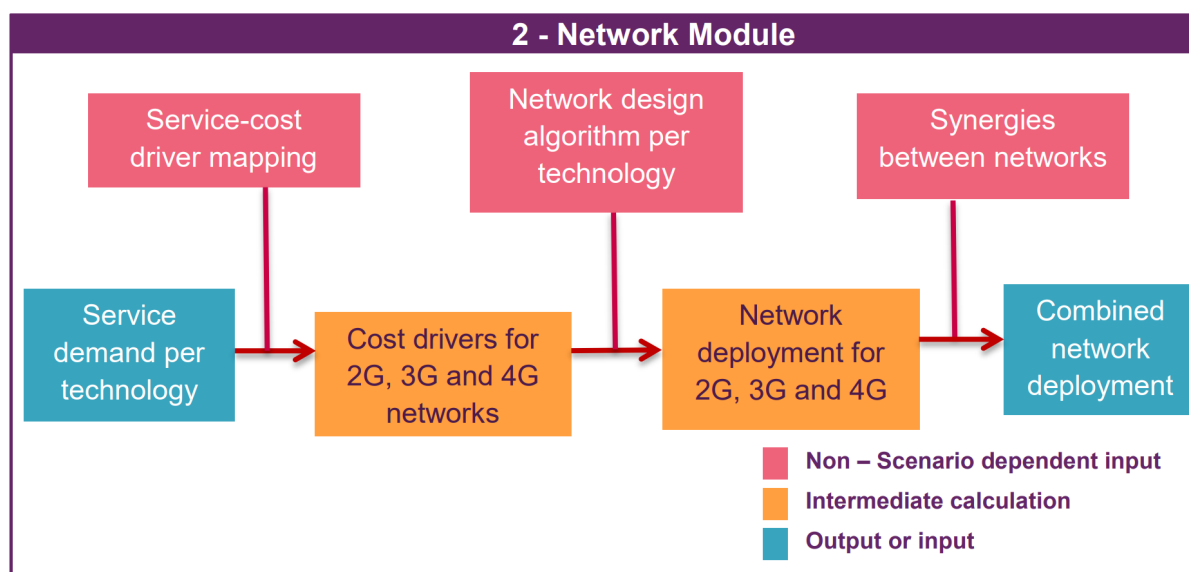
A6.11 We also note that our traffic forecasts must be consistent with our assumptions concerning network technology and spectrum. The 2020 MCT model uses the technology of the day with no further developments in the future. This means that although in the short term the 2020 MCT model forecasts are based on data from MCT providers, in the medium and longer term the forecasts are constrained by the technology and spectrum we are using.

Network module

A6.12 The network module takes the forecast levels of service demand and coverage per geotype derived in the Traffic module and uses them in calculating the quantities of each type of 2G, 3G and 4G network equipment necessary to meet these requirements. This process, which also involves the use of telecommunications engineering algorithms, is known as ‘dimensioning’, and was developed for us by Analysys Mason during the 2015 MCT review.

A6.13 The flow of the calculations in the proposed network module is illustrated in Figure A6.2.

Figure A6.2: Summary of Network Module calculations



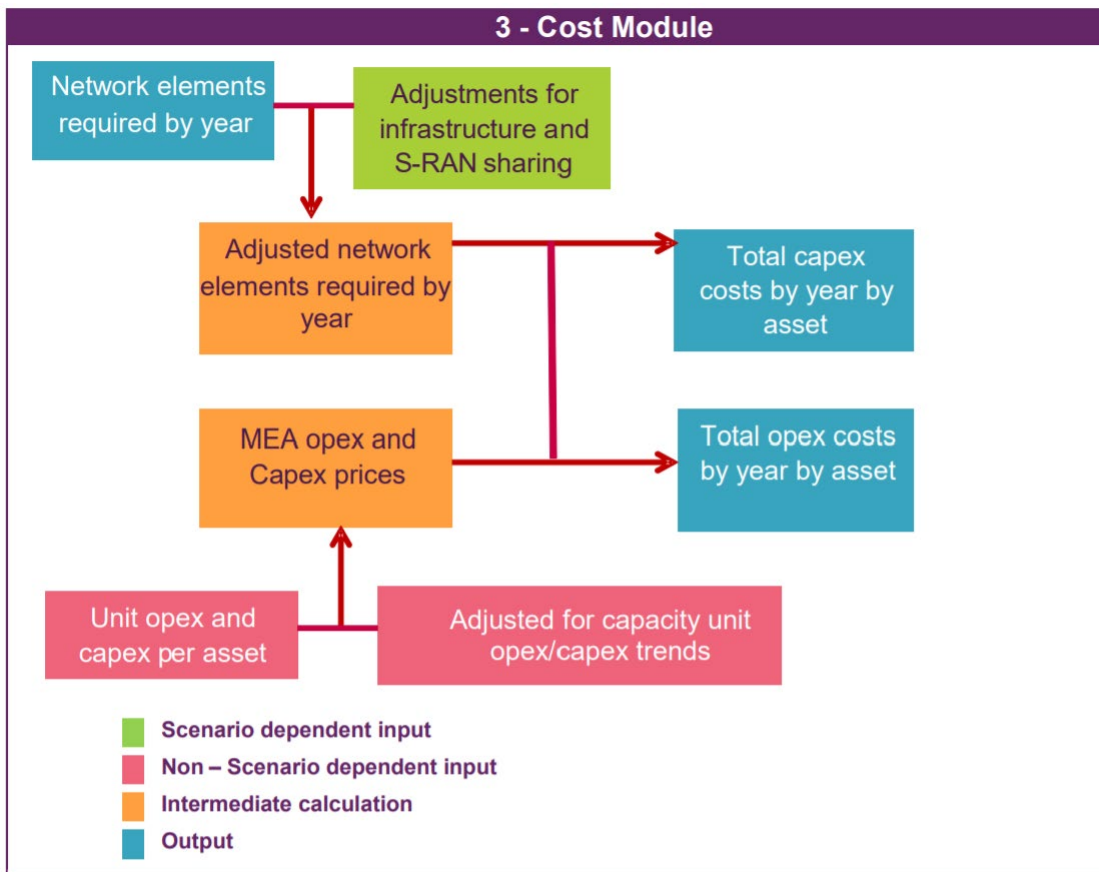
Source: Ofcom.

- A6.14 In order to dimension the modelled 2G, 3G and 4G networks on the basis of cost causation relationships, the 2020 MCT model first converts the demand for each service under the selected input scenario into a number of specific cost drivers. These cost drivers determine the deployment of certain network elements. A common measure of traffic output is required so that demand from multiple services can be aggregated appropriately. Traffic for each service is therefore converted into voice equivalent busy-hour Mbit/s. A matrix of routing factors is then applied to map the services onto a full set of network cost drivers.
- A6.15 A number of technical parameters are required in order to establish quantifiable relationships between cost drivers and network deployment. To derive a realistic assessment of the cost structures for our average efficient mobile provider, we have used a bottom-up approach that calculates the quantities of each type of network element required. Assets are dimensioned in the model according to the cost drivers. Some assets are indirectly dimensioned by the cost drivers (e.g. assets that are dimensioned on the basis of other asset quantities).
- A6.16 The general approach taken for dimensioning the modelled 2G, 3G and 4G networks is the same as we explained in the 2015 MCT Market Review Statement. Under this approach the radio network is dimensioned for coverage and capacity requirements in each geotype. An important factor in determining radio equipment requirements are the assumptions made relating to the spectrum bandwidth and the spectrum holdings of the modelled mobile provider. The spectrum holdings and associated assumptions included in the 2020 MCT model are unchanged from the 2020 MCT model, as explained in Section 6 and later in this annex.

Cost module

- A6.17 Using the equipment quantities calculated in the network module as inputs, the cost module forecasts the total cash flows (investment and operating costs) that would be incurred in each year to purchase, renew, maintain and decommission the required number of each type of network element. This process allows us to calculate the costs that would be incurred by an average efficient mobile provider.
- A6.18 A summary of the proposed workings of the module is shown in Figure A6.3 and explained below. The structure of the cost module is unchanged from that included in the 2018 MCT model.

Figure A6.3: Summary of Cost Module calculations

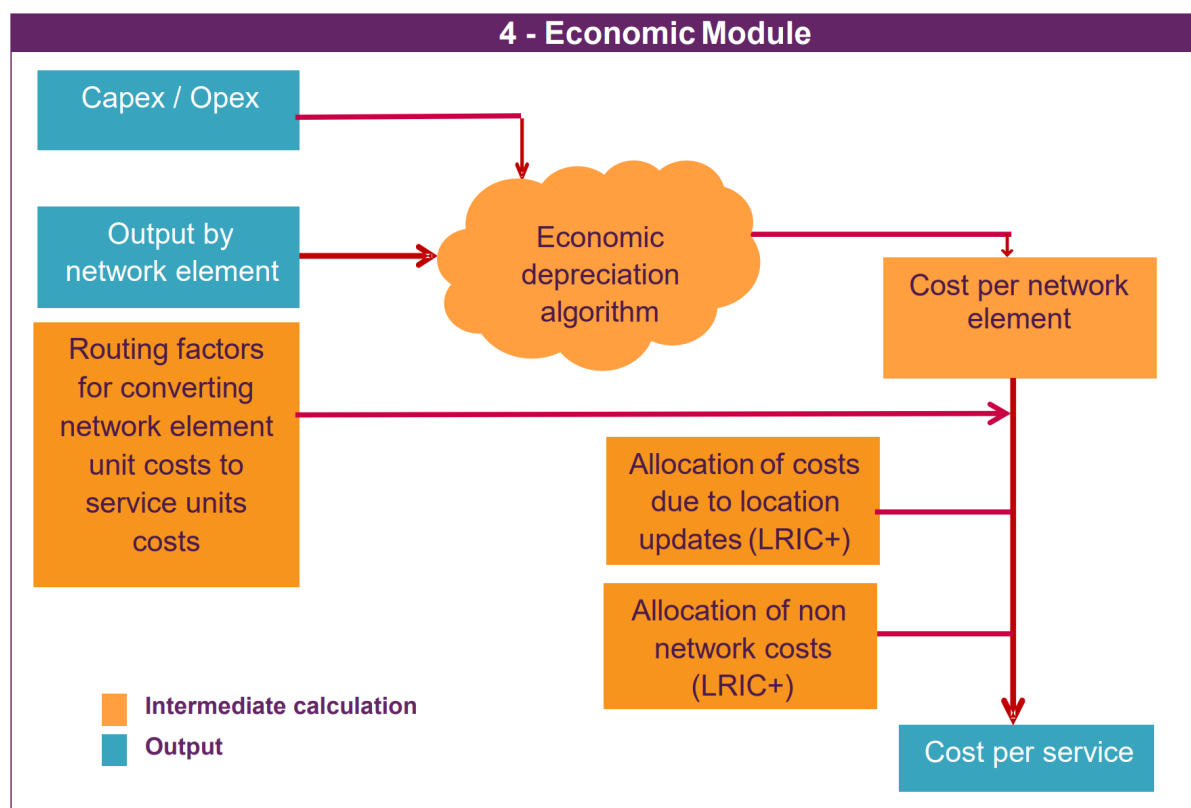


Source: Ofcom.

Economic module

- A6.19 Once the yearly capex and opex of the average efficient mobile provider have been calculated in the cost module of the model, we must determine how these costs are recovered over time. This is done in the Economic module.
- A6.20 The Economic module implements economic depreciation to calculate a cost per unit of output, in each year, for every asset in the model. An overview of the calculation flow in the economic module is shown in Figure A6.4 below. This is unchanged from the 2018 MCT model.

Figure A6.4: Summary of Economic Module calculations



Source: Ofcom.

- A6.21 Economic depreciation matches the cost of equipment to its actual and forecast use over the long-term. Consequently, there is relatively little depreciation in years when utilisation is low and relatively high depreciation in years of full, or almost full, equipment utilisation. As such economic depreciation differs from typical accounting approaches to depreciation when the amount recovered is invariant to usage (and so unit costs are inversely related to utilisation).
- A6.22 In the 2020 MCT model we propose to use the form of economic depreciation known as Original Economic Depreciation (Original ED), consistent with our previous MCT models since 2005.
- A6.23 We propose to continue with this approach instead of accounting approaches to depreciation, on the basis it would better reflect the forward-looking economic value of an asset and hence better mimic the outcome of a competitive market. Furthermore, using economic depreciation would be consistent with the 2009 EC Recommendation which states that “the recommended approach for asset depreciation is economic depreciation wherever feasible.”³³
- A6.24 Our provisional view is that Original ED is a better depreciation approach to other forms of economic depreciation because it better mimics the outcomes that would be expected in a competitive market. We note that for the low scenario there is a significant dip in MTRs

³³ 2009 EC Recommendation, point 7.

followed by a consistent increase, and this occurs to a lesser extent in the base case. This is due to the economic depreciation profile, specifically the recovery of opex over time, and the impact that the reduction in WACC has on the cost recovery profile. We note that this modelling feature was previously appealed in 2011 but was upheld by the Competition Commission.³⁴

Approach to updating our model

- A6.25 In the 2018 MCT Market Review Statement we set out various checks on how the calculated MTR may change with updates to various parts of the model. We concluded that the 2015 MCT model served as a reasonable basis for calculating the LRIC of MCT over the 2018-2021 period. The 2018 MCT model was very similar to the 2015 MCT model, updated only minimally to account for the then-latest inflation data and to present outputs for the 2018/19 to 2020/21 control period.³⁵
- A6.26 As set out in Section 6, we have taken a proportionate approach to updating the 2018 MCT model, updating it to improve the accuracy of its outputs where it is straightforward to do so, but avoid updating those parts of the model which would require a complete overhaul of the modelling structure or architecture and a large data collection process. We have taken this approach for the 2020 MCT model because we believe it ensures sufficient accuracy to satisfy our regulatory objectives, without placing an undue regulatory burden on our stakeholders during the period of disruption caused by Covid-19.
- A6.27 We set out our approach to each of the main elements of the modelling we have considered updating below.

Traffic volumes

- A6.28 Updated traffic volumes and forecasts can significantly increase or decrease the calculated LRIC of MTR as they help determine the size and usage of the modelled network. Using information that is readily available, we have updated:
- a) handset and data device subscriber figures, although we note that this is a very small change given market saturation;
 - b) 4G penetration, which increases from 57% (at the start of 2020) to 77%;
 - c) 4G data usage to ensure total data usage is consistent with actuals given the increase in modelled 4G penetration; and
 - d) monthly voice usage, which increases from 146 minutes per subscriber to 169 minutes per subscriber.
- A6.29 We have updated penetration rates for handset and data device users, based on actuals, for 2016/17 Q4 up to 2019/20 Q2. Given that handset penetration rates have stayed relatively flat over many years, we consider it appropriate to hold its penetration rate constant when forecasting. Data device penetration rates have been gradually falling over

³⁴ Competition Commission, 2012. [9 February 2012 Determination](#), paragraphs 3.511 and 3.548

³⁵ 2018 MCT Market Review Statement, Section 5 of

the last few years, therefore we have continued this trend when forecasting with a 0.05 percentage point decline each quarter.

- A6.30 We have the proportion of gross additions that subscribe to 4G to ensure that the 4G penetrations figures reflect actuals (up to 2018). For our base case we assume that the proportion of gross additions that subscribe to 4G is constant when forecasting, resulting in 85% of subscribers using 4G by 2025/26. Our low case assumes a slight decline in the proportion of gross additions resulting in 82% of subscribers using 4G by 2025/26. Our high case assumes a slight increase in the proportion of gross additions resulting in 90% of subscribers using 4G by 2025/26.
- A6.31 We have updated voice and 4G data usage in the model using actuals for 2016/17 Q4 to 2019/20 Q2, ensuring that historic figures are consistent with these actuals. When forecasting voice usage, our base case assumes that it remains constant, based on average usage over the last two years. Our low case assumes a gradual decline whilst the high case assumes a significant increase every two years, based on the last two years of actuals. When forecasting data usage, we have assumed a continuation of the recent growth which gradually slows down over time. Compared to the base case, the low and high case assume the growth in data usage slows down at a faster and slower rate, respectively.

Cost of capital

- A6.32 The weighted average cost of capital (WACC) is an important component of the LRIC for MCT given the high capital investments required to run a mobile network. As part of our work in the 2020 WFTMR, Ofcom has provided its latest view of the WACC for BT Group charge controls. The WACC will be updated for the 2020 WFTMR statement, and we plan to update the WACC in the MCT model accordingly.
- A6.33 The BT Group WACC is disaggregated three-ways, to reflect the differences in the systematic risk between different activities of BT. The Other UK Telecoms part of BT captures its mobile activities, amongst other things. Therefore, we expect the Other UK Telecoms WACC to provide a reasonable benchmark for the WACC of a UK MNO for the purposes of this consultation. We welcome comments from stakeholders on the appropriate WACC to use for this charge control.
- A6.34 The 2018 MCT model used a pre-tax real WACC of 7% whereas our most recent view of a pre-tax real WACC is 5.8% for Other UK Telecoms. This change reduces the LRIC of MCT calculated in the 2020 MCT model by around 10%, or 0.04ppm, in 2025/26. The pre-tax Other UK nominal WACC is 7.9% which is converted into a pre-tax real WACC using the Fisher equation and a CPI assumption of 2%. As illustrated in Annex 21 of the 2020 WFTMR Consultation, the WACC has reduced primarily due to a reduction in the risk-free rate and the cost of debt. For the 2020 MCT model, we propose the use of a pre-tax real WACC between 4.8% and 6.8%.

Technology choice

- A6.35 The 2015 MCT model dimensioned a network that made use of 2G, 3G and 4G technology and included VoLTE, active and passive infrastructure sharing and single-RAN deployment.

This was maintained in the 2018 MCT model, in which we chose not to update with 5G or Voice over WiFi (VoWiFi) technologies or any spectrum deployment changes. This was largely due to these technologies either not being deployed at all during the 2018-21 charge control period or being deployed in a very limited fashion.³⁶

- A6.36 5G technology is currently being deployed in the UK and is likely to see material take-up over the course of the present review period (2021/22 to 2025/26). VoWiFi is being used by a number of operators, though to different extents. As such, the technology used in the 2018 MCT model will not fully reflect the technologies deployed and used in UK mobile networks over the review period.
- A6.37 The choice of technology to be used by the model has the potential to have a significant impact on the output costs from the model.³⁷ We cannot be certain that the introduction of 5G would have a similar size of effect on the cost of MCT without going through the full model update process. However, we would expect that the direction of any impact resulting from the introduction of a new technology should only be to reduce the price of existing services. A principle of anchor pricing, which we have applied in a wide variety of reviews, anchors the price (and quality) of existing services to the legacy technology, even if the services are provided over a new technology. This approach gives the regulated firm incentives to invest in new technology only when providing services over the new technology would lower its overall costs and/or would enable it to provide higher quality services for which consumers are willing to pay a premium.³⁸ We therefore would not expect the introduction of 5G to our model to increase the MTR we would set.
- A6.38 In addition, the introduction of a new technology in a manner which maintained the internal consistency of the model would be a major task involving significant restructuring of the model and the gathering of a large amount of additional data from operators. Considering the necessary scale of this task and the burden it would place on stakeholders we propose that it would not be proportionate to do such an update; the likely benefit of any increase in accuracy of our estimate of the LRIC of MCT is small given our proposal above that our objectives would still be met from rates that are near to but not exactly equal to LRIC, and the costs of this exercise would be relatively large.
- A6.39 With regards to new spectrum deployments, we are aware there has been more such activity recently and there will likely be more such activity in the near future than was the case in the previous two reviews of MCT; there has been an auction of 2.3 and 3.4GHz spectrum in January 2018³⁹ and there is a forthcoming auction of 700MHz and 3.6-3.8GHz

³⁶ Paragraphs 5.15 to 5.21 of the 2018 MCT Market Review Statement.

³⁷ For example, the change in the calculated LRIC of MCT for 2015/16 in the 2015 MCT Market Review Statement was 0.502ppm compared to the 2014/15 regulated charge (also set on a LRIC basis) at the time of 0.826ppm – a reduction of 39%. While this difference covers all changes to the modelling approach introduced in the 2015 MCT Market Review Statement, arguably the most significant of these was the introduction of 4G technology and associated services to the model.

³⁸ For example, the 2018 WLA set charges based on copper and FTTC services as an anchor to the new technology (FTTP). Ofcom, 2018. [WLA Market Review: Statement – Volume 2](#), paragraphs 2.18 to 2.24

³⁹ Ofcom, 2018. [Award of 2.3 and 3.4 GHz spectrum bands](#)

spectrum⁴⁰ expected to begin in the coming months. Each of these auctions involve the allocation of spectrum anticipated to be used to provide 5G services⁴¹, and so we propose not to introduce these spectrum assets into the model. To do so without introducing 5G technology would introduce inconsistency into the model.

Equipment unit costs

- A6.40 The unit costs and trends used in the 2018 MCT model are the same as those in the 2015 MCT model. As part of the 2018 MCT Market Review Statement we checked these against the more recently published French model and found them to still be a reasonable estimate of how costs were expected to change.
- A6.41 Updating the unit costs and trends in the model could result in costs increasing or decreasing, depending on the nature of the change. The assumptions made in the 2015 model were the best we could make about the evolution of how the cost of the elements required for the network would evolve, accounting for both changes in the cost of equipment and changes in capacities or other factors which would affect the unit cost of the services run across those elements. We do not have an expectation of whether such an update would be more likely to increase or decrease costs, but we would not expect any impact on the costs to be large.
- A6.42 We have considered updating the cost and trend data used in the model with data gathered as part of the EC’s modelling exercise in the context of harmonizing MCT and roaming rates across the EU (‘the EC’s Eurorates modelling’). As part of this exercise we gathered data from MNOs including data on the unit costs and cost trends of their equipment. However, upon examination we have determined that this data is not fit for this purpose, due to a combination of:
- a) the short forecast horizon of the data provided (firms provided cost trends over a two-year basis);
 - b) the architecture and level of aggregation assumed, which does not match well to that of the 2018 MCT model; and
 - c) the completeness and range of responses received.
- A6.43 As such we do not have more recent data easily available to us to do an update of these assumptions, and any such update would therefore require gathering data from our stakeholders. While this would increase the accuracy of our outputs were we to do it, we do not expect that such an update would have a large impact on our results. There is also a risk that updating the cost trends of certain types of equipment may risk introducing inconsistency in the model as these cost trends may reflect technological developments related to the introduction of 5G. This would not be consistent with a 2G/3G/4G-only architecture as used in our model.

⁴⁰ Ofcom, 2020. [*Statement: Award of the 700 MHz and 3.6-3.8 GHz spectrum bands: Conclusions to further consultation on modelling and technical matters*](#)

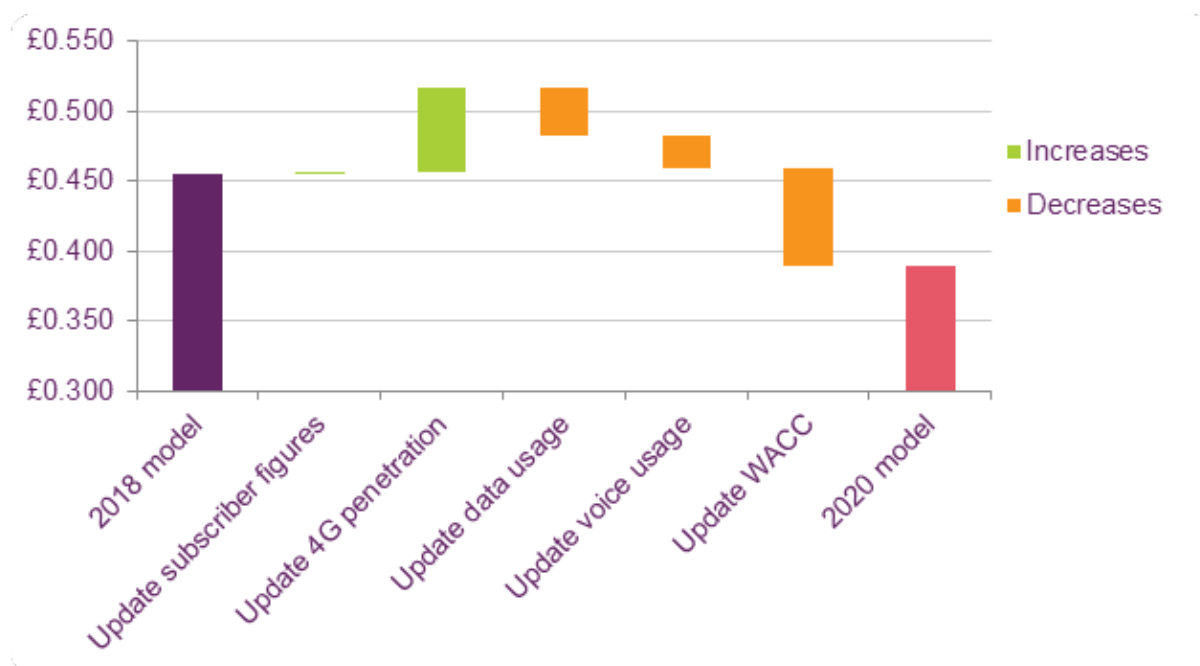
⁴¹ We note that the 2.3GHz spectrum from the 2018 auction is expected to be used to increase capacity on existing technologies, rather than to introduce 5G technology.

A6.44 We therefore propose not to update the equipment unit costs, cost trends, and capacity assumptions from the values used in the 2018 MCT model.

Summary of model updates and impact on modelled MTR

A6.45 As set out above, we consider it appropriate to update some of our traffic volumes (i.e. subscriber figures, take-up of 4G, voice and data usage) and to use our most recent view on the Other UK Telecoms WACC. The combined impact of the traffic volume updates and the updated WACC result in a 2021/22 MCT LRIC of 0.389ppm, as compared to the 0.455ppm from the 2018 MCT model (updated to 2020/21 real prices). We show the breakdown of each of our updates in the chart below:

Figure A6.5: Impact of updating the 2018 MCT model, 2020/21 real ppm



Source: 2020 MCT model

Calibration

A6.46 The purpose of calibration is to ensure that the model produces a reasonably realistic network. Any bottom-up model has a risk of missing key dimensioning relationships and producing a network which, while internally consistent based on the assumptions made, does not adequately match the reality it is designed to model.

A6.47 Calibration was an important part of the process of developing the 2015 MCT model and resulted in modelled asset counts and costs were reasonably in line with those of the 2G/3G/4G national mobile providers.⁴² Given this, we are reasonably confident that it picks up all key dimensioning relationships. However, given the period of time that has elapsed since this exercise was last conducted and the updates we have made to the model as part

⁴² See Annex 9 of the 2015 MCT Market Review Statement.

of this review, we have conducted some additional cross-checks against more recent data to ensure that the model has not been pushed out of line with reality to a significant extent.

- A6.48 To do this, we have used data gathered as part of the EC’s Eurorates modelling. As part of this exercise, most MNOs provided to us a breakdown of the assets they had in operation in their networks, as well as the gross book value, net book value and depreciation costs of their networks. We have compared the numbers of assets dimensioned by the model, and the financial costs of the modelled network, with the data provided by stakeholders.
- A6.49 The numbers of network elements in most categories are within the range of responses provided by stakeholders. In some cases, such as Home Subscriber Servers, the model dimensions slightly more than the highest number in the stakeholder data, while for some others, such as Radio Network Controllers, the model dimensions slightly fewer than the lowest number in the stakeholder data. Given the sizes of ranges of responses provided, and the general result of the model dimensioning numbers of elements within the ranges of responses for most network elements, we are satisfied that the model is dimensioning reasonable amounts of the key network equipment utilised.
- A6.50 A similar result is found for the financial costs of the dimensioned network – for almost all categories of capital costs, the dimensioned network is either within the range of responses provided or is very close to the top or bottom of the range. It does not appear that the model is systematically higher or lower than the ranges of responses provided by stakeholders. We are therefore satisfied that the model is producing a reasonably-costed network in comparison to MNO data.
- A6.51 As a result of these cross-checks, we do not propose to make any further amendments to the input assumption of the model.

A7. Glossary

Term	Description
Access network	The part of a telecoms provider’s network that connects customers’ premises to the telecoms provider’s Local Access Node, which is the local exchange in the case of BT.
Bill and Keep	An approach to termination pricing where communications providers make no payments to each other for call termination (that is, termination rates are zero).
BT	British Telecommunications plc.
Charge control	A control that limits the price that a telecoms provider can charge for a particular product or service. Most charge controls are imposed for a defined period.
CLI (Calling Line Identity)	Data about the calling party, in particular the telephone number that has initiated the call.
Common costs	Costs that are shared across multiple services supplied by a firm.
Conveyance costs	Costs relating to the transport of calls across or between networks.
Countervailing buyer power	The restraint a buyer is able to place on any attempt by the seller to set its prices above the competitive levels.
CPI (Consumer Price Index)	An official measure of inflation of consumer prices in the UK.
DCCs (Donor Conveyance Charges)	Wholesale charges for the provision of ‘onward routing’ of calls to mobile numbers that have been ported (i.e. when a consumer has kept their mobile number but has switched mobile provider).
DLE (Digital Local Exchange)	The local exchange switching component in BT’s telephone network. Customer lines are connected to remote concentrator units subtended to DLEs.
EC	The European Commission.
EECC	European Electronic Communications Code.
End to end connectivity	The facility for users of retail telephone services to call all other telephone users on their provider’s network and those on all other providers’ networks.
End to End Connectivity Condition	An access condition on BT under sections 73 and 74 of the Communications Act 2003 which requires BT to purchase wholesale call termination services as soon as reasonably practicable and on reasonable terms and conditions, including charges.
End user	The final consumer of a product or service.

Ethernet	A packet-based technology originally developed for use in Local Area Networks (LANs) but now also widely used in telecoms providers' networks for the transmission of data services.
FTR (Fixed Termination Rate)	The wholesale charge levied by fixed telecoms providers for WCT.
Fibre To The Premises (FTTP)	An access network structure in which optical fibre runs from the local exchange to the end user's house or business premises. The optical fibre may be point-to-point (there is one dedicated fibre connection for each home) or may use a shared infrastructure. Sometimes also referred to as Fibre To The Home (FTTH).
GC (General Condition)	One of the General Conditions of Entitlement imposed under the Act, which apply to all telecoms providers or all telecoms providers of a particular type.
Hull Area	The area defined as the 'Licensed Area' in the licence granted on 30 November 1987 by the Secretary of State under Section 7 of the Telecommunications Act 1984 to Kingston upon Hull City Council and Kingston Communications (Hull) plc (KCOM).
ISDN (Integrated Services Digital Network)	A digital telephone service that supports telephone and switched data services.
Interconnection	The linking (whether directly or indirectly by physical or logical means) of one network and another, enabling end users of different networks to communicate with one another and to access services provided on a different network.
Interconnect circuits	Communications circuits used to facilitate interconnection.
IP (Internet Protocol)	Packet data protocol used for routing and carriage of messages across the internet and other modern communications networks.
IPEX	BT's IP Exchange IP interconnection service.
ISP (Internet Service Provider)	A company that provides customers with internet access.
Jitter	A measure of variation of delay in transmission over a transmission path.
LLU (Local Loop Unbundling)	A process by which a dominant provider's local loops are physically disconnected from its network and connected to competing providers' networks. This enables operators other than the incumbent to use the local loop to provide services directly to customers.
LRIC (Long-run Incremental Costs)	Only those costs which are caused by the firm's provision of a defined increment or service including fixed costs specific to that increment or service – i.e. those costs that would not be incurred if the firm was

structured in such a way as not to provide that service, while still producing all other services and products that are currently produced.

LRIC+	The long-run (average) incremental costs plus a mark-up for the recovery of shared and common costs (often in the form of an equi-proportionate mark-up). LRIC+ should be taken to mean the same as LRAIC+ (a term used by some other NRAs).
Mandated reciprocity	Where mobile termination rates and fixed termination rates are set at the same level.
MCT (Mobile Call Termination)	The wholesale service provided by an MCT provider to allow an originating telecoms provider to connect a caller with the intended mobile call recipient on that MCT provider’s network.
MNO (Mobile Network Operator)	A provider which owns a cellular mobile network.
MPF (Metallic Path Facility)	The provision of access to the copper local loop from the customer site to a BT MDF that covers the full available frequency range, including both narrowband and broadband channels, allowing a competing provider to provide the customer with both voice and/or data services over such copper local loop.
MTR (Mobile Termination Rate)	The wholesale charge levied by mobile telecoms providers for MCT.
Narrowband access services	A collective term used to refer to WFAEL, ISDN2 and ISDN30 services.
NICC	A technical forum for the UK communications sector that develops interoperability standards for public communications networks and services in the UK. It is an independent organisation owned and run by its members. Ofcom participates in NICC as an observer.
NMR	Narrowband Market Review.
NRA (National Regulatory Authority)	The communications regulatory body for each EU Member State assigned tasks under the Framework Directive. Ofcom is the NRA for the United Kingdom.
Off-net call	A call that terminates on a network different to the one it originated on; that is, calls between customers of different networks.
On-net call	A call originated and received by customers of the same network.
OTA2 (Office of the Telecommunications Adjudicator)	An organisation independent of Ofcom and the industry, tasked with overseeing cooperation between telecoms providers.

OTT (Over the top)	A service that allows end-users to make and receive voice calls using an internet connection where the service is provided independently of the provision of the internet connection.
POC (Point of Connection)	The point where two telecoms providers' networks are interconnected.
Ppm	Pence per minute.
PSTN (Public Switched Telephone Network)	A telephone network that uses circuit-switching technology to connect telephone calls.
RFS (Regulatory Financial Statements)	The financial statements that BT is required by Ofcom to prepare, have audited and publish.
Reference offer	A document published by a telecoms provider setting out matters such as technical information, the terms and conditions for provisioning, SLAs and SLGs, and availability of other related services such as accommodation.
SIA (Standard Interconnect Agreement)	BT's standard terms and conditions for the provision of TDM interconnection and related services.
SIP (Session Initiation Protocol)	A signalling protocol that is commonly used for calls over IP networks.
SMP (Significant Market Power)	The European Directive require NRAs to determine whether operators have significant market power and impose appropriate regulatory obligations in such cases. An undertaking will have significant market power if, either individually or jointly with others, it enjoys a position equivalent to dominance, that is to say a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers.
SS7 (Signalling System No. 7)	A set of telephony signalling protocols used for interconnection between TDM telephone networks.
TDM network	A circuit switched telephone network which uses time division multiplexing (TDM) technology.
IP voice service	A telephone service provided over a modern IP network.
WCO	Wholesale fixed call origination services.
WCT	Wholesale fixed geographic call termination services.
Wholesale Fixed Analogue Exchange Line (WFAEL)	A narrowband access connection between a customer's premises and a local exchange.

WLR (Wholesale Line Rental)

The service offered by BT to other UK telecoms providers to enable them to offer retail line rental services in competition with BT's own retail services.

A8. Legal tests

WCT markets

- A8.1 In Sections 6 to 8 we set out our proposals to impose on BT and other telecoms providers SMP conditions to provide network access, and associated remedies, including charge controls, designed to support and make effective that network access in WCT markets.
- A8.2 We have decided to impose on BT the following package of remedies:
- Requirement to provide network access on reasonable request and on fair and reasonable terms, conditions and charges (subject to any charge control);
 - Charge controls on WCT and TDM interconnection;
 - Requirement not to unduly discriminate;
 - Requirement to publish a Reference Offer;
 - Requirement to notify changes to charges for TDM interconnection;
 - Requirement to publish quality of service information for interconnection;
 - Requirement to publish a migration timetable in respect of interconnection;
 - Requirement to offer interconnection with its IP network for all landline calls at the regulated termination rate from April 2025 onwards; and
 - Requirement to meet financial reporting requirements.
- A8.3 We propose the following remedies on other telecoms providers in the WCT markets in which they operate:
- Requirement to provide network access on reasonable request and on fair and reasonable terms, conditions and charges (subject to any charge control);
 - Charge controls on WCT.
- A8.4 In order to give regulatory effect to our proposals we propose to set the draft SMP conditions set out in Annex 9.

Section 47 tests

- A8.5 When imposing SMP obligations, we need to demonstrate that the obligations in question are based on the nature of the problem identified, proportionate and justified in light of the policy objectives as set out in Article 8 of the Framework Directive. For each draft SMP condition set out in this consultation, we consider that the conditions we are proposing satisfy the tests set out in section 47 of the Act, namely that the proposed obligation is:
- objectively justifiable in relation to the networks, services or facilities to which it relates;
 - not such as to discriminate unduly against particular persons or against a particular description of persons;
 - proportionate to what the condition or modification is intended to achieve; and
 - transparent in relation to what it is intended to achieve.

Objectively justified

- A8.6 We consider that each of the draft SMP conditions we are proposing is objectively justifiable. The remedies that we are proposing are designed to address the competition concerns that we have identified in our market analysis (see Section 5 and 6).
- A8.7 In relation to the **network access obligation and the charge control on BT and other providers**, as explained in Section 6, our provisional market analysis has found that BT and other telecoms providers which terminate calls to geographic numbers:
- could have the ability and incentive to provide access subject to unfair or unreasonable terms or to refuse access to their network. This could place the originating provider at a competitive disadvantage, potentially distorting retail competition;
 - would have the ability and incentive to set prices for WCT at an excessively high level. This would not only increase the margin of the WCT provider, but also alter the incentives of its rivals on the retail side of the market (by reducing their margins and/or leading them to increase retail prices), all of which could distort competition in retail markets and harm consumers.
- A8.8 Therefore, in the absence of a requirement to provide network access and the charge control on WCT, BT and other telecoms providers could refuse or impede access to WCT by offering unfair or unreasonable terms and setting excessively high prices.
- A8.9 We explain in Section 6 why the network access obligations and charge control for WCT that we are proposing are objectively justified in the context of the markets we are reviewing.
- A8.10 In relation to the **no undue discrimination and transparency remedies on BT**, our provisional market analysis has found that these may be appropriate because BT's scale in the provision of WCT gives it the incentive and ability to set terms or prices for WCT that discriminate between telecoms providers in a way that harms competition. We explain in Section 6 why these additional remedies on BT that we are proposing in respect of WCT are objectively justified in the context of the markets we are reviewing.
- A8.11 In relation to the **specific interconnection remedies on BT** our provisional market analysis has found that because of its high share of WCT volumes, the scale of its network and importance as a partner for other fixed providers, there is scope for BT to leverage its SMP in WCT into interconnection by:
- refusing access to its network or providing access subject to unfair or unreasonable terms or excessive prices;
 - discriminating between telecoms providers in a way that harms competition.
- A8.12 We explain in Section 7 why the package of remedies we are proposing in respect of BT's interconnection, including a network access obligation, a charge control on TDM interconnection, a requirement to provide network access at IP POCs from 1 April 2025, a non-discrimination obligation and transparency measures are required to remedy these harms.

- A8.13 We also explain in Section 7 that BT’s plans to migrate its fixed telephone line services to its IP network has the potential to distort competition for telecoms providers, if there is uncertainty about BT’s plans or unexpected changes to those plans as they apply to BT’s interconnection services and WCT. We explain in Section 7 why **the transparency remedies in respect of BT’s migration plans** that we are proposing will provide greater certainty for telecoms providers and are objectively justified.
- A8.14 The **financial reporting requirements on BT** we are proposing form part of the package of remedies to address the competition concerns we have provisionally identified in relation to BT’s SMP in WCT and associated interconnection services, as explained in Section 8. The proposed accounting separation requirement allows us and stakeholders to monitor the activities of BT to ensure that, where relevant, it does not discriminate unduly in favour of its own downstream business. This, combined with the cost accounting obligation, helps us to ensure that costs are not inappropriately loaded onto one set of regulated services to the benefit of BT.
- A8.15 The proposed cost accounting obligation is necessary to ensure the appropriate maintenance and provision of accounts in order to monitor BT’s activities with regard to the pricing remedies we are implementing and monitor their effectiveness at addressing the competition concerns. It is also necessary to secure that information continues to be created and captured so as to secure, and to give stakeholders confidence, that pricing can continue to be appropriately regulated in future, creating the conditions for the price controls we are now proposing to impose to be effective. It also relates to the need to ensure competition develops fairly, to the benefit of consumers, by providing transparency of BT’s compliance with rules set to address the risk of exploitative or anti-competitive pricing.

Not such as to discriminate unduly

- A8.16 We consider that each of the draft conditions are not unduly discriminatory in that the same conditions in relation to the provision of network access and the charge controls on WCT apply to all telecoms providers operating in WCT markets.
- A8.17 We are proposing a different charge control in relation to WCT for international calls compared to that imposed in relation to WCT for domestic calls. We set out the reasons for this in Section 6 and do not consider this to be unduly discriminatory.
- A8.18 We are proposing additional remedies on BT, because, as we explain in Section 6, there are particular features of its market position identified in our provisional market analysis, which distinguish it from other telecoms providers. In particular, we have provisionally found that its high share of WCT volumes and importance as a partner for other fixed providers, and in relation to TDM interconnection the scale of its network, give it the incentive and ability to set terms or prices for WCT and interconnection that discriminate between telecoms providers. Our provisional market analysis is that the impact of discriminatory conduct by BT would have a greater effect on downstream competition than similar conduct undertaken by other number range holders. We are therefore proposing to apply additional remedies on BT to address these particular concerns.

Proportionate

A8.19 We consider that each of the draft conditions we are consulting on is proportionate to what that condition is intended to achieve. In each case, we are proposing that the conditions: are effective to achieve our aim; are no more onerous than is required to achieve that aim; and do not produce adverse effects which are disproportionate to our aim. We explain in Sections 6 to 8 why we consider each imposed remedy is proportionate in the context of the markets we are reviewing.

Transparent

A8.20 We consider that each of the draft SMP conditions we are proposing is transparent in relation to what is intended to be achieved. The text of the proposed draft SMP conditions is published in Annex 9 for consultation and the operation of those SMP conditions is aided by our explanations in this document. Our final statement will set out our analysis of responses to this consultation and the basis for any final decision that we take.

Section 49 tests

A8.21 In Section 7 we propose to make a Direction to BT under SMP Condition 6 which requires it to publish certain quality of service information in respect of interconnection services it provides in association with WCT. In Section 8, we propose to apply Directions in respect of regulatory financial reporting set out in the February reporting consultation to BT's WCT and interconnection services.

A8.22 We consider that the Directions we are proposing satisfy the tests set out in section 49(2) of the Act, namely that in each case the proposed Direction is:

- objectively justifiable in relation to the networks, services or facilities to which it relates;
- not such as to discriminate unduly against particular persons or against a particular description of persons;
- proportionate to what it is intended to achieve; and
- transparent in relation to what it is intended to achieve.

Direction in relation to quality of service information

A8.23 We consider that the direction to require BT to publish information about its performance under specified key performance indicators in relation to the provision of interconnection services meets the tests set out in the Act. As set out in section 7, we are proposing that SMP Condition 6 will include a power for Ofcom to direct BT about the information it must publish in respect of its quality of service. We propose to make this Direction pursuant to that power.

A8.24 We consider that the Direction meets the criteria set out in section 49(2) of the Act. In particular, it is:

- a) Objectively justifiable, in that we consider service provision and fault repair to be critical areas in which to maintain transparency since they are key to monitoring the effectiveness of the proposed network access and no undue discrimination remedies we are proposing to impose on BT. The Direction we are proposing aims to ensure that there is transparency about the quality of service that BT provides in these areas;
- b) Not unduly discriminatory, in that the condition under which the Direction will be made applies only to BT, for the reasons set out in paragraph A8.16 above.
- c) Proportionate, in that the Direction is limited to the publication of information about provisioning and fault repair times for interconnection and so is no more intrusive than necessary to achieve its intended goals.
- d) Transparent, in that it is clear in its requirements and intention, as explained in this document and the text of the proposed Direction is set out at Annex 9.

Directions in relation to financial reporting

- A8.25 As set out in Section 8, the proposed financial reporting requirements that we are proposing to set in SMP Condition 8 includes powers for Ofcom to make directions in relation to BT’s accounting separation and cost accounting obligations. Under these powers, we propose to apply to BT, where relevant, six Directions which we proposed in the February reporting consultation in relation to WCT and interconnection.
- A8.26 We consider these Directions meet the criteria set out in section 49(2) of the Act for the reasons set out in detail in Section 7 of the February reporting consultation.⁴³
- A8.27 In addition, in relation to the proposed application of the Preparation, Delivery, Publication, Form and Content of the RFS Direction (at Annex 9 to this consultation) to the WCT market and associated interconnection services, we consider it is:
- a) objectively justifiable because the information to be provided, both in public and in private, seeks to ensure that stakeholders have sufficient information about the products and services they purchase to provide them with reasonable confidence about BT’s compliance with its SMP conditions and that we have sufficient information necessary to carry out our functions. This direction will ensure visibility of financial information for WCT and associated interconnection services;
 - b) not unduly discriminatory in that the condition under which the Direction will be made (and the other five Directions detailed in Section 8) applies only to BT, for the reasons set out in paragraph A8.18 above;
 - c) proportionate because the Direction will be no more than is required to ensure the effectiveness of our proposals in this market review and to ensure that Ofcom and stakeholders are provided with a sufficient level of information; and

⁴³ See paragraphs 7.30 – 7.49 of the February reporting consultation.

- d) transparent in that it is clear in its requirements and intention, as explained in Section 8 of this document (and in Section 7 of the February reporting consultation) and the text of the proposed Direction is set out at Annex 9.

Section 88 tests

- A8.28 We are proposing to impose SMP conditions requiring BT and other telecoms providers in relation to the WCT markets in which they operate (including associated interconnection services) to:
- a) provide network access on reasonable request on fair and reasonable terms, conditions and, where no charge control applies, charges;
 - b) adhere to charge controls in relation to WCT in respect of domestic and international calls.
- A8.29 We set out in Section 6 how we consider the charge controls on WCT satisfy the tests in Section 88. We set out in Section 7 how the obligation to provide network access on fair and reasonable terms, conditions and charges, as it applies BT and other telecoms providers in relation to interconnection, satisfies the tests in Section 88
- A8.30 We are proposing to impose a charge control on BT in relation to TDM interconnection services that it provides which are associated with WCT. We set out how we consider the proposed SMP condition satisfies the tests set out in section 88 of the Act in Section 7.

Ofcom's duties

- A8.31 We consider the SMP conditions and Directions described above meet our general duties and the requirements set out in section 3 and section 4 (as it will apply when the amendments in Part 1 of Schedule 1 to the Electronic Communications and Wireless Telegraphy (Amendment etc) (EU Exit) Regulations 2019 come into force). As set out in in Sections 6, 7 and 8, we consider that the remedies will secure efficient and sustainable competition and thereby further the interests of consumers.

MCT and 070 markets

- A8.32 In Section 6 we set out our proposals to impose on telecoms providers SMP conditions to provide network access, and associated remedies, including charge controls, designed to support and make effective that network access in MCT markets. In Section 10, we set out our proposals to impose on telecoms providers an SMP condition imposing a charge control for termination services to 070 numbers.
- A8.33 In summary, in relation to MCT markets, we propose to impose on telecoms providers the following remedies:
- Requirement to provide network access on reasonable request and on fair and reasonable terms and conditions; and
 - Charge controls on MCT.

A8.34 In relation to termination services to 070 numbers, we propose to impose a charge control which is the same as the charge control for MCT for domestic calls.

A8.35 In order to give regulatory effect to our proposals we propose to set the draft SMP conditions set out in Annex9.

Section 47 tests

A8.36 For each draft SMP condition set out in this consultation in relation to MCT and 070 call termination respectively, we consider that the conditions we are proposing satisfy the tests set out in section 47 of the Act, namely that the proposed obligation is:

- objectively justifiable in relation to the networks, services or facilities to which it relates;
- not such as to discriminate unduly against particular persons or against a particular description of persons;
- proportionate to what the condition or modification is intended to achieve; and
- transparent in relation to what it is intended to achieve.

Objectively justified

A8.37 We consider that each of the draft SMP conditions we are proposing is objectively justifiable. The remedies that we are proposing are designed to address the competition concerns that we have identified in our market analysis (see Section 5 and 6 in relation to MCT and Section 10 in relation to 070 call termination).

A8.38 In relation to remedies in respect of MCT, as explained in Section 6, our provisional market analysis has found that telecoms providers which terminate calls to mobile numbers:

- could have the ability and incentive to provide access subject to unfair or unreasonable terms or to refuse access to their network. This could place the originating provider at a competitive disadvantage, potentially distorting retail competition;
- would have the ability and incentive to charge excessively high MTRs. High MTRs could distort competition in retail markets and thereby harm consumers.

A8.39 Therefore, in the absence of a requirement to provide network access and the charge control on MCT, telecoms providers could refuse or impede access to MCT by offering unfair or unreasonable terms and setting excessively high prices.

A8.40 In relation to the charge control on termination services to 070 numbers, our provisional market analysis in Section 10 has found that telecoms providers operating in these markets have the ability and incentive to charge excessively high termination rates. In the absence of a charge control, this leads to:

- high retail prices to the detriment of consumers;
- distorted choice between 070 services and other services; and
- incentives for fraudulent practices.

A8.41 We explain in Section 6 why the network access obligations and charge control for MCT and in Section 10 why the charge control for 070 call termination are objectively justified in the context of the markets we are reviewing.

Not such as to discriminate unduly

A8.42 We consider that each of the draft conditions are not unduly discriminatory in that the same conditions in relation to the provision of network access and the charge controls on MCT apply to all telecoms providers operating in MCT markets.

A8.43 We are proposing a different charge control in relation to MCT for international calls compared to that imposed in relation to MCT for domestic calls. We set out the reasons for this in Section 6 and do not consider this to be unduly discriminatory.

A8.44 We are proposing the same charge control will apply to all providers of termination services to 070 numbers in respect of all calls and for this reason consider that the proposed SMP condition is not unduly discriminatory.

Proportionate

A8.45 We consider that each of the draft conditions on which we are consulting in respect of MCT and 070 termination services respectively are proportionate to what that condition is intended to achieve. In each case, we are proposing conditions that: are effective to achieve our aim; no more onerous than is required to achieve that aim; and do not produce adverse effects which are disproportionate to our aim. We explain in Sections 6 to 10 why we consider each imposed remedy is proportionate in the context of the markets we are reviewing.

Transparent

A8.46 We consider that each of the draft SMP conditions we are proposing in respect of MCT and 070 termination services respectively is transparent in relation to what is intended to be achieved. The text of the proposed draft SMP conditions is published in Annex 9 for consultation and the operation of those SMP conditions is aided by our explanations in this document. Our final statement will set out our analysis of responses to this consultation and the basis for any final decision that we take.

Section 88 tests

A8.47 We are proposing to impose SMP conditions requiring telecoms providers in relation to the MCT markets in which they operate (including associated interconnection services) to adhere to charge controls in relation to MCT in respect of domestic and international calls.

A8.48 We set out in Section 6 how we consider the charge controls on MCT satisfy the tests in Section 88.

A8.49 We are imposing a charge control on providers of termination services to 070 numbers and set out in Section 10 how we consider this satisfies the tests in Section 88.

Ofcom's duties

A8.50 We consider the SMP conditions in respect of MCT and 070 termination services respectively meet our general duties and the requirements set out in section 3 and section 4 (as it will apply when the amendments in Part 1 of Schedule 1 to the Electronic Communications and Wireless Telegraphy (Amendment etc) (EU Exit) Regulations 2019 come into force). As set out in Sections 6 and 10, we consider that the remedies will secure efficient and sustainable competition and further the interests of consumers.