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EVALUATION

of the State Aid rules for broadband infrastructure deployment

{SWD(2021) 195 final}

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Glossary

Term or acronym	Meaning or definition
4G	Fourth generation wireless technology for digital cellular networks
5G	Fifth generation wireless technology for digital cellular networks
ADSL	Asymmetric Digital Subscriber Line; A technology that enables, for example, rapid access to interactive broadband services and video on demand through copper wire used in existing local telephone loop plant, In its "2+" iteration, ADSL supports one-way transmission at bit rates up to 24 Mbps on a single pair of copper wires and enables subscribers to connect to data networks and the Internet at speeds from 50 to 200 times faster than current analogue modems operating at 28.8 Kbps.
Backhaul	The middle part of a broadband network, connecting the local access to the core internet network. Technically the link from the cable head to the international switching centre.
Bandwidth	Bandwidth is the capacity of a network or other communication channel for transferring data, measured in bps.
Basic broadband	Basic broadband networks are based on the existing fixed or wireless networks including (ADSL, ADSL2+ networks), non-enhanced cable (e.g. DOCSIS 2.0), 3G mobile networks (UMTS) and satellite systems. Basic networks can typically deliver at least 2 Mbps and less than 30 Mbps.
BCO	European Broadband Competence Offices
BER	Block Exemption Regulations
BEREC	Body of European Regulators for Electronic Communications
Bitstream access	Wholesale access provider installs a high-speed access link to the customer premises and makes this access link available to third parties
Black NGA areas	Black NGA areas are those where two or more NGA networks are present or planned in the near future.
Bps	Bits per second
Broadband	A term applied to high speed electronic communications systems
BRP	Better Regulation Portal
CEF2 Digital	The Connecting Europe Facility Digital Programme
CERRE	Centre on Regulation in Europe
DAE	Digital Agenda for Europe initiative
Dark fibre	Unlit fibre without transmission systems connected.

DESI	Digital Economy and Society Index; DESI is a composite index that summarises relevant indicators on Europe's digital performance and tracks the progress of EU Member States in digital competitiveness
DG	Directorate-General
DG COMP	Directorate-General for Competition
DOCSIS	Data Over Cable Service Interface Specification; A cable TV network solution
Duct	Underground pipe or conduit used to house (fibre, copper or coax) cables of a broadband network.
EECC	European Electronic Communication Code
EU	European Union
EU2020	Europe 2020 Strategy
EEA	European Economic Area
FTE	Full-time equivalent; a unit to measure employed persons in a way that makes them comparable although they may work or study a different number of hours per week.
FTTB	Fibre to the Building, which reaches the end user premises with fibre, i.e. fibre is rolled out to the building, but copper, coax or LAN is used within the building
FTTC	Fibre to the Cabinet; From which the first-mile connection starts, a local area infrastructure. Fibre laid to the cabinet, with copper wires completing the connection.
FTTC/VDSL	Fibre to the Cabinet / Very-high-bit-rate Digital Subscriber Line
FTTH	Fibre to the Home network, which reaches the end user premises with fibre, i.e. an access network consisting of optical fibres lines in both the feeder and the drop segments of the access network (including in-house wiring).
FTTP	Fibre to the Premises; used interchangeably with FFTH
FWA	Fixed Wireless Access; Fixed Wireless Access technology allows to supply connectivity services through radio spectrum, without requiring deployment of copper and optical fibre networks for the so called "last mile" segment
Gbps	Gigabit per second
GBER	General Block Exemption Regulation
GDP	Gross Domestic Product
GPON	Gigabit Passive Optical Network
Grey NGA areas	Grey NGA areas are those where one NGA network is present or planned in the near future.

IA	Impact Assessment
LTE	Long-Term Evolution; high performance communication system for cellular mobile phones. Step towards 4th generation, but commonly called 4G.
Mbps	Megabit per second
Mobile broadband	Used to describe various types of wireless high-speed internet access through a portable modem, telephone or other device
NGA	Next Generation Access networks (also called fast broadband networks) consist wholly or in part of optical elements and which are capable of delivering broadband access services with enhanced characteristics (such as higher throughput) as compared to those provided over already existing copper networks. In most cases, NGA is the result of an upgrade of an already existing copper or co-axial access network. NGA networks are capable of providing at least 30Mbps.
NGN	Next Generation Network; Where one network transports all information and services (voice, data, and media such as video) by encapsulating these into IP packets, similar to those used on the Internet
NGO	Non-Governmental Organisation
NRA	National Regulatory Authority
OECD	Organisation for Economic Co-operation and Development
OJ	Official Journal of the European Union
PtP	Point to point
REFIT	European Commission's Regulatory Fitness and Performance Programme
RRF	Recovery and Resilience Facility
RRP	Recovery and Resilience Plans
RSB	Regulatory Scrutiny Board
SA	State aid
SAM	State aid Modernisation
SGEI	Services of General Economic Interest; economic activities that public authorities identify as being of particular importance to citizens and that would not be supplied (or would be supplied under different conditions) if there were no public intervention.
SMP	Significant Market Power
State aid Scoreboard	The Scoreboard is the European Commission’s benchmarking instrument for State aid. It was launched by the Commission in July 2001 to provide a transparent and publicly accessible source of information on the overall State aid situation in the Member

	States and on the Commission's State aid control activities. Furthermore, the data in the report are used for further statistical analysis and represent an important source of information.
SWD	Staff Working Document
TAM	Transparency Award Module, gives access to state aid individual award data provided by Member States in compliance with the European transparency requirements for state aid.
TFEU	Treaty on the Functioning of the EU
UK	United Kingdom
US	United States
UMTS	Universal Mobile Telecommunications System, also known as 3G and the most prevalent mobile communication technologies, follow the 3rd Generation Partnership Project's (3GPP) technical specifications.
Ultrafast networks	Networks able to provide at least 100 Mbps download
VHC	Very High Capacity
VHCN	Very High Capacity Networks
VULA	Virtual Unbundled Local Access
VVA	Valdani Vicari & Associati
White NGA areas	White NGA areas are those where no NGA network (capable of providing speeds above 30Mbps download) is present or planned in the near future.
WIK	Wissenschaftliches Institut für Infrastruktur und Kommunikationsdienste
xDSL	Digital Subscriber Line technologies; A collective term for all types of digital subscriber lines, including asymmetric digital subscriber line (ADSL), symmetric digital subscriber line (SDSL) and high-data-rate digital subscriber line (HDSL).

1. INTRODUCTION

1.1. CONTEXT

High quality electronic communications infrastructure is crucial for connecting and integrating the Union and its remote regions, allowing all users to have access to private and public electronic communications services contributing to social cohesion and supporting a more competitive and sustainable economy. Investments in electronic communications network deployment come primarily from private operators with public support complementing these private initiatives where necessary. State aid control in the electronic communications sector plays an important role in developing a co-ordinated investment strategy. The Broadband Guidelines, adopted in 2013[1] and the relevant provisions of the General Block Exemption Regulation (GBER)[2], adopted in 2014, set out specific criteria for the allocation of public funds for pro-competitive infrastructure deployment in areas that need it most. They seek to ensure that public support leads to modern infrastructure increasing consumer welfare and reducing the 'digital divide' where commercial operators do not invest, while avoiding crowding-out of private investments or discriminating against certain operators or technology platforms.

The State aid rules for the deployment of broadband infrastructure have helped Member States to channel public support in a pro-competitive manner in line with the targets set out for 2020 by the Digital Agenda for Europe (DAE[3]). These objectives were updated in 2016 by the Commission in its Gigabit Society Communication[4] that sets additional and more ambitious targets for electronic communications network deployment by 2025 in line with expected use, market and technological developments. In February 2020, the Commission published a new EU digital strategy (Shaping Europe's Digital Future). In March 2021, the Commission presented the EU digital ambitions for Europe's digital

[1] Communication from the Commission EU Guidelines for the application of State aid rules in relation to the rapid deployment of broadband networks 2013/C 25/01.

[2] Commission Regulation (EU) No 651/2014 of 17 June 2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty Text with EEA relevance, OJ L 187, 26.6.2014.

[3] Communication from the Commission to the European Parliament, the Council, the Social Committee and the Committee of the Regions, COM (2010) 245 final.

[4] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, Connectivity for a Competitive Digital Single Market - Towards a European Gigabit Society, COM(2016)587 final, 14.9.2016 : https://digital-strategy.ec.europa.eu/en/library/communication-connectivity-competitive-digital-single-market-towards-european-gigabit-society.

transformation by 2030[5] where connectivity is one of four cardinal points for digital transformation.

1.2. PURPOSE

In view of the very rapid technological developments in this field, and the current and future challenges that these entail, it has become evident that, although the Broadband Guidelines do not formally have an expiry date, it is expedient to undertake an evaluation. The evaluation assesses in particular the extent to which the State aid rules applicable to broadband are still fit for purpose, in view of their objectives and developments in the market and in legislation, having regard to the new political objectives of the Commission, including the European Green Deal[6], and a Europe fit for the digital age[7].

The Commission in 2012 engaged in an overall reform of EU State aid policy and launched the State aid modernisation (SAM). In 2019, it launched a Fitness Check[8], which was an evaluation of the rules which were adopted as part of the State aid Modernisation exercise[9]. At the time, it was considered that there was no need to include the Broadband Guidelines in the Fitness Check. The reason for this was that the application of common assessment principles, in the Broadband Guidelines, to a large extent is driven by the technological requirements and developments in the sector, and the rules were considered sufficiently open-ended to cater for developments expected in the near future and flexible enough to assess diverse State interventions, including those addressing the new policy targets of the Gigabit Communication.

However, technological developments continued to accelerate, and after the launch of the Fitness Check, the need to take these developments into account became increasingly clear. The continued application of State aid rules on a case-by-case basis has in the meantime contributed to a body of case practice which addresses this evolving situation also having regard to the 2025 Gigabit objectives. A study[10] was also launched to examine the Commission's practice under the Broadband Guidelines and the experience

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5 Communication from the Commission to the European parliament, the Council, the European economic and social committee and the committee of the regions 2030 Digital Compass: the European way for the Digital Decade, https://ec.europa.eu/info/sites/info/files/communication-digital-compass-2030_en.pdf.

6 More information available under: https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en.

7 More information available under: https://ec.europa.eu/info/strategy/priorities-2019-2024/europe-fit-digital-age_en.

8 Fitness Check (europa.eu)

9 See section 5.1.3.

10 Microsoft Word - bbguidelines_FINALREPORTv1.1_2011-12-07.docx (wik.org)

gained in the application of State aid rules in the broadband sector (data gathering exercise, identifying challenges in the application of the Broadband Guidelines, best practices, improvements to address identified difficulties; also aiming at verifying elements required under the Better Regulation rules), and a separate evaluation of the Broadband Guidelines was therefore considered better justified.

The present evaluation analyses how the Broadband Guidelines and the relevant provisions in the GBER (Article 52, in its version in force up to December 2020) have functioned and to what extent they have stimulated the deployment of electronic communications infrastructure and contributed to more competitiveness in the sector. The purpose of the evaluation is also to check to what extent the current rules respond to technological developments as well as socio-economic needs and are appropriate having regard to the new EU strategic objectives in terms of connectivity and digital transformation.

The evaluation will provide a basis for a decision about whether a revision of the current State aid rules for broadband infrastructure deployment is necessary.

1.3. EVALUATION CRITERIA

The purpose of this evaluation is to examine the application of the Broadband Guidelines against five criteria: effectiveness, efficiency, relevance, coherence and EU added value. This is a retrospective exercise with the aim of establishing what has worked well or poorly, and it compares actual performance to earlier expectations. The findings will serve as a basis for conclusions on how well the Broadband Guidelines have been performing, whether the Broadband Guidelines are fit for purpose' in view of the current situation and if not, what are the underlying reasons for this.

This Staff working document reflects the findings and views of the Commission's staff and does not preclude any formal decision by the Commission.

1.4. SCOPE OF THE EVALUATION

The timeframe covered by this evaluation is the period since the entry into force of the relevant rules (2013 for the Broadband Guidelines and 2014 for the relevant provisions of the GBER) until January 2021, at the end of the consultation period.

The evaluation covers the 27 Member States and the United Kingdom regarding aid measures put in place by public authorities in application of the current rules since their entry into force, which were either authorised by the Commission or exempted from the prior authorisation under the relevant GBER provisions.

2. BACKGROUND TO THE INTERVENTION

2.1. LEGAL AND POLICY BACKGROUND

Competition is a major driver of growth. It incentivises enterprises, including new ones, to enter markets and innovate, improving productivity and competitiveness in a global context.

State aid control is part of competition policy enshrined in the Treaty (Article 107 and 108 TFEU) and its basic rationale is to avoid undue market distortions and subsidy races, as well as to safeguard the internal market and create a competitive landscape with a level playing field.

State aid is a form of support given by a Member State that provides an undertaking or specific undertakings with an advantage over its/their competitors.

The Treaty contains a negative presumption against all forms of State aid. However, while Article 107(1) of the Treaty on the Functioning of the European Union (TFEU) lays down a **general prohibition of State aid** granted by Member States to undertakings, Article 107(3) TFEU also allows for a number of policy objectives for which State aid may be granted.[11] As such, State aid control does not prevent Member State governments from supporting businesses. State aid control ensures that any detriment arising from distortions of competition is outweighed by the public purpose pursued by the aid.

The exemptions laid down in Article 107(3) TFEU are discretionary in nature and **the Commission has exclusive competence to decide on these exceptions**, i.e. on the so-called '**compatibility**' of State aid with the internal market. In exercising these discretionary powers, when issuing decisions on compatibility, the Commission balances the negative effects of the aid measure on trade and competition in the internal market with its positive effects in terms of contributing to the development of an economic activity.[12]

To ensure predictability and legal certainty for Member States and stakeholders on how it applies its margin of discretion in interpreting the compatibility provisions in Article 107(3) TFEU, the Commission has adopted a series of rules (in the form of 'soft law' such as **guidelines and frameworks**).

There is also no legal obligation to adopt guidelines and frameworks. The adoption of such guidelines by the Commission is an instance of the exercise of its discretion. While the **guidelines and frameworks** on compatibility set out how the Commission

[11] Article 107(2) TFEU also lists a number of 'allowed' State aid which is automatically compatible, without discretion of the Commission. The notification obligation however also applies to this provision.

[12] An aid measure, which cannot be found compatible, is 'incompatible'.

will assess aid measures, and allow Member States to grant support under Article 107 TFEU, they **do not oblige Member States to grant aid**; this remains in their discretion.

As described above, **the Commission has exclusive** ex-ante **control power**: under Article 108 TFEU, Member States are obliged to notify their intentions to grant State aid and cannot implement the measure before the Commission's approval. 'Unlawful aid' means aid put into effect in contravention of Article 108(3) TFEU.[13] The Commission's approval takes the form of a Commission decision. Such decisions can be challenged and are subject to European Courts' scrutiny.

For small amounts of aid and/or less distortive aid measures however, the Commission has issued block exemption regulations, pursuant to Article 109 TFEU, laying down the conditions[14] that have to be fulfilled in order to deem the State aid measure compatible with the internal market without the necessity of an ex-ante notification and approval. Since 2008, the previous block exemption regulations (so-called 'BERs') have been 'merged' into a single document, the GBER.[15] The GBER is directly applicable and thus its conditions binding for the numerous national administrations in the Member States if they wish to grant aid under it. The aid measures fulfilling the conditions of GBER are presumed to be compatible with the TFEU and thus exempted from the requirement of prior notification to the Commission, Member States may implement those measures without prior Commission scrutiny.

In addition, the Commission in the so-called **de minimis Regulation**, provides a ceiling below which measures are deemed not to constitute State aid within the meaning of Article 107 TFEU, and are exempted from the notification procedure, because they are considered not to have any effect on cross-border competition among Member States.

In a State aid procedure, the counterpart of the Commission is the Member State. Once a measure is approved (or block-exempted), the Member State is authorised, on the basis of the Commission decision (or the applicable block exemption regulation), to disburse the aid to the beneficiary or beneficiaries. This may be done according to its national administrative set-up (at national or regional level for instance, or through specific aid granting bodies) and depending on the type of the aid measure. Only the Member State is a party to a State aid procedure, the beneficiary is merely a third party.

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13 See Article 1(f) of the Procedural Regulation. Lawfulness (or "legality") of an aid measure is thus a different concept than "compatibility".

14 The criteria of the GBER determine, in particular, eligible beneficiaries, maximum aid intensities (i.e. the maximum proportion of the eligible costs of a project that can benefit from State aid) and eligible expenses.

15 Commission Regulation (EU) N°651/2014 of 17 June 2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty (OJ L 187 26.6.2014, p. 1).

2.2. BACKGROUND OF THE INTERVENTION

2.2.1. DESCRIPTION OF THE INTERVENTION AND ITS OBJECTIVES

As explained above, an evaluation of the rules is justified by the need to determine whether the Broadband Guidelines are still fit for purpose in view of the rapid technological developments, reflected in changes in the market and in legislation.

The general objective of State aid under the Broadband Guidelines is to facilitate the development of economic activities consisting in broadband deployment and related broadband network services, where such aid does not adversely affect trading conditions to an extent contrary to the common interest. The specific objectives are the following.

Support the rapid deployment of broadband infrastructure, helping to bridge the "digital divide"

The Broadband Guidelines must be coherent with EU policy and aligned with the rapid technological development in the sector, as this has an impact on competition between different platforms and different operators in the market. In particular, the categorisation of intervention areas (white, grey and black) needs to be critically assessed. This implies aligning the Next Generation Access (NGA) definition with technological and market developments, and EU policy.

Directing State aid to where it is needed is essential for ensuring that State aid is used in an effective and efficient way which addresses market failures or major inequalities while minimising distortion of competition and protecting taxpayers' resources.

Limitation of distortion of competition

A central objective of the Broadband Guidelines is to ensure that competitive markets are maintained. A competitive process plays a role at different levels to protect private investment and limit the crowding out of such investment by State aid. A competitive selection procedure as a pre-condition for granting of State aid ensures competition between bidders and should help keeping aid to the minimum and to select the most effective operator and technology, without prescribing a particular technology to be used (technological neutrality). A detailed coverage analysis (mapping and public consultation) protects current and planned investments from overbuilding by public funds.

Once the publicly financed infrastructure is in place, effective access shall be granted such that competition on the new platform between different operators and services providers is ensured. Furthermore, to ensure that public resources are used efficiently, use of existing infrastructure should be effective.

Transparent decision making

Rules must be clear to enable Member State designing State aid measures that are compatible. This is even more important for measures under GBER as they are implemented without the Commission's formal approval. Clarity is therefore key to a successful implementation of the State aid rules. In addition, the Broadband Guidelines aimed at reducing the administrative costs to the minimum necessary while ensuring that sufficient information is available in order to assess the performance of the State aid expenditure. It is also important to assess whether further guidance is needed or whether there is a need for simplification of the rules.

Provisions concerning the deployment of broadband networks were introduced in the GBER adopted on 17 July 2014, following the modification of the Council Regulation No. 1588/2015 ('Enabling Regulation')[16] that allows the Commission to declare that certain categories of State aid are compatible with the internal market and exempted from the notification requirement provided for in Article 108(3) TFEU. The GBER aimed at enabling manifestly compatible State aid measures for the deployment of broadband networks to be introduced swiftly. The GBER plays a crucial role in simplifying and clarifying rules, cutting red tape and allowing for well-defined projects to go ahead as fast as possible.

2.2.2. BASELINE

The Commission has considerable experience with assessing State aid granted for the roll-out of broadband networks. Since 2003, it has taken over 170 decisions in this sector[17]. On the basis of its case experience, in 2009 and 2013 the Commission adopted Guidelines for the assessment of State aid in broadband.[18] As the 2009 Guidelines expired after 3 years, a review process started in April 2011, in view of the rapid technological developments in the sector.

[16] OJ L 248, 24.9.2015, p.1.

[17] The list of Commission's broadband decisions is available here: http://ec.europa.eu/competition/sectors/telecommunications/broadband_decisions.pdf.

[18] Communication from the Commission — Community Guidelines for the application of State aid rules in relation to rapid deployment of broadband networks Text with EEA relevance, OJ C 235, 30.9.2009, p. 7–25: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52009XC0930(02):EN:NOT and Communication from the Commission — EU Guidelines for the application of State aid rules in relation to the rapid deployment of broadband networks, OJ C 25, 26.1.2013, p. 1–26: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52013XC0126%2801%29

The Impact Assessment on the 2009 Guidelines[19] explored options for a review. The baseline scenario was prolonging the 2009 Guidelines for three more years.

Therefore, the evaluation baseline as regards the Broadband Guidelines is the situation before 2013, when they entered into force. The evaluation baseline as regards the GBER provisions related to the deployment of broadband networks is before 2014, when they entered into force.

This evaluation does not assess the scenario that the State aid rules in the broadband sector in force would simply be abolished. The consequence of the absence of substantive rules would be the direct application of the Treaty, i.e. the notification of each and every measure constituting State aid in the meaning of 107(1) TFEU and the assessment of their compatibility by the Commission carried out directly under the Treaty, without any substantive guidance provided to Member States by relevant soft law. It is therefore not a question of State aid guidelines for broadband or not, but to evaluate the existing rules against the situation as before their entry into force.

3. IMPLEMENTATION OF THE STATE AID RULES FOR THE DEPLOYMENT OF BROADBAND NETWORKS

3.1. THE RULES

The Broadband Guidelines set out a number of requirements which need to be fulfilled for State aid measures to be compatible with the TFEU.

First, they must be in line with the EU policy targets embedded in the **Europe 2020 Strategy ('EU2020')**[20] and the **Digital Agenda for Europe initiative ('DAE')**[21]: (i) bring basic broadband access to all Europeans by 2013; (ii) ensure that by 2020 all Europeans have access to much higher internet speeds of above 30 Mbps; (iii) 50% or more of the European households subscribe to internet connections above 100 Mbps.

Second, they must comply with the following compatibility criteria:

- Member States are required to identify the **target area** of the intervention and classify it as white[22]/grey[23]/black[24] NGA areas in terms of NGA

[19] Commission Staff Working Document, Impact assessment Accompanying the document Commission Communication, EU Guidelines for the application of State aid rules in relation to rapid deployment of broadband networks SWD(2012) 448 {C(2012) 9609} {SWD(2012) 449}: https://ec.europa.eu/smart-regulation/impact/ia_carried_out/docs/ia_2012/swd_2012_0448_en.pdf

[20] Communication from the Commission – EUROPE 2020 - A strategy for smart, sustainable and inclusive growth, COM(2010) 2020.

[21] See footnote 3.

[22] White NGA areas are those where no NGA network (capable of providing speeds above 30Mbps download) is present or planned in the near future.

[23] Grey NGA areas are those where one NGA network is present or planned in the near future.

infrastructure existing and planned in the near future, on the basis of a detailed **mapping**[25] and **public consultation**[26], taking into account the various technologies that can reliably provide at least 30 Mbps download speeds.

- Member States must demonstrate that the publicly supported interventions will deliver a significant improvement compared to what the infrastructure present or planned can offer, bringing significant new investments in the broadband network and significant new capabilities to the market in terms of capacity, speed and competition ('**step change'**).[27]
- Member States must select beneficiaries through **open competitive selection** processes based on transparent, non-discriminatory criteria[28] allowing the selection of the most economically advantageous offer.[29] As an exception, Member States may also choose to rely on a direct investment, where the public authorities deploy and manage a network, directly or through a fully owned in-house entity, who would typically also be the wholesale operator of the network.[30] The selection procedure needs to be technologically neutral,
- The publicly supported network must ensure effective open and non-discriminatory **wholesale access** to third parties[31], in line with the principle of technological neutrality.[32] Wholesale access prices should be based on pricing principles set by the NRA or on benchmarking.[33]
- It is recommended to **use existing infrastructure** in order to avoid an unnecessary and wasteful duplication of existing networks and reduce the amount of public funding[34].

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24 Black NGA areas are those where two or more NGA networks are present or planned in the near future.

25 See paragraphs 61 to 72, as well as paragraph 78(a), of the Broadband Guidelines.

26 See in particular paragraphs 63 to 65 and paragraph 78(b) of the Broadband Guidelines.

27 See paragraph 51, 67 to 71, 76 and 83 to 85 of the Broadband Guidelines.

28 See paragraph 78(c) of the Broadband Guidelines.

29 See paragraph 78(d) of the Broadband Guidelines.

30 See paragraph 78(c) and footnote 96 of the Broadband Guidelines.

31 See paragraphs 78(g) and 80 of the Broadband Guidelines.

32 See paragraph 78(e) of the Broadband Guidelines.

33 See paragraph 78(h) of the Broadband Guidelines.

34 See paragraph 78(f) of the Broadband Guidelines.

- For projects with an aid amount above EUR 10 million, a mechanism to ensure the **absence of overcompensation** has to be introduced.
- Member States are required to submit **reports** to the Commission on the implementation of the scheme every two years since the date the network was put in use[35].

The GBER lays out the conditions under which Member States may implement aid measures supporting the deployment of broadband infrastructures without requesting the Commission's prior authorisation. It covers aid measures that are deemed per se manifestly compatible. Article 52 of the GBER regulates aid measures for the deployment of broadband networks in areas where there is no infrastructure of the same category (either basic broadband or NGA network).

Besides the compatibility criteria specific to the public support for the deployment of broadband networks, the Broadband Guidelines and the GBER include obligations applicable to all State aid measures. These are:

- **Transparency of State aid measures and awards**: The aim of transparency requirements is to promote compliance, reduce uncertainties and promote a level playing field in the internal market for Member States and companies. In this context, Member States have to, as a condition for granting aid (both under the Broadband Guidelines and corresponding provisions of the GBER), publish on a central website information on aid measures and their beneficiaries. The transparency requirement applies to all aid measures exceeding EUR 500 000 per beneficiary.[36] For more details, please refer to Section 3.2.2 'Transparency aid module'.

- **Monitoring**: To ensure that aid measures comply with the rules in a consistent way throughout the EU, the Commission monitors how Member States apply approved or exempted aid schemes. To this end, the Commission services set up an annual monitoring process during which they select a sample of State aid measures for further scrutiny already in 2006. The Commission services check both the compliance of the selected measures with their legal basis and their implementation. For more details, please refer to Section 3.2.3 'Monitoring'.

- **Evaluation plans**: To further ensure that the positive effects of State aid outweigh its potential negative effects, certain notified or block-exempted

35 See paragraph 78(k) of the Broadband Guidelines.

36 The rules as included in the Broadband Guidelines were amended by the Communication from the Commission amending the Communications from the Commission on EU Guidelines for the application of State aid rules in relation to the rapid deployment of broadband networks, on Guidelines on regional State aid for 2014-2020, on State aid for films and other audiovisual works, on Guidelines on State aid to promote risk finance investments and on Guidelines on State aid to airports and airlines, OJ C 198, 27.6.2014, p. 30–34.

schemes are subject to an ex-post evaluation. In principle, this only applies to national aid schemes and aid schemes with large aid budgets, containing novel characteristics or when significant market, technology or regulatory changes are foreseen. The aim of the evaluation of such schemes is to assess the actual impact of aid, to enable Member States to improve the design of future schemes by making them less distortive and more effective, and the Commission to design better State aid rules for the future. For more details, please refer to Section 3.2.4 'Evaluation plan'.

3.2. DESCRIPTION OF THE CURRENT SITUATION

3.2.1. NUMBER AND TYPES OF STATE AID MEASURES

Between 2013 and 2020, Member States put in place 233 publicly supported broadband measures (62 approved by decisions and 171 GBER measures).

This represents EUR 62.7 billion of total State aid spending, of which EUR 20 billion was reported by Member States as spent under the GBER and EUR 42.7 billion under Commission decisions.

There is a significant difference between the total amount of public funding[37] and the number of projects among Member States. In addition, there is a significant gap between approved aid and money actually spent by Member States. Part of this gap is due to the delay in implementation. In some cases, after having received the approval, due to internal reasons (e.g. elections), the planned measures were abandoned (e.g. France's first Très Haut Débit scheme). In other cases, the implementation of large measures requires time, some of them covering hundreds or even thousands of individual projects.

For the period between 2014 and 2019, only EUR 7.8 billion of aid were actually spent (14% of approved amounts).

Even though all Member States operate within the policy framework of the Digital Agenda and the Gigabit Society Communications, among Member States there is a significant difference also with regard to the type of projects funded with State aid. Thus, the implementation of the Broadband Guidelines varies across aid measures and across Member States, as the latter had different targets and objectives. The variation is compatible with the Broadband Guidelines which provide sufficient flexibility for Member States to an address their individual concerns.

Nevertheless, the objectives set by national administrations can have far-reaching consequences for the technologies deployed and competition for State aid. Objectives can refer to downstream and upstream bandwidths and/or other capabilities. Openness to competition can also be expressed as an objective. Some countries such as France, Spain

[37] Belgium and Luxembourg, for instance, have not notified any SA measure with regard to broadband roll-out.

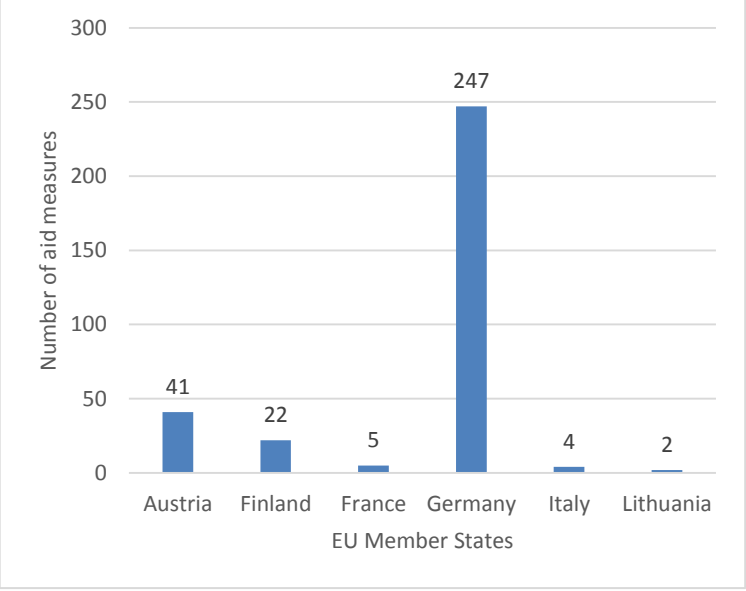
and Portugal have set more ambitious objectives or targeted State aid towards very high capacity infrastructure from an early stage, which was mostly delivered via full fibre. Others, such as Austria, Germany, Greece, Hungary and the UK, began with more modest objectives, which initially served to support the deployment of FTTC/VDSL infrastructure.

Until recently, Member States focussed on achieving the Digital Agenda 2020 targets, but the national broadband strategies of many Member States are progressively incorporating the targets for 2025 as set out in the 2016 Gigabit Communication and even the targets for 2030 of the Digital Decade Communication.

3.2.2. TRANSPARENCY AID MODULE

As explained in Section 3.1 'Rules', Member States must publish information on the aid beneficiaries on a central website. The Commission has set up the State aid Transparency Public Search (TAM) which centralises this information. Only six Member States have published information on aid beneficiaries: Austria, Germany, Lithuania, Finland, France and Italy. The number of individual beneficiaries that have received aid measures exceeding EUR 500 000 (the publication threshold) varies greatly between Member States, as shown in Figure 1.

Figure 1. Number of aid measures per individual beneficiaries and per Member State published in TAM.



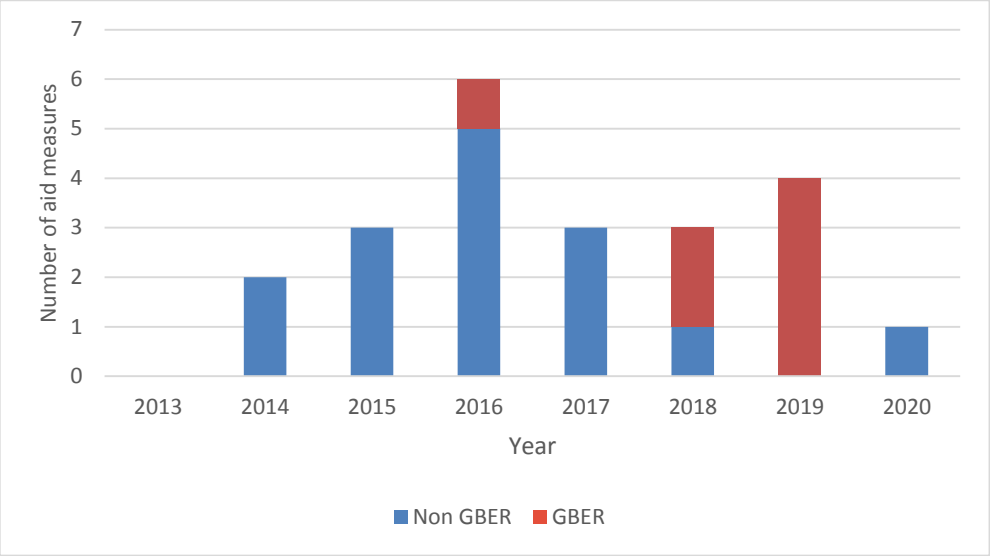
Source: TAM

In total, EUR 3.3 billion have been reported, which represent nearly half of the amount of aid spent (see Section 3.2.1 'Number and Types of State aid measures'). This suggests that approximately half of the aid spent in total concerns projects of less than EUR 500 000.

3.2.3. MONITORING

As explained above, the purpose of ex-post monitoring is to check whether a State aid measure under GBER or the Broadband Guidelines has been correctly implemented. The monitoring aims at assessing the implementation of either an individual measure or a State aid scheme. Every year the Commission randomly picks a few such measures to be monitored. Between 2013 and 2020, 24 monitoring cases have been processed. 7 of them addressed State aid for broadband under GBER, the rest were notified measures.

Figure 2: Number of aid measures monitored between 2013 and 2020



Source: DG COMP data

No major irregularities relating to the sectoral-specific requirements (i.e. broadband related conditions) were detected and all the monitoring cases could be closed without further action. With regard to notified measures, the monitoring showed that the compatibility criteria of the Broadband Guidelines were implemented without major difficulty. The data which have been provided in this context have fed into the WIK study (referred to in Section 4.1 'Data collection and assessment').

3.2.4. EVALUATION PLAN

When notifying large schemes, Member States have to provide an evaluation plan. The aid evaluation under these plans is different from the present exercise that concerns the rules evaluated under the Better regulation guidelines. It is carried out ex-post and looks, in particular, into macro-economic effects of the State aid measure. Up to 2020, the

Commission approved nine evaluation plans with large budget involved and/or containing elements of novelty[38] .

While no overall conclusions can be drawn regarding the State aid policy as such, due to the punctual nature of the information submitted, the final reports nevertheless provide some useful indications. What can be noted so far is that the average quality of the State aid evaluations completed is generally good. Member States are producing clear documents that are compliant with the approved evaluation plans. The quality and limitations of the data are addressed in detail and the (overall positive) results of the counterfactual impact evaluations are credible.

3.2.5. TECHNOLOGICAL ADVANCE

Evolution of network performances

During the period covered by the Broadband Guidelines the main targets for broadband in Europe were set by the Digital Agenda for Europe (see Section 1.1 'Context'). These targets focused on achieving universal availability of 30 Mbps and a 50% take-up of 100 Mbps broadband. In 2016 ambitions were raised to Gigabit capable infrastructure in the context of the Gigabit Society goals[39] (see Section 3.2.6 'State aid policy development and recent events'), released at the same time as proposals for the European Electronic Communications Code. In 2021[40], additional targets for 2030 were added to complement those for 2025, confirming EU's objectives regarding coverage with networks able to support at least 1 Gbps download speeds by 2030.

An analysis by WIK-Consult in the context of studies on 'Danish Telecommunications Market in 2030'[41] and on 'Relevant Markets susceptible to ex ante regulation'[42] highlights that advanced applications e.g. in the field of smart cities, smart agriculture, e-health and e-education are likely to require dedicated capacity, in excess of the capacity available through mass-market infrastructure. Meanwhile, the needs of small businesses and consumers are also likely to increase, not only to support the simultaneous use of

38 Including one scheme authorised under Article 52 GBER, SA.43484 Evaluation plan for broadband infrastructure Digital Poland 2014-2020: https://ec.europa.eu/competition/state_aid/cases/261188/261188_1750138_95_2.pdf

39 See footnote 4.

40 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, 2030 Digital Compass: the European way for the Digital Decade, COM(2021)118 final, 9.3.2021.

41 WIK, Analysis of the Danish Telecommunication Market in 2030, 2019: https://www.wik.org/index.php?id=1177&L=1.

42 WIK, Study on Future electronic communications product and service markets subject to ex-ante regulation: https://digital-strategy.ec.europa.eu/en/library/study-future-electronic-communications-product-and-service-markets-subject-ex-ante-regulation.

multiple devices and exploit improvements in video quality, but to enable the use of critical public services including e-health and e-education. These needs may be even greater in rural areas which lack ready access to health and education facilities. In the medium term, copper or upgraded copper technologies may not to be able to meet these needs.

There may thus be a need to distinguish copper and upgraded (FTTC/VDSL) copper from technologies which offer very high capacities, including the capability to offer 1 Gbps and above. Alongside full fibre, technologies which currently would appear to be able to provide 1 Gbps download speeds include cable networks upgraded to DOCSIS 3.1 or above and g.mgfast networks, which involve the deployment of fibre close to the end-user with copper limited to the final metres. Certain wireless technologies – in particular 5G fixed wireless access - also may be able to provide 1Gbps speeds, in particular if latency is further improved. However, the capabilities and reliability of this technology are likely to remain below that of FTTH or equivalent,[43] making it a solution that is most appropriate for remote areas or households in sparsely populated districts.

As discussed above, so far in nearly all cases Member States targeted broadband State aid at NGA white or basic broadband white or grey areas. However, some recent cases have arisen in Germany, Spain and Greece, in which the authorities have sought approval for State aid to be provided in NGA grey areas. Based on the objectives defined in the 2016 Gigabit Communication, in these cases the Commission authorised public support for the deployment of the state-of-the-art networks in areas were less performing NGA networks were already in place.

Mobile versus fixed networks

With the move towards a new mobile generation (5G) two issues have come up: substitutability between fixed and mobile infrastructure and joint use of infrastructure.

Current case practice assumes that mobile and fixed networks are in separate markets. Mobile networks cannot (fully) substitute fixed networks and vice versa. State aid for mobile networks has therefore been assessed directly under the Treaty, relying on a mutatis mutandis application of the principles of the Broadband Guidelines.

Thanks to the deployment of fixed fibre backhaul until base stations, the use of millimetre-wave frequencies, densification of sites and other developments, mobile 5G infrastructure may become a more close substitute to fixed infrastructure. However mobile networks can be affected by weather conditions and physical obstacles, including walls. In addition, there remains one important difference between the two types of networks. Mobile technology is a "shared" medium rather than a dedicated architecture.

[43] See the WIK (2020) study for the Commission in support of the review of the Recommendation on Relevant Markets susceptible to ex ante regulation: https://ec.europa.eu/digital-single-market/en/news/study-future-electronic-communications-product-and-service-markets-subject-ex-ante-regulation.

As a result, speed and capacity vary with the number of users in the network at a specific point in time. For that reason fixed (including 5G based fixed-wireless networks) and (5G) mobile services, even if provided over the same network, may still be considered to be in separate markets.

3.2.6. STATE AID POLICY DEVELOPMENTS AND RECENT EVENTS

In the 2016 Gigabit Communication, the Commission set connectivity goals for 2025. These goals require for all European households, rural or urban, an internet connectivity of at least 100 Mbps upgradable to 1 Gbps speed. They also require socio-economic drivers, such as schools, hospitals and public administration to benefit from Gigabit connectivity and all urban areas and major transport paths be covered by 5G networks. The term '100 Mbps upgradable' has been clarified in the Shaping Europe's digital future 2020 Communication where it has been explained that, as the decade progresses, households will increasingly need 1 Gbps. This would imply that by the end of 2025 households will need such quality of service.[44] This was confirmed by the Commission's recent observations on the rapidly evolving demands for network capacity and the need to ensure sustainable investments into networks capable of offering Gigabit speeds to cater for the European data economy beyond 2025. Indeed, the Digital Compass Communication envisages that by 2030 all European households will be covered by a Gigabit network, with all populated areas covered by 5G.

The COVID-19 pandemic broke out in March 2020 and affected the entire European economy and society. As regards connectivity, it underlined the role of very high capacity networks for people, businesses and public institutions. Very high capacity networks, including but not limited to fibre and 5G, are critical for the recovery from the crisis and to foster EU's resilience. On 27 May 2020, the Commission adopted its Recovery Plan[45] to tackle the consequences of the crisis stemming from the COVID-19 outbreak. In this context, under the Next Generation EU programme, the Recovery and Resilience Facility (RRF) supports as a priority the digital transition and contributes to the achievement of the EU Digital Strategy. For this to happen, national Recovery and Resilience Plans (RRP) should dedicate at least 20% of allocated funding to supporting the digital transition, including the deployment of very high capacity infrastructure.

In recent cases, the Commission has dealt with a number of measures supporting significantly higher capacities to reach Gigabit targets in line with the updated objectives and responding to growing connectivity needs accentuated by the COVID-19 crisis.

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44 This interpretation was applied in the case practice, e.g. in the German National Gigabit Scheme (SA.52732 – Germany – *National Gigabit Scheme*).

45 https://ec.europa.eu/info/live-work-travel-eu/health/coronavirus-response/recovery-plan-europe_en#documents "Europe's moment: Repair and Prepare for the Next Generation" COM(2020) 456 final.

Very high capacity networks are also essential to achieve sustainability goals.[46] The EU's 2050 objective of climate neutrality as set in the European Green Deal[47] cannot be reached without a fundamental digital transformation of the society. As regards the Digital Strategy, on 19 February 2020, the Commission issued a Communication on Shaping Europe's digital future, which summarises the key objectives to promote technological solutions that will help Europe pursue its own way towards a digital transformation that works for the benefit of people and respects fundamental values. One of the components of this transformation is the secured and performant connectivity infrastructure that contributes to the transformation of mobility patterns allowing teleworking, video-conferencing, electronic commerce and thus helps greening the society and makes an important contribution to the main environmental objectives.

4. METHOD

4.1. DATA COLLECTION AND ASSESSMENT

The current evaluation is based on a wide range of data sources/inputs. When assessing the data, the Commission started with the analysis of the case practice and then assessed the findings of the study commissioned to WIK in 2019. The analysis was complemented by the information collected during the public consultation and the targeted consultation. Finally, all other data sourced listed below were taken into account, in order to triangulate the data collected in the course of the evaluation.

Public authorities and private stakeholders had the opportunity to provide their feedback on the **Roadmap** on the evaluation of the State aid rules on broadband infrastructure deployment from 16 June 2020 until 11 August 2020 (see in detail Annex 2, Synopsis report).

An **open public** consultation was also carried out in order to gather inputs from a broad range of stakeholders. The public consultation reached out to all relevant stakeholders and in addition gave unlimited access to everybody who wished to contribute. In addition, the Commission launched a targeted consultation.

The **targeted consultation** took the form of an online questionnaire addressed to the main stakeholders and interested parties (beyond the general public) on more specific issues regarding the Broadband Guidelines and the relevant provisions of the GBER. The targeted consultation was open (i.e. published on DG Competition's website

As explained above in Section 2.1 'Legal and policy background', **the interlocutor of the Commission in State aid procedures are the Member States**. It is the Member

[46] https://ec.europa.eu/info/strategy/international-strategies/sustainable-development-goals/eu-holistic-approach-sustainable-development_en

[47] More information available here : https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en

States at national level and other public authorities (for instance regional and local authorities) who design public policies in line with State aid rules and apply the State aid rules when granting public support. They are also the ones to disburse State aid. As such, this evaluation pays special attention to the responses of the public authorities as they are of particular relevance to the analysis. The input from Member States was gathered via the open public consultation, the targeted consultation and through various meetings and workshops in the context of the European Broadband Competence Offices Network.

In addition, the findings of a **study**[48], commissioned to external experts led by WIK in 2019 and completed in 2020, on the role of "State aid for the rapid deployment of broadband networks in the EU" (the WIK report) were also considered for the purpose of this evaluation. This report looks in detail at the implementation of the Broadband Guidelines for all Member States (including UK). It further entered into a data gathering exercise involving Member States and private stakeholders. The 25 Member States responding to the data gathering exercise provided information about 42 schemes (and associated projects) and 12 individual aid measures. Some of the report's main findings are included in the following assessment. The WIK report provides an overview of the implementation of broadband State aid measures across the EU during the period 2013-2019 and, with the aid of case studies, interviews and a survey of stakeholders, assesses challenges and best practices in the application of State aid to support broadband deployment. The WIK report also examines to what extent the Broadband Guidelines contributed to supporting the deployment and take-up of NGA in areas where the economics of network deployment are challenging, and whether the aid has been efficiently distributed. The external expert applied multiple research methods when preparing the study, including desk research, case studies, qualitative and quantitative questionnaires sent to selected stakeholders, structured interviews with experts and with selected stakeholders from different Member States.

Other reports were also used, such as the report on 'State aid for broadband infrastructure in Europe – Assessment and policy recommendations'[49] (CERRE, 2018); Study on 'Future electronic communications product and service markets subject to ex-ante regulation - Recommendation on relevant markets'[50] (WIK, 2020); 'Supporting the implementation of CEF2 Digital'[51] (Ecorys, WIK et al., 2020). Moreover, information

[48] "The role of State aid for the rapid deployment of broadband networks in the EU", https://ec.europa.eu/competition/publications/reports/kd0420461enn.pdf

[49] https://www.cerre.be/sites/cerre/files/CERRE_StateAidBroadband_FinalReport_0.pdf

[50] https://ec.europa.eu/digital-single-market/en/news/study-future-electronic-communications-product-and-service-markets-subject-ex-ante-regulation

[51] https://op.europa.eu/en/publication-detail/-/publication/8947e9db-4eda-11ea-aece-01aa75ed71a1/language-en

from the Court of Auditors' Special Report on Broadband, published in June 2018[52] was considered.

Another important data source used in the evaluation is the **State aid Scoreboard**[53] that comprises State aid expenditure made by Member States falling under the scope of Article 107(1) TFEU. The data is based on annual reporting by Member States pursuant to Article 6(1) of the Implementing Regulation. Expenditure refers to all active aid measures, for which the Commission adopted a formal decision or received an information sheet from the Member States in relation to measures qualifying for exemption under the GBER.

Internal Commission data used for the assessment include for instance **monitoring results** and interpretation questions by Member States. Commission's **case practice** is a major source of insight. During the period covered by the assessment, the Commission has adopted 62 decisions. The Commission must assess the planned aid measures before taking a decision on its State aid character and compatibility. In order to be coherent, all new decisions must therefore not only take account of newest developments in EU legislation and judgments by the European Court of Justice but also take account of this body of decisions which evolves through the case practice.

Court judgments, desk research, literature review and internal statistics such as the **Transparency Award Module** have also played a role in data gathering. DG Competition's Chief Economist Team supported the econometric analysis.

The experience gathered by the **European Broadband Competence Offices (BCO) Network** was also used. The BCO Network brings together EU Member States' national and regional public authorities in charge of broadband deployment to exchange knowledge and good practices with peers, experts and European Commission representatives. The meetings (quasi monthly) of the BCO Network have provided valuable input on whether and how the Guidelines and the GBER have contributed to the deployment of broadband infrastructure in a way that fosters competition. The meetings also gave an opportunity for the members of the BCO Network to bring up their comments and questions concerning both the general and the targeted consultation.

The work of **BEREC**, the body of European regulators for electronic communications representing at the European level the national regulatory authorities was also taken into account. BEREC usually assists the Commission and the national regulatory authorities in implementing the EU regulatory framework for electronic communications. It regularly proposes opinions, recommendations, guidelines, advices or regulatory best

[52] European Court of Auditors Special report n°12/2018: Broadband in the EU Member States: despite progress, not all the Europe 2020 targets will be met (5 June 2018). https://www.eca.europa.eu/Lists/ECADocuments/SR18_12/SR_BROADBAND_EN.pdf

[53] https://ec.europa.eu/competition-policy/state-aid/scoreboard_en#what%20

practices, which are very useful sources of information on the functioning of the internal market in the electronic communications sector. In particular, the work on the draft BEREC Guidelines on Very High Capacity Networks and on the draft BEREC Guidelines on Geographical surveys of network deployments was considered.

Finally, several bilateral meetings and conferences were organised with stakeholders, notably with Member States' representatives in the Broadband Competence Office (BCO) network, BEREC (Body of European Regulators for Electronic Communications), the Council of European Municipalities and Regions, and the Committee of Regions.

4.2. CHALLENGES AND ROBUSTNESS OF FINDINGS

When carrying out the evaluation, a wide range of sources and inputs was used, including case practice, reporting from Member States, various reports by external consultants and direct input from stakeholders (as described in details in Section 4.1 above). This ensures the robustness of the findings of the evaluation. However, during the evaluation, certain challenges had to be overcome.

One challenge stems from the fact that the impact of the rules is not tangible yet in many cases. The effects of State aid measures only materialise with a certain delay and not sufficient time has elapsed in order to fully capture the impact. The Broadband Guidelines and the relevant provisions of the GBER entered into force in 2013 and 2014 respectively. The associated benefits started materialising gradually, since the roll-out of broadband infrastructure involves long-term investment projects. Infrastructure needs to be first built and be operational for a number of years in order to measure the impact of the rules.

Another challenge is the difficulty to find available data. The Member States' reporting obligation under the Broadband Guidelines starts from the date when the network is put into use (see paragraph 78.k. of the Broadband Guidelines). The time span between the approval of the aid and the actual deployment of network varies, but it can take up to 4 years or more. Up to date the Commission received only a limited number of reports from Member States. However, various sources from third parties (such as the WIK report) provided a wealth of data for the analysis.

There is a general limitation attached when it comes to the extrapolation of punctual evidence, such as the results of case studies. The results of a case study are restricted to the specific circumstances of the beneficiary, aid measure and Member State, and therefore they do not provide a sufficient basis for concluding on the overall State aid rule concerned. When assessing information from case studies, the Commission always took into account this limitation, making sure that it did not apply the outcome of case studies in a generalised manner.

Furthermore, despite the efforts to publicise the open public consultation and the targeted consultation via appropriate communication channels depending on the target audience, the representativeness of the replies is limited. For example, the public consultation

attracted in total 122 replies, which is a small number compared to the reference population of companies and public authorities potentially affected by the State aid rules. This limitation has been taken into account when analysing the results of the public consultations, together with an effort to mitigate its impact by triangulating with other data sources described above. At the same time, it should be noted that out of the 122 replies many came from representative associations that have approximately 3,200 members. Moreover, the Commission has extensive, regular contacts with the public authorities in the BCO network (through various seminars and trainings) where public authorities had the opportunity to express their views about the functioning of the Broadband Guidelines.

Finally, the long term effects of the COVID-19 outbreak - a major shock to the global and Union's economies - could not be assessed in this SWD, since these are quite recent developments and their full impact is not known yet. Another recent development is the adoption on 27 May 2020 of the Commission's Recovery Plan[54] to tackle the consequences of the crisis stemming from the COVID-19 outbreak. The effects of the Recovery Plan and the corresponding national Recovery Plans on broadband deployment are not known, since the national Recovery Plans are not yet implemented. Therefore, the SWD cannot take into account the impact of these measures.

5. ANALYSIS AND ANSWERS TO THE EVALUATION QUESTIONS

This Section presents the assessment of the evaluation, based on the five evaluation criteria using the evaluation questions as listed below (see also Section 1.3 'Evaluation criteria).

For the purpose of the analysis, the term 'public authorities' refers to national, regional, local authorities, and the term 'stakeholders' covers businesses, business associations and electronic communications operators[55].

5.1. EFFECTIVENESS

This Section evaluates the extent to which the objectives of State aid rules for the deployment of broadband networks (Section 2.2.1) have been achieved against the baseline scenario (Section 2.2.2).

[54] https://ec.europa.eu/info/live-work-travel-eu/health/coronavirus-response/recovery-plan-europe_en#documents "Europe's moment: Repair and Prepare for the Next Generation" COM(2020) 456 final

[55] This classification is based on the options available in the targeted consultation.

5.1.1. SUPPORT THE RAPID DEPLOYMENT OF BROADBAND INFRASTRUCTURE, HELPING REDUCE THE 'DIGITAL DIVIDE'

The objective to support the rapid deployment of broadband infrastructure implies that the Guidelines should provide Members States with an enabling framework that facilitates the deployment of broadband infrastructures in order to:

- provide a high level of broadband coverage, in line with DAE connectivity targets for 2020 and bringing connectivity to low population density, rural and remote areas,
- address market failures or important inequalities,
- ensure high quality and competitive services at affordable prices.

5.1.1.1. FACILITATE THE DEPLOYMENT OF BROADBAND INFRASTRUCTURES, IN LINE WITH 2020 DAE CONNECTIVITY TARGETS AND BRINGING CONNECTIVITY TO LOW POPULATION DENSITY, RURAL AND REMOTE AREAS

Achieving the DAE targets (see Section 3.1 'Rules') required significant investments, the bulk of which has come from the private sector, especially in densely populated urban areas where operators could obtain good returns on investment. However, the DEA objectives could not be reached without support of public funds in market failure areas, in particular in less populated remote and rural areas. In such areas only relatively few customers are present and returns on investment are uncertain and thus additional public financing was and, as demonstrated below, is still required.

According to available data (State aid Scoreboard), Member States have increased their investment for broadband networks in comparison to the period 2009-2012 under the 2009 Broadband Guidelines.[56] Between 2013 and 2020, 233 publicly supported broadband measures (62 decisions and 171 GBER measures) were put in place, for more than EUR 62.7 billion in total, against 76 decisions amounting to 13.5 billion euros[57] between 2009-2012.

For the period between 2014 and 2019, only EUR 7.8 billion of aid was actually spent[58] (see above Section 3.2.1 'Number and Types of State aid measures'). This represents an average annual State aid expenditure of EUR 1.3 billion, compared to EUR 325 million over 2010-2013.[59] This difference between the aid amounts allocated and actually spent could be explained by the time the deployment of the network takes and by the delays in

[56] Communication from the Commission Community Guidelines for the application of State aid rules in relation to rapid deployment of broadband networks (2009/C 235/04), OJ 30.9.2009.

[57] Source: Internal Data Scoreboard.

[58] State aid schemes have durations of 3-5 years. A scheme that was authorised in 2013 could typically trigger investments starting from 2014. This is why the first year of the application of the Broadband Guidelines (2013) is excluded from figures reporting actual spending.

[59] Over 2010-2013 included, the overall reported State aid expenditure represents EUR 1.3 billion.

the implementation of the approved measures (see Section 3.2.1 'Number and Types of State aid measures' and Section 5.2.2 'Have the 2013 Broadband Guidelines led to more efficient State expenditure?').

More specifically, regarding the GBER, since its entry into force, Member States have increasingly used this instrument[60], which enables them to implement manifestly compatible projects without prior authorisation by the Commission. As of the GBER entry into force, annual GBER measures have even outnumbered annual measures approved by the Commission. This illustrates that the GBER offers a useful possibility for Member States to swiftly implement broadband deployment projects.

For the total period between 2014 and 2019, 77% of all broadband measures (more than 4.5% in value terms) has been disbursed under State aid decisions. The higher amount of annual expenditure for measures approved by the Commission than implemented under the GBER is due to the limitation in the budget for measures to be implemented under the GBER.[61] This suggests that the threshold for the application of the GBER may have been too low. Indeed, with a higher threshold a higher number of manifestly compatible projects fulfilling the GBER requirements could be put in place without prior authorisation by the Commission, this way further accelerating the broadband deployment in remote and rural areas most in need.

The above-mentioned growing number of measures and corresponding increased State aid expenditure in the broadband sector correlates with the enlarged coverage of broadband networks in the EU between 2013 and 2020. According to the latest Digital Economy and Society Index (DESI)[62], basic broadband is available to 98% of households in the EU[63] and 89% of EU households have access to next generation access networks (NGA) capable of providing at least 30 Mbps download, whereas 73% are covered by ultrafast networks capable of providing at least 100 Mbps download. Finally, 47% of EU households benefit from the Gigabit connectivity. Primary internet access at home is provided mainly by fixed technologies, which remained over 2013-2020 stable at ca. 98%. Mobile services of forth generation (4G) are almost ubiquitous with 99.7% of households covered by at least one operator in Europe.

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60 For more details on the distribution per Member States see Section 3.2.1 'Number and type of State aid measures'.

61 Article 4, 1. (y) GBER limits the aid at EUR 70 million total costs per project.

62 DESI is a composite index that summarises relevant indicators on Europe's digital performance and tracks the progress of EU Member States in digital competitiveness (https://ec.europa.eu/digital-single-market/en/desi).

63 Considering all major technologies (xDSL, cable, fibre to the premises (FTTP), FWA, LTE and satellite).

More specifically, DESI report shows that the coverage of NGA networks increased from 61% in 2013 to 89% in 2020 (+45%) and the coverage of VHCN increased from 14% in 2013 to 54% in 2020 (+285%).

In rural areas[64], fixed coverage (at least 2 Mbps) has increased since 2013 from 84% to 90% (+6%) in 2020; NGA coverage improved significantly, with a rise of 42 percentage, from 18% in 2013 to 60% in 2020. In 2020, 28% of households in rural areas are covered with VHCN, against 3.6% in 2013[65] (+24.4). Despite the increase, broadband coverage of rural areas remains challenging: 10% of households are not covered by any fixed network (vs 98% overall) and 37% are not covered by any NGA technology (vs 11% overall). Mobile broadband availability is at 99.7% in the EU and 98.6% in rural areas, although mobile is still mainly used as a complementary technology rather than a substitute for fixed technologies.

Having regard to the data above and their evolution, it can be concluded that the broadband coverage has improved notably since the current State aid rules for the deployment of broadband networks entered into force in 2013. Public support was at least a catalyst for investment in rural broadband with more than EUR 1.8 billion provided under the GBER, i.e. in areas where no NGA infrastructure was present or planned for the near future, which are usually remote rural areas. It is however difficult to attribute unequivocally this improvement to the State aid rules in the broadband sector and to quantify their contribution to this improvement.

On the other hand, the WIK external study concludes that both the Broadband Guidelines and the corresponding provisions of the GBER have been effective in supporting the deployment of NGA networks. It suggests that the rules are likely to lead to further material increases in take-up of NGA-based services in the coming years. According to the study, the Broadband Guidelines have made a significant contribution to supporting the deployment and take-up of NGA in areas where the economics of network deployment are demanding, i.e. in rural areas that as the WIK report highlights have been predominantly targeted by public interventions.

These findings are confirmed by the open public consultation, where respondents consider largely that the Guidelines and GBER have partially been successful in supporting investments in line with EU DAE connectivity targets[66] and facilitated the

64 'Rural broadband coverage' refers to infrastructure deployed in areas with a population density of less than 100/km2.

65 Considering FTTH and FTTB for 2015-2018 and FTTH, FTTB and Cable Docsis 3.1 for 2019 onwards.

66 50% of replies on the Guidelines and 33% of replies on the GBER consider the objective has been *partially* met, and 19% of replies on the Guidelines and 19% of replies on the GBER consider it has *totally* been met.

deployment of broadband infrastructures[67]. Very few respondents (mainly businesses) considered the objectives have not been met at all.[68]

The same is true for bringing connectivity to low population density, rural and remote areas, as respondents are mostly positive about the Guidelines and the GBER meeting this objective.[69]

This outcome corroborates with the general findings of the targeted consultation, which are discussed below.

The results of the evaluation show that the main factors that have affected in a direct way the swiftness of the deployment of the broadband infrastructure are (i) alternative forms of public interventions, (ii) different types of investment models and (iii) the use of the existing infrastructure.

The Broadband Guidelines recognise that the deployment of broadband networks may take different forms besides providing direct public funding for the deployment of broadband infrastructure. In this context, the Guidelines invite Member States to encourage private investment via appropriate national ex ante regulation and to undertake other actions to stimulate insufficient demand. Should regulatory policies not succeed in stimulating private investment due to the market failing to provide satisfactory outcome, public authorities may decide to fund a broadband infrastructure with the aim to achieve the coverage objectives set at European level. In the targeted consultation, public authorities indicated that they have used alternatives to the financing of the deployment of infrastructure, such as measures covered by the cost reduction directive (50% of all respondents); regulatory measures (33%); civil engineering (22%); easing access rights (19%) and others (such as spectrum rights of use or co-investment obligations) (24%). 54% of respondents consider alternative measures were effective in supporting broadband coverage and penetration.

The Guidelines enable Member States to choose the most appropriate **form of intervention**, for instance gap funding model, support in kind, concessionary model or state-operated broadband network model. The WIK report observes that the direct investment model, where the public authorities deploy and manage a network, directly or

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[67] 47% of replies on the Guidelines and 31% of replies on the GBER consider the objective has been *partially* met. 28% of replies on the Guidelines and 24% replies on the GBER consider it has *totally* been met.

[68] On supporting investments in line with EU DAE connectivity targets, 9% of replies for Guidelines and 2% of the replies for GBER consider the objective has not been met at all. On facilitate the deployment of broadband infrastructure, 9% of the replies for the Guidelines and 5% of the replies for GBER consider the objective has not been met at all.

[69] 53% of replies on the Guidelines and 40% of replies on the GBER consider the objective has been *partially* met. 22% of replies on the Guidelines and 17% of replies on the GBER consider the objective has been *totally* met. Only 9% consider the Guidelines has *not at all* met the objective and they are 3% concerning the GBER.

through a fully owned entity, who would typically also be the wholesale operator of the network, allows for a quicker deployment of broadband infrastructure compared to other models. According to the WIK report, this is due to the fact that public authorities generally consider positive externalities and tend to take into consideration welfare effects, leading them to prioritise coverage across a given area, rather than profit maximisation. In addition, synergies between municipal infrastructures and greater participation of the population and local communities have a positive impact on the rapidity of the deployment of broadband infrastructure. However, respondents to the targeted consultation expressed less clear-cut views as some consider that the direct investment has been an effective and efficient way of deploying networks, while others find it has had a negative impact on competition.

The Broadband Guidelines consider that **sharing information on existing infrastructure** could facilitate the roll-out of broadband networks. They require that any operator wishing to bid for public support and which owns or controls infrastructure should provide information on such infrastructure. In addition, the Broadband Guidelines encourage Member States to setup a national database on the availability of existing infrastructures that could be reused for broadband roll-out. 41% of the respondents consider that the requirement for national databases on existing infrastructure is totally relevant. However, respondents are divided as regards the effectiveness of this provision, namely whether it has actually enabled other operators to use existing infrastructure.[70] Most of the respondents agree with the fact that the obligation to provide information about existing infrastructure should have included an obligation to provide access to it (43%). Furthermore, the Broadband Guidelines require Member States to publish information on aid measures and beneficiaries on a central website. This ultimately aims at enabling third-party operators to identify the aid beneficiaries to notably request access to the subsidised network. Respondents to the open public consultation largely agreed that the Broadband Guidelines provisions ensure adequate access to information (77%)[71]. This said, in practice, there are significant discrepancies in the actual use of the existing infrastructure: the proportion of subsidised broadband networks that have been deployed using existing infrastructure varies from 0% to 100% according to the results of the targeted consultation[72]. This corroborates with findings of the WIK report that identify as a second reason for delays in deployment of broadband infrastructure problems with accessing existing infrastructure (for more details, see Section 5.2.2 ‘Have the 2013 Broadband Guidelines led to more efficient State expenditure?’). In light of the above, it can be concluded that the State aid rules do not sufficiently provide for the effective use of the existing infrastructure.

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[70] Only 20% of the respondents find the obligation has *totally* enabled access to such existing infrastructure, 19% agree only *partially* to the statement and 17% disagree as they consider the obligation did *not at all* effectively allow the access to the existing infrastructure.

[71] Only ‘yes’ and ‘no’ replies are reported.

[72] However, only 12 replies were provided to this question.

Overall, compared to the baseline scenario (see also Section 2.2.1 'Description of the intervention and its objectives'), the Broadband Guidelines and the GBER have fostered broadband connectivity throughout Europe by facilitating the deployment of broadband infrastructures, in line with 2020 DAE connectivity targets and bringing connectivity to market failure areas, in particular low population density, rural and remote areas.

5.1.1.2. ADDRESS A MARKET FAILURE OR MAJOR INEQUALITIES

The Broadband Guidelines aim at contributing to the achievement of the EU policy objective by directing public support to areas most in need in the most pro-competitive way. This should contribute to reducing the digital divide in the society and prevent the crowding out of private investment. To this end, the public support has to address a market failure or major inequalities. According to the results of the open public consultation, respondents consider the Broadband Guidelines and the GBER have partially met this objective, at 55% and 41% of the replies respectively. In the case of the Broadband Guidelines, respondents are clearly divided: 10% consider that the objective has been totally met, whereas 12% consider that the objective has not been met at all. Views are more positive concerning the GBER since 16% of the respondents consider the objective has been totally met, whereas 3% find that the objective has not been met at all.[73]

This divergence of views appears also in the targeted consultation and can be illustrated as follows. In order to facilitate interventions in market failure areas, the Broadband Guidelines require Member States to classify target areas, on the basis of mapping and public consultation, as white, grey or black areas in terms of existing and planned in the near future[74] NGA infrastructure[75]. Respondents to the targeted consultation found in majority that the **distinction between white, grey and black areas** is totally useful for identifying the areas most in need of State aid (50%), while 33% agreed only partially. Worth noting, there is a clear difference in opinions among respondents: private stakeholders find this provision useful, whereas public authorities are the only ones finding that the distinction is either not at all or neutrally useful.[76]

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[73] 16% of replies on the GBER consider the objective has been *totally* met. 3% of replies on the GBER find that the objective has *not* been met *at all*.

[74] The term 'near future' for taking into account planned private investment corresponds to the time horizon for the deployment of the publicly supported infrastructure (typically three years from the publication of the planned aid measure).

[75] White NGA areas are those where no NGA network (capable of providing speeds above 30Mbps download) is present or planned in the near future. Grey NGA areas are those where one NGA network is present or planned in the near future. Black NGA areas are those where two or more NGA networks are present or planned in the near future.

[76] One comment relates to the issue of credible investment plans and the other one to the fact that the current distinction is no longer in line with the Gigabit targets.

Regarding **mapping**, respondents to the targeted consultation consider that it enables partially the identification of areas most in need of a public support (48%). Here again responses differ between public authorities and private stakeholders. This time however private stakeholders have less positive views than public authorities. While private stakeholders are only partially convinced of the effectiveness of the mapping exercise (63%), public authorities find the mapping enables the identification either totally (36%) or partially (36%). Their concerns refer primarily to the scope and methodology of the mapping exercise, and secondly to the reliability of information on planned investments. Although the implementation of the mapping requirement is identified as one of the barriers to the deployment of broadband networks,[77] nothing indicates that the mapping requirement itself hinders the deployment of broadband networks. According to the comments received during the consultation, the issue is rather connected to the way the mapping is carried out by authorities at national level. This suggests insufficient guidance by the Guidelines and is further discussed in Section 5.1.3 on transparency of the decision-making process.

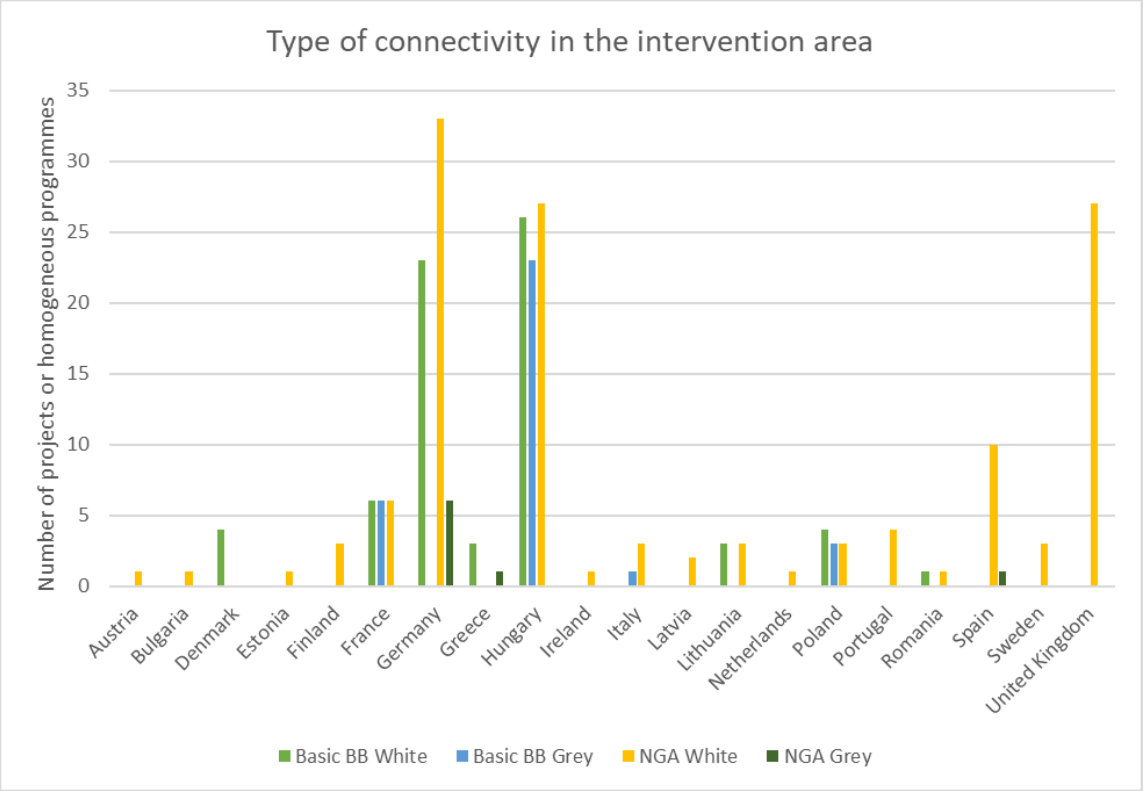
Similar views have been expressed with regard to the **consultation** of the market on the future private investments plans. Most of respondents consider that the public consultation enables partially to identify areas most in need for public interventions (35%), while 19% consider it does so totally. This time as well private stakeholders are more critical than public authorities.[78] Hindering factors would be related, according to the respondents, to the lack of detailed guidance and the lack of differentiation of rules for small and big operators, for instance as regards the identification of credible plans or the definition of the near future for the identification of the future private investments. This matter is also further addressed in Section 5.1.3 concerning transparency of the decision-making process.

This is also supported by the WIK report, which explained that NGA white areas have been the main target of State Aid interventions in the UK, Sweden, Spain, Portugal, Finland, France, Ireland, Italy, Netherlands, Estonia and Bulgaria, as shown in Figure 3. *Number of projects servicing connectivity types by country* However, aid was recently approved for State Aid network deployment projects in Germany and Spain, in areas classified as NGA grey, while a demand-side voucher scheme addressing NGA grey areas was approved in Greece. Public authorities also report that aid has been targeted towards basic broadband white areas in Denmark, France, Germany, Hungary, Lithuania and Poland.

[77] According to 59% of the respondents. It is considered as a very obstructive barrier by 39% of the respondents (an average rate of 3/5 on the scale of less obstructive to most obstructive barrier).

[78] 5% of the replies find that it *totally* enables to identify the areas most in need and 63% find it does *not at all* or only *partially*, whereas 32% of public authorities find that the public consultation enables *totally* to identify the areas in need and 32% of replies find it enable only *partially*.

Figure 3. Number of projects servicing connectivity types by country



Source: WIK report

In conclusion, it is observed that a majority of projects involving public support for broadband deployment[79] took place in white NGA areas where there is no fast broadband infrastructure in place or credibly planned in the near future. As the digital gap relating to access to NGA services is slowly but steadily closing (see Section 5.1.1.1 'Facilitate the deployment of broadband infrastructures'), the definition of the areas that are most in need of public support may have to evolve accordingly. When white NGA areas will be fully served with NGA services, it will be opportune to identify new areas in which public investment is necessary (for further discussion, see Section 5.3 'Relevance'). This being said, the evaluation of the rules shows that the key concepts used for identifying these areas most in need, regardless of their definition, has proven effective. Consequently, compared to the baseline scenario (see Section 2.2.1 'Description of the intervention and its objectives'), the objective of addressing market failures and major inequalities has been understood by Member States and the Broadband Guidelines and the GBER have been effective in achieving this specific objective.

5.1.1.3. HIGHER QUALITY OF SERVICES AT AFFORDABLE PRICES

The deployment of a subsidised infrastructure provides additional capacity and speed on the market. The expected ultimate result is that this additional capacity should lead to

[79] 45 measures out of 62 measures approved by a Commission decision, and 171 measures under GBER.

maximizing benefits for consumers in terms of a higher quality of services and affordable prices. Most of the respondents in the open public consultation consider that the Broadband Guidelines and the GBER have partially been successful in meeting this objective[80] and more consider they have totally[81] than they have not at all.[82]

The Broadband Guidelines ensure that the subsidised networks offer higher quality by requiring that it delivers a significant improvement (**'step change'**), in comparison to what can offer infrastructure present or credibly planned to be deployed in the near future. In this context, the review of the case practice confirms that public intervention in basic grey areas were authorised because the new publicly supported NGA infrastructure or a state-of-the-art backhaul were to bring significant new investments and significant new capabilities to the market in terms of capacity, speed and competition in line with DEA targets. In addition, the Commission has recently dealt with increasing number of interventions in grey areas that aim at achieving the new EU Gigabit targets. The Broadband Guidelines have been sufficiently open-ended to cater for developments expected in the near future and flexible enough to assess diverse public interventions, including those addressing the new EU policy targets. At the same time, technological developments have continued to accelerate, accompanied by a growing need of Gigabit connectivity reinforced by the current pandemic. The need to take into account these developments became thus increasingly urgent (see Section 3.2.5 'Technological Advance').

In the targeted consultation, the respondents take the view that the State aid rules in the broadband sector ensure that public investments deliver an improvement, either totally (22%) or partially (32%). In general, comments confirm the overall positive impact of the Broadband Guidelines in this context. The respondents stress nevertheless the need for clear and updated rules ensuring that a step change is genuinely achieved.

As regard prices, especially in low density population areas they are high and it is often the very purpose of State intervention in such areas to realise an offer of 'affordable services' in order to replicate market conditions prevailing in other competitive broadband markets. The Broadband Guidelines state that wholesale prices should be based on the pricing principles set by the NRA and on benchmarks, including based on the average published wholesale prices that prevail in other comparable, more competitive areas. Based on the results from the targeted consultation, these provisions seem to have worked well in practice. Respondents are rather positive towards prices for accessing active services since 24% of the respondents find there has been no problem in that regard while 13% have experienced issues[83]. Also, the WIK report considers that

[80] 40% of replies on the Guidelines and 28% of replies on the GBER.

[81] 17% of replies on the Guidelines and 19% of replies on the GBER.

[82] 10% of replies on Guidelines and 3% of replies on the GBER.

[83] 63% of the respondents did not reply.

benchmarking wholesale prices against prices in other commercial areas is crucial in avoiding higher retail prices for customers.

Finally, State aid rules are not listed by the WIK report amongst reasons of delays in deploying broadband infrastructure. The study explains that the delays are mainly due to problems in obtaining the necessary permissions and rights of way, challenges in using existing infrastructure, delays in the award of the contracts due to for instance stringent tender conditions and the complex multi-stage tender procedures (see also Section 5.2.2 'Have the 2013 Broadband Guidelines led to more efficient State expenditure?').

This finding is supported by the results of the open public consultation that revealed several barriers hampering even better achievement of the objective of the facilitation of the deployment of broadband infrastructure. None of them is pertaining to the State aid rules. The identified barriers are the following: administration related to national procedures (65% of respondents have faced such a barrier), rights of ways, permits and alike (60%), information sharing among public administrations (45%), the occurrence of legal actions (40%), issues related to civil engineering/construction specifications (38%) and transparency and access to documents (36%).

In conclusion, compared to the baseline scenario (see Section 2.2.2 'Baseline'), the Broadband Guidelines and the relevant GBER provisions appear to have amplified benefits for consumers in terms of a higher quality of services and at affordable prices.

5.1.2. LIMITATION OF DISTORTION OF COMPETITION

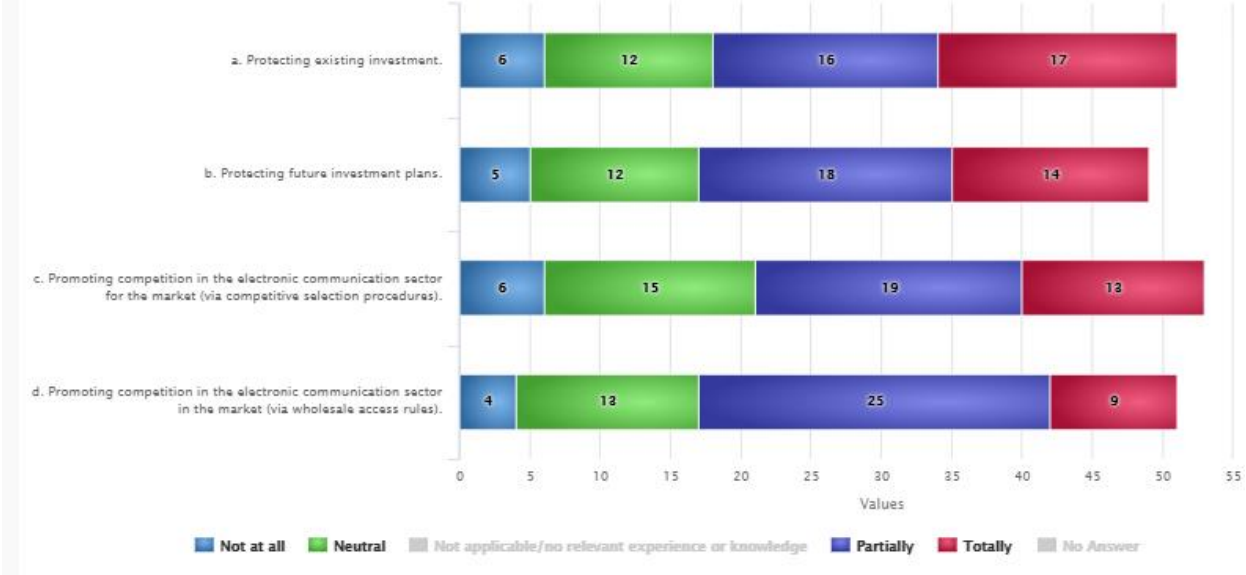
The evaluation also analysed to what extent the Broadband Guidelines and the relevant GBER provisions have been effective in limiting distortion of competition along four main sub-criteria:

- Protecting existing investment;
- Protecting future investment plans;
- Promoting competition in the electronic communication sector for the market (via competitive selection procedures); and
- Promoting competition in the electronic communication sector in the market (via open access requirements).

When requested to express their view regarding the extent to which the Broadband Guidelines have been effective in reducing distortion of competition, the majority of the stakeholders expressed quite positive views. In particular according to the majority of respondents guidelines have totally or partially helped: (1) protecting existing investment (57%); (2) protecting future investment plans (55%); (3) promoting competition for the market – via procurement requirements (55%); (4) promoting competition in the market – via open access requirements (59%).

Figure 4. Replies to question 2 of the open public consultation

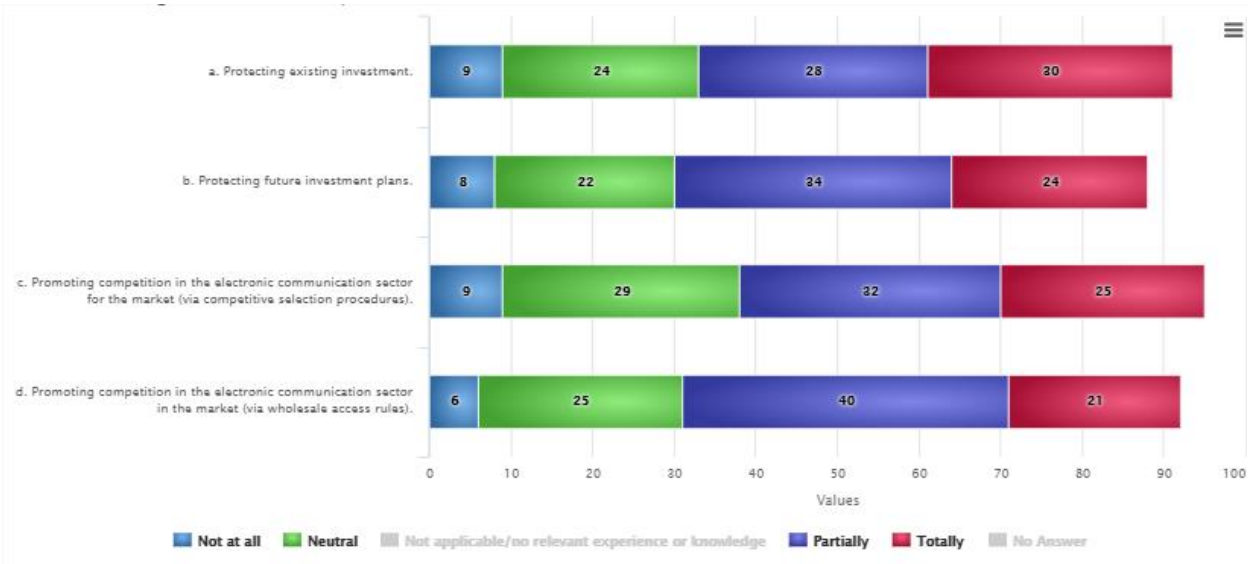
To what extent have the Broadband Guidelines achieved the following objectives?



Similar views were expressed with regards to the effectiveness of the GBER in limiting distortion of competition.

Figure 5. Replies to question 3 of the open public consultation

To what extent has the General Block Exemption Regulation specifically contributed to the following objectives?



In the following paragraph, we will assess in more detail each of the above-mentioned sub-criteria.

5.1.2.1. Protecting existing investment

As the vast majority of investment in broadband infrastructure in the EU comes from the private sector, it is essential to ensure that public interventions do not crowd out private roll-out of infrastructure. Otherwise, the overall effect of a public financing of infrastructure could even reduce total investment in the sector and thereby harm the objective of fostering a rapid deployment of high-speed infrastructure.

However, a balance has to be found between protecting private initiative and ensuring public investment in areas which otherwise would not be adequately served. In what follows, the implementation of the current Broadband Guidelines is looked at to evaluate whether the right balance has been struck.

Mapping

In Section 5.1.1.2 'Address a market failure or major inequalities', information provided in the public consultation suggests that mapping exercises have generally been conducted to pinpoint commercially unviable target areas prior to the award of State aid.

However, as discussed above, granting authorities and stakeholders have faced some difficulties when implementing the mapping requirement (see Section 5.1.1 'Support the rapid deployment of broadband infrastructure, helping reduce the 'digital divide'' and Section 5.1.3 'Transparent decision-making').

According to WIK, the most recent development in case practice (i.e. intervention in grey areas in Germany) may have increased complexity in the mapping demonstrating that the authorities concerned have taken seriously the need to avoid targeting aid at viable areas.

However, as regards practical outcomes, WIK is not able to conclude whether there may have been crowding out of private investments in the context of specific applications of broadband State aid. Some operators responding to the online survey conducted by WIK highlighted concerns about inappropriate targeting of State aid resulting in impacts on private fibre or wireless deployments.

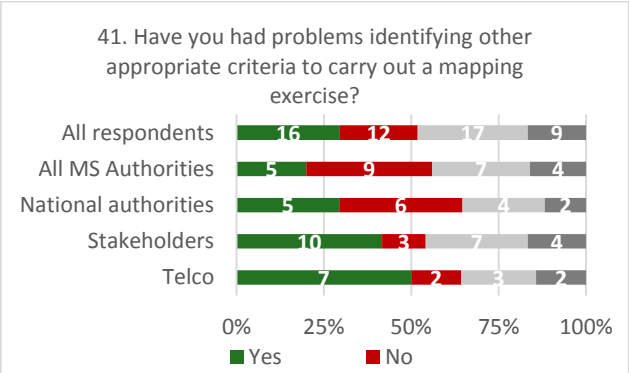
Certain other respondents claimed that State aid had crowded out private sector investment without providing specific examples. However, the validity of these allegations is difficult to gauge without accurate mapping to illustrate the extent of any overlap with existing networks, and/or evidence that specific investment plans had been hampered as a result of the inappropriate targeting of State aid.

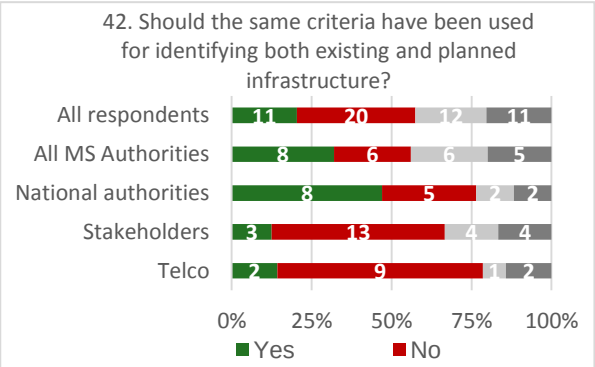
As discussed in Section 5.1.1.2 'Address a market failure or major inequalities' and Section 5.1.3.2 'Simplified Rules', in the public consultation stakeholders' expressed the need for more guidance as concerns the way the mapping exercise must be carried out.

This raises the questions of whether the mapping requirement is adequate, in the light of the baseline scenario, for the purpose of limiting distortion of competition and whether it sufficiently takes into account all specificities of the planned project.

In the public consultation, respondents have signalled that they have encountered problems in identifying the appropriate criteria to be used to carry out the mapping exercise. In particular, telecom operators, signalled that the criteria used to map existing investments should differ from the ones used to map future investments. Various stakeholders also suggested that such difference should vary according to the timeframe.

Figure 6. Replies to questions 41 and 42 of the targeted consultation

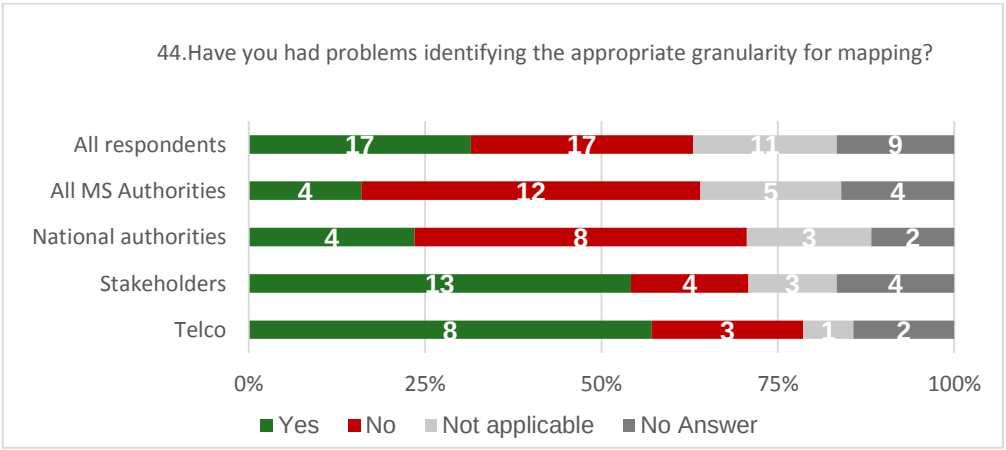




One of the key decision that must be taken when carrying out a mapping exercise is the **granularity** used to map broadband infrastructure.

We have asked stakeholders if they have faced difficulties to identify the appropriate granularity. While the replies are equally split, there is a significant difference in the replies provided by the public authorities (both national and regional/local) and telecom operators and other stakeholders. In particular, while less than 30% of the public authorities that replied to this question signalled difficulties, 75% of telecom operators and other stakeholders replied that they had experienced problems. According to one stakeholder, electronic communications operators need clear and easy to use tools for carrying out the mapping exercise.

Figure 7. Replies to question 44 of the targeted consultation

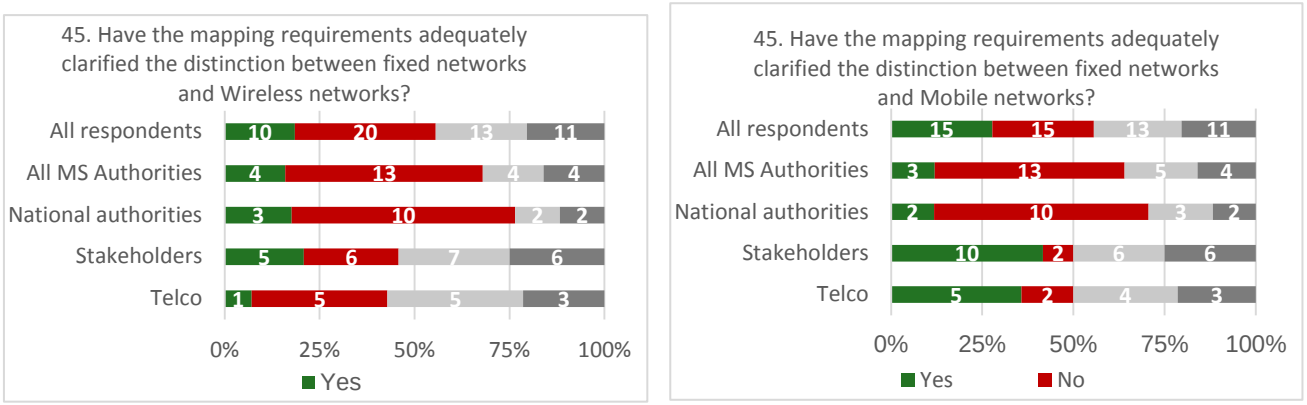


Furthermore, according to the respondents other key concepts such as 'home passed' on the basis of which the mapping exercise is carried out could benefit from further guidance.

Another area where respondents faced difficulties concerns **mapping of wireless networks and mobile networks**. The public consultation highlighted that stakeholders consider that the Broadband Guidelines do not provide adequate clarity on how to map wireless networks (i.e. fixed wireless networks) and mobile networks.

BEREC considers that the mapping exercise for mobile networks should be carried out on the basis of grids rather than addresses. However, when wireless network are used to provide Fixed Wireless Access services, the approach should be consistent with the one for fixed network and the exercise should be based on addresses as well.

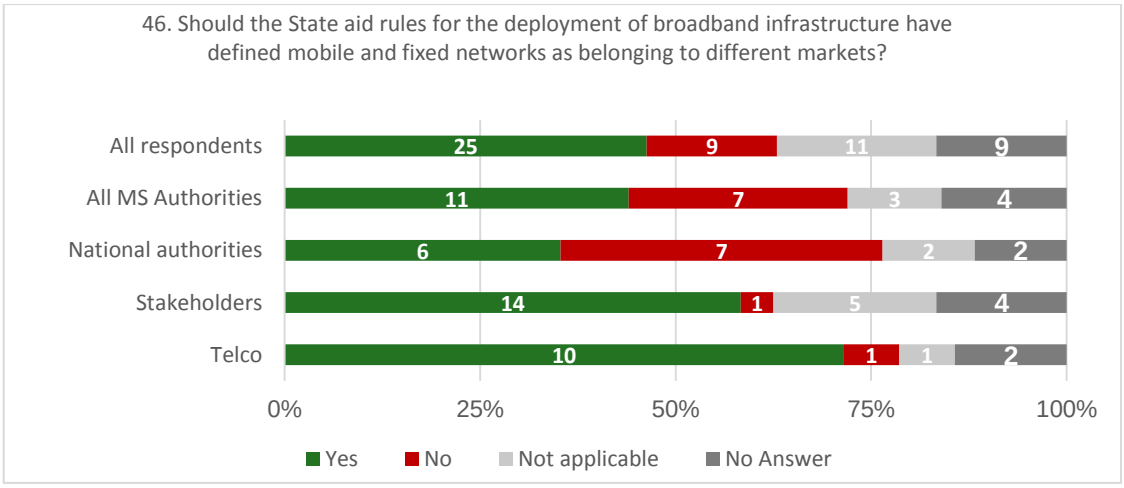
Figure 8. Replies to questions 45 of the targeted consultation



This difficulty could also be explained taking into account that the vast majority of the respondents consider that fixed and mobile networks should be treated as belonging to different markets.

One stakeholder considers that mapping of mobile infrastructure should focus primarily on the availability of network infrastructure rather than on available speed.

Figure 9. Replies to question 46 of the targeted consultation



Fragmentation of areas (Leopard areas)

In the context of mapping, the aid granting authority defines a target area where it wishes to intervene. For such target area, it has to establish the existing infrastructure in place. The mapping also has to take into account future investment plans of private operators. A public intervention is only allowed if existing and planned infrastructures are not sufficient. In some cases the target area is heterogeneous and some premises are already served with an infrastructure which is comparable to the network to be built with State aid. The area may therefore be mixed, partly white and partly grey. Overbuilding such performing infrastructure distorts competition. As a result, the current Broadband Guidelines in principle do not allow the overbuilding of such infrastructure in the target areas. However, case practice has shown that carving out such infrastructure may in some cases be very inefficient and increase significantly the amount of State aid needed (i.e. if one wishes to connect the house at the end of the street but it is not allowed to connect any other houses which are passed by).

Thus, there exists a trade-off between the objective of limiting the amount of State aid to the minimum and the objective of limiting crowding out, as recalled in the baseline scenario (see Section 2.2.1 'Description of the intervention and its objectives'). This trade-off has also become clear from the public consultation for the evaluation of the Broadband Guidelines. Respondents were split. Among public authorities who replied to the question, 62% consider that such overbuilding should have been allowed at least to a limited extent. Instead, 68% of stakeholders consider that such overbuilding should always have been prohibited. This divergence reflects different interests. While public authorities wish to have more freedom to intervene to address market failures even where this may involve overbuilding existing infrastructure, stakeholders are concerned about the crowding out effect of such state intervention.

5.1.2.2.Protecting future investment plans

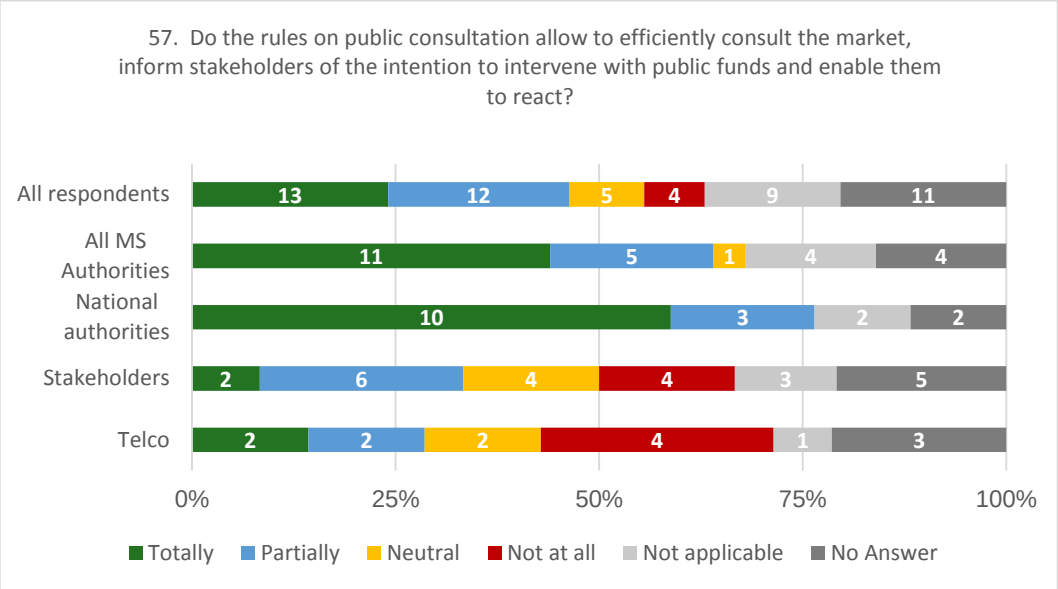
The Broadband Guidelines and the GBER require the outcome of the mapping exercise to be verified in a **public consultation**. This way public authorities have the possibility to factor in future investment plans that private operators may have to deploy the network with their own funds.

Respondents to the targeted consultation, in particular national authorities, totally or partially agree that the public consultations have been effective to identify the areas most in need of State aid (see Section 5.1.1 'Support the rapid deployment of broadband infrastructure, helping reduce the 'digital divide'').

Respondents to the WIK's survey, for the most part considered that aid had been targeted so as to avoid crowding out of commercial investments in Portugal, Finland, Slovenia, Sweden and Poland. Indeed, remarks from operators in Finland and Sweden suggest that some areas were so remote that the challenge was rather that the public subsidies offered were insufficient to attract sufficient complementary (rather than competing) private investments.

Replies from stakeholders show that the public consultation is considered an effective tool to consult the market. This is particularly true for national authorities.

Figure 10. Replies to question 57 of the targeted consultation



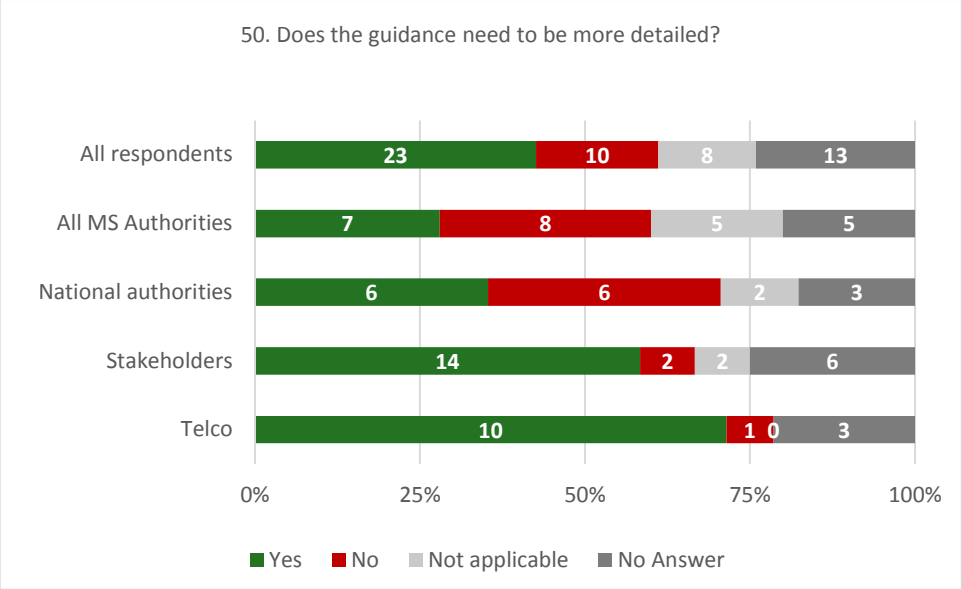
The information collected suggests that the combination of the mapping exercise with the public consultation has been effective in avoiding that State aid crowds out private sector investment to any significant degree, especially as regards FTTH investments. This shows that the Broadband Guidelines and the GBER have been effective in reaching its objectives concerning protection of future investment plans, compared to the baseline scenario (see Section 2.2.1 'Description of the intervention and its objectives').

The results of the public consultation and the independent studies[84] show that a public support for the construction of broadband infrastructure in market failure areas is unlikely to have resulted in crowding out of private investments to any significant degree. Indeed, when effectively implemented and targeted, State aid can lead to higher levels of private investments, as public support unlocks private financing and investment that may not otherwise have been available.

While open public consultation is considered a very effective tool to identify market failure areas avoiding crowding out of current and future investment, there is a call on more detailed guidance (see Section 5.1.3 'Transparent decision-making) in the way the public consultation is carried out.

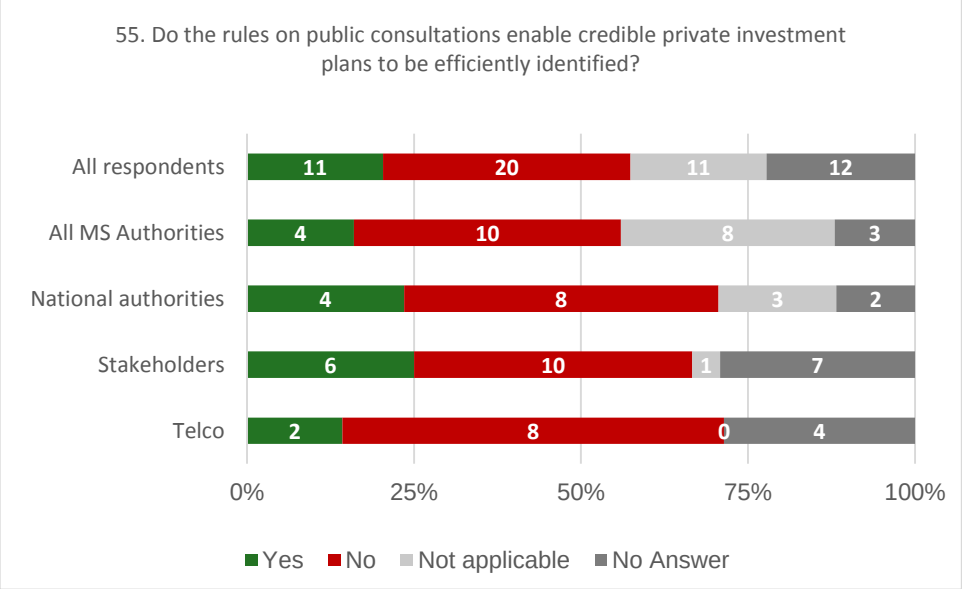
[84] See for instance: ETNO State of Digital Communications Report 2020; Ecorys, WIK et al (2020) Implementation of CEF2 Digital.

Figure 11. Replies to question 50 of the targeted consultation



In particular, respondents call for more guidance on future private investment plans for which stakeholders have signalled difficulties in correctly identifying and assessing them.

Figure 12. Replies to question 55 of the targeted consultation



One stakeholder stressed that the real risk would be that private investment plans may be disregarded because they are not sufficiently concrete since it's oftentimes difficult or impossible to provide all the details at the level of granularity requested by the public authorities. This may reflect the difficulty to determine a standardised approach to the multitude of investment plans that could be brought forward by the market. Furthermore, other stakeholders consider that mapping/public consultation should be updated close to the launch of the public tenders to avoid outdated information on investment plans.

5.1.2.3.Promoting competition in the market

Wholesale access obligation

In order to avoid that the operator of the public financed network obtains a monopoly position, the Broadband Guidelines require that recipients of State aid should make available a range of wholesale access products, including duct and pole access, and access to unbundled fibre loops or sub-loops (or VULA where physical unbundling is not viable), as well as bitstream. The Guidelines also require that physical unbundling should be offered for NGA networks.

While physical unbundling is likely to involve additional costs and thus reduce the scope of deployment compared with the absence of unbundling, this form of access has a positive impact on downstream investments, innovation and price competition. VULA and bitstream are likely to have a less pronounced impact on coverage, but are likely to provide less scope for innovation and price competition, or may (especially in the case of VULA), require detailed intervention to render the obligation effective.

In line with the Broadband Guidelines, the monitoring exercise has shown that national and regional administrations mandated a range of wholesale access products in the context of State aid. However, according to the WIK study, there are indications that patchy implementation in some countries may have held back open access obligations from being fully effective.

While data on take-up however is limited, it seems that actual take-up of physical unbundling was more of an exception. Service providers mainly request bitstream access, as this does not require any investment by the access seeker itself. Up-front investments may not be viable for access seekers in less dense areas. Such expenses may be considerable for instance in the case of access to ducts, as the access seeker would have to roll out its own fibre[85].

The requirement to provide a wide range of wholesale access offers has been an area of contention in the application of the Broadband Guidelines, with some State aid bidders and recipients of aid claiming that the costs of offering certain forms of access outweigh their benefits.

In the WIK study, costs of different access obligations were therefore assessed on the basis of a bottom-up cost model of an operator deploying in a representative "State aid zone", while potential benefits were assessed with reference to literature and case studies. The key conclusions are that although Point to point (PtP) FTTH[86] (which allows for

[85] Duct access has the advantage that the access seeker is completely independent from the network operator. However, a similar result is achieved by access to dark fibre. In that case, the operator has to provide the fibre to the access seeker who has to make the necessary investments to activate the fibre line.

[86] FTTH is fibre-to-the-home.

unbundling) is the most costly of the technologies considered, these disadvantages are likely to be outweighed by the superior quality that is possible via this technology as well as the greater potential for competition on quality as well as price. FTTH is less likely to "crowd out" private investments as there are extensive market failures in Gigabit infrastructures and granting subsidies for FTTH may serve to complement (and level up) private investments that may otherwise have occurred in less highly performing infrastructures.

These conclusions from the WIK study have been supported by the public consultation for the evaluation of the Broadband Guidelines.

When asked about the trade-off between higher costs of physical unbundling (compared to other forms of access like VULA and bitstream access) and benefits for competition, 72% of all respondents consider that in most or even all cases the benefits outweigh the cost. This view was held by 82% of national authorities and by 58% of stakeholders. The lower percentage among the latter stems from the sub-group of aid beneficiaries where 50% considered that the costs outweigh the benefits. Aid beneficiaries have to bear such investment cost while they also expect less revenues from physical unbundling due to stronger competition.

Private extensions

According to the Broadband Guidelines, a Member State has to map the target area where the subsidised infrastructure is rolled-out. 'Private extensions' are extensions of such subsidized networks into adjacent areas financed with private money. They could be built either by the network operator itself (i.e. the aid beneficiary) or by access seekers who connect to the subsidised network and then build their own infrastructure.

Private extensions can arise in the following scenarios:

(a) The operator of the state-funded NGA network expands its network into the adjacent area;
(b) An access seeker, benefiting from the open access requirement, obtains access to the state-funded NGA infrastructure and expands into the adjacent area;
(c) In the case of NGN networks (backhaul) an access seeker connects to the NGN and expands to an access area which is already NGA grey / black.
(d) 5G infrastructure is used for Fixed-wireless connections (FWA) into areas which are already covered by fixed infrastructure (e.g. NGA grey / black).

In such scenarios, private extensions may have positive and negative effects.

On the positive side, such investments generate more competition in the adjacent area to the benefit of consumers. They imply a better use of the publicly financed infrastructure, without generating further expenses for the State.

On the negative side, these investments may distort competition if the adjacent area is already served by one or more operators. Absent the state financed infrastructure, such

private extension would not have existed. Thus, the aid has an effect outside the target area where supposedly there does not exist a market failure.

As discussed above, one core compatibility requirement of the Broadband Guidelines is the open access requirement. It ensures that the state financed network is opened up to competitors. The objective is that access seekers compete with the direct aid beneficiary in the target area. The Broadband Guidelines, however, do not specify any geographic limitation for access seekers. Thus, they may also connect to the state funded network and then serve adjacent areas.

Since the entry into force of the current Broadband Guidelines, the issue of private extensions has come up in several cases:

In case SA.33473 Mazovia (Poland)[87] for a passive municipally owned backbone infrastructure a wholesale operator was selected. Access seekers could connect with private funds. Connections into grey areas were only possible once having demonstrated to the Commission the market failure and ensuring step change.

In case SA.49614 (Lithuania)[88] private expansions in the form of commercial access networks can go into all white NGA areas as included in the original mapping which in that case covered the whole of Lithuania. In SA.46203 (Poland)[89], later expansions via private access networks into further areas were considered possible under the condition that only white NGA areas would be targeted.

In case SA.48418 (Germany - Bavarian VHC pilot case)[90], private expansions are allowed in all areas under the condition that the same main criteria as those prevailing for the subsidized network (same category of areas, same thresholds, same step change) are fulfilled. In the public consultation to the subsequent Bavarian VHC scheme SA.54668[91], critical reactions to this rule were received. Out of all network operators, only one welcomed the private extensions rule. All others criticised that the decision imposed new restrictions.

The public consultation for the evaluation of the Broadband Guidelines also shows that the majority of respondents of Member States and stakeholders considered private

87 Commission Decision of 29 October 2012, C(2012) 7811 final, State aid SA.33473 (2012/N) - Poland - Broadband network project in Mazovia.

88 Commission Decision of 12 October 2018, C(2018) 6613, State aid SA.49614(2018/N) – Lithuania – Development of Next Generation Access Infrastructure – RAIN 3.

89 Commission Decision of 21 December 2017, C(2017) 9116, State Aid SA.46203 – Poland – Modifications in the aid scheme the Broadband.

90 Commission Decision of 18 December 2018, C(2018) 8617, State Aid SA.48418 (2018/N) – Germany - Bavarian gigabit pilot project.

91 Commission Decision of 29 November 2019 C(2019) 8529, State Aid SA.54668 (2019/N) – Germany – Bavarian gigabit scheme.

extensions to be possible. They were asked whether in the past it was allowed to extend publicly financed infrastructure outside the target area. Out of those who replied to this question, 25 % confirmed that such extensions had been allowed without any restriction and 46% replied that this was allowed while some safeguards had been imposed.

Thus, it can be concluded that the market would welcome a clarification on how private extensions will be handled in the future. The reactions in public consultations indicate that stakeholders do not have (major) concerns with such extensions.

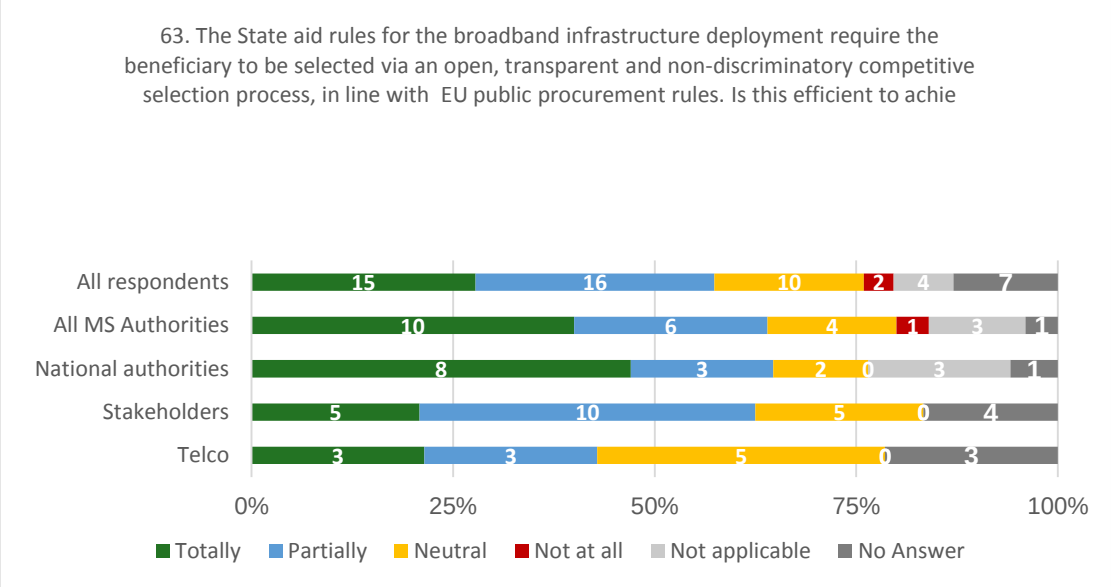
5.1.2.4.Promoting competition for the market

Most economically advantageous offer

The State aid rules for the deployment of broadband infrastructure require the use of an 'open tender' based on the most economically advantageous offer in which all parties can participate on non-discriminatory terms and where the criteria for the award are known to all in advance. This addresses three aspects of State aid: it reduces the 'selective advantage' which is conferred to any particular party since all have an opportunity to participate, and it is generally used to minimise the amount of public funds and ultimately promotes competition.

The majority of the replies to the public consultation consider that the requirement to allocate State aid on the basis of an open, transparent and non-discriminatory competitive selection procedure has been effective in achieving value for money.

Figure 13. Replies to question 63 of the targeted consultation



Furthermore, the majority of the respondents consider that the 'most economically advantageous offer' is the most appropriate methodology.

Figure 14. Replies to question 77 of the targeted consultation

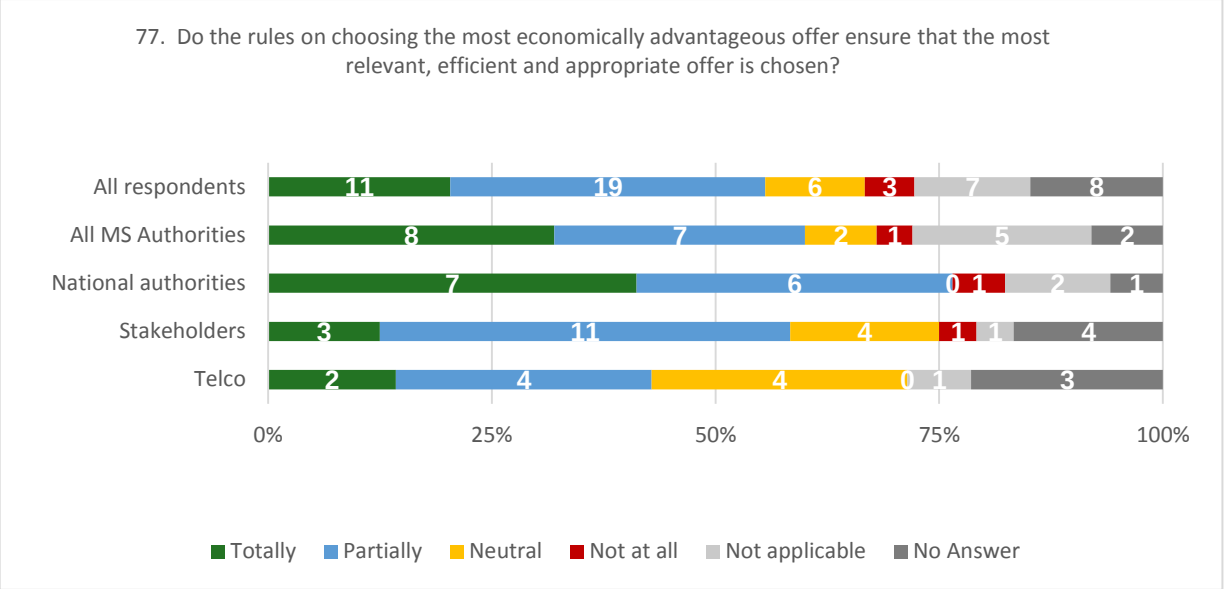
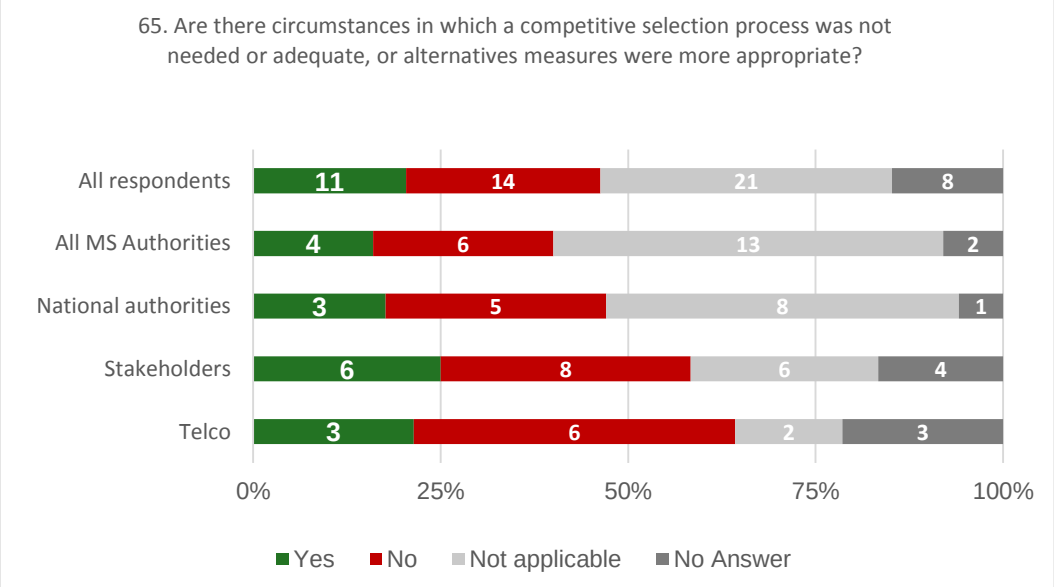


Figure 15. Replies to question 65 of the targeted consultation



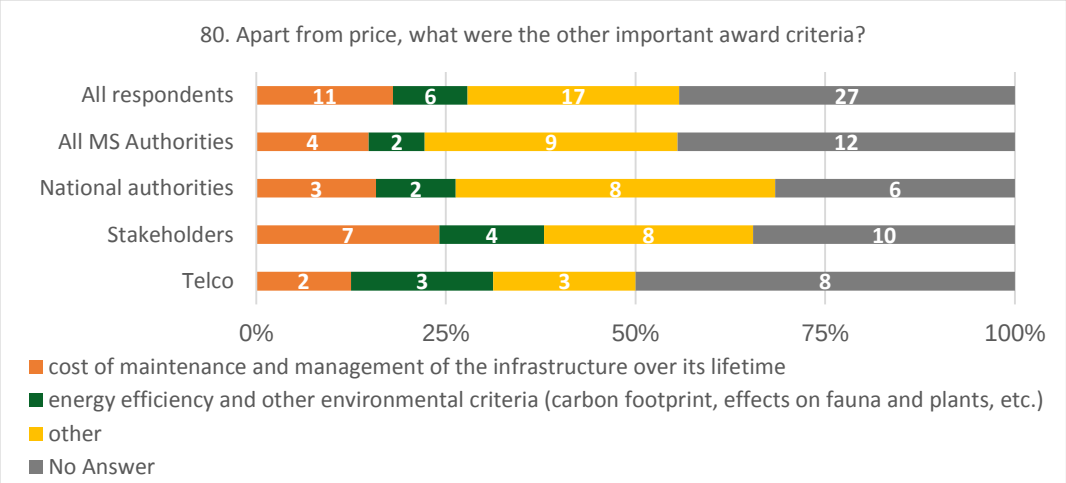
Other award criteria

The most economically advantageous offer compare qualitative criteria with price. The public consultation asked stakeholders what criteria, apart from the price, they consider more relevant in a selection procedure concerning the deployment of broadband infrastructure. The cost of management and maintenance of the infrastructure (i.e. as opposite to the cost of deployment of the infrastructure which is already captured by the price component of the bud) and energy efficiency and other environmental criteria were particularly targeted.

The result to the public consultation shows that there is no clear preference toward one of the two above mentioned criteria. Stakeholders rather consider that other criteria are

more relevant. This is not surprising as technical criteria such as the quality and performance of the network to be built are likely to be more relevant for measures that ultimately concern the deployment of new network.

Figure 16. Replies to question 80 of the targeted consultation



Technology neutrality

The application of the technology neutrality principle has often been debated and has been signalled as one of the key criteria whose application in the competitive selection procedure have created difficulties.

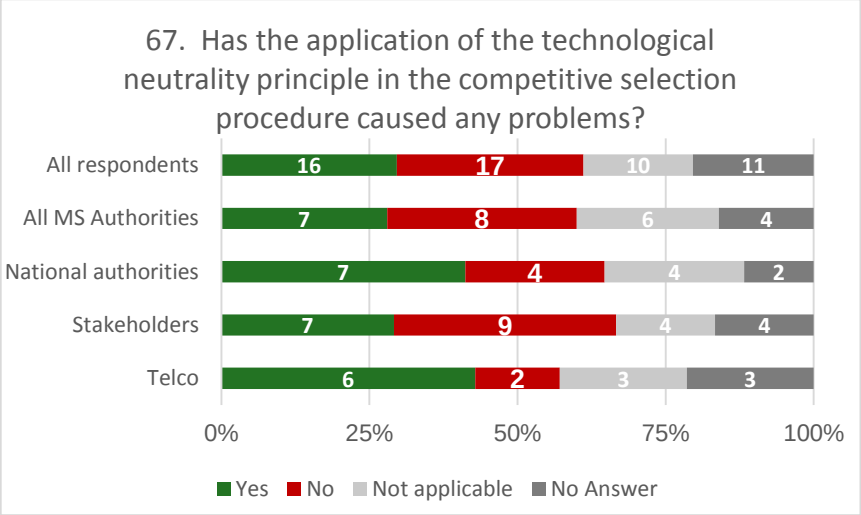
CERRE noted in its study 'State aid for broadband infrastructure in Europe – Assessment and policy recommendations'[92], that the Commission has specified quite precisely the technologies which would represent 'NGA' technologies for the purposes of the State aid rules. Furthermore, according to CERRE, the Commission favoured some technologies over others on the grounds that they were more likely to enable downstream competition: for example, the Commission would have favoured multi-fibre or point to point fibre to the premises technologies over GPON technologies, in respect of which wholesaling options were more limited.

Respondents to the public consultation have split views on the impact of the technology neutrality principle on the selection procedure. Numerous stakeholders support the technology principle. In particular, one stakeholder expressed the view that it should be applied by considering mobile broadband and fixed wireless access as viable technologies to bridge the digital divide. However, other stakeholders consider that the technology neutrality principle has not actually prevented distortion of competition and expressed the view that this principle has been circumvented to favour the deployment of FTTH. One stake stressed that HFC/DOCSIS 3.1 projects should not suffer the risk of

92 https://www.cerre.be/sites/cerre/files/CERRE_StateAidBroadband_FinalReport_0.pdf

being crowded away from funded overbuild of other Gigabit-capable networks, such as fibre networks.

Figure 17. Replies to question 67 of the targeted consultation



The results of the public consultation show that the application of the technology neutrality principle in particular in the context of the competitive selection procedure has led to different interpretations. However, in line with the current Broadband Guidelines and the case practice, the aid granting authorities have the right to select, on the basis of transparent objective criteria, the most technologically and economically suitable solutions in light of the performance to be achieved without this constituting an infringement of the technology neutrality principle. This would suggest that the current rules require clarification.

5.1.3. TRANSPARENT DECISION-MAKING

The Commission initiated in 2012 an overall reform of EU State aid policy and launched the **State aid modernisation**.[93] The objectives of the modernisation of State aid control were threefold: (1) to foster sustainable, smart and inclusive growth in a competitive internal market; (2) to focus Commission's ex-ante scrutiny on cases with the biggest impact on the internal market; and (3) to streamline the rules and provide for faster decisions.

One of the underlying requirements enshrined in the SAM Communication[94] is that modernised State aid control should facilitate the treatment of aid which is well-designed, targeted at identified market failures and objectives of common interest, and the least distortive. For that to happen, the SAM Communication required State aid rules to be

[93] See Fitness check SAM for the evaluation of the SAM.

[94] Communication from the Commission on EU State aid Modernisation (SAM). Brussels, 8.5.2012. COM(2012) 209 final.

streamlined, therefore clarified and simplified.[95] It acknowledges the need to better explain State aid concepts.
The Broadband Guidelines were adopted following the adoption of the SAM programme and in compliance with its guiding principles.

The Guidelines summarise the principles of the Commission's policy in applying the State aid rules of the Treaty to measures that support the deployment of broadband networks in general. They explain the application of these principles in the assessment of aid measures for the rapid roll-out of broadband networks.

The Commission applies the Guidelines in the assessment of State aid for broadband with the aim of increasing the legal certainty and transparency of its decision-making.[96] Legal clarity ensures that the Member States know in advance what measure would be considered as compatible aid. The rules must therefore define in a transparent way what is considered as compatible aid in order to enable Member States to design their aid measures from the very beginning in line with those rules, thus avoiding unnecessary delays.

The GBER aims at exempting from the notification obligation aid measures that are manifestly compatible. It is therefore key that clear compatibility conditions are identified. This is even more important in view of the case-law clearly requiring that in order to benefit from the GBER, an aid measure must fulfil all the relevant GBER conditions which must be interpreted strictly as otherwise it would constitute an unlawful aid that would need to be recovered.[97]

The GBER requirements are based on the concepts developed by the Guidelines. The concepts discussed below therefore concern the provisions of the GBER to the extent they are referred to in the GBER, and unless otherwise indicated.

The effectiveness of the objective of a transparent decision-making is assessed on the one hand by verifying whether the Broadband Guidelines and the GBER are perceived as clear and on the other hand by analysing the need for further refinement and/or guidance. It also assesses whether the application of the rules is simple.

5.1.3.1. CLARITY OF THE RULES

The results of the open public consultation show that the State aid rules overall tend to be **clear**.

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[95] Recital 22.

[96] Paragraph 8 of the Broadband Guidelines.

[97] See e.g. Case C-349/17- 5 March 2019 - Eesti Pagar AS v. Ettevotluse Arendamise Sihtasutus, EU:C:2019:172.

Table 1. Replies to questions 2 and 3 of the open public consultation

	Are the Guidelines clear?		Are the rules in the GBER clear?	
	%	N° of replies	**%**	N° of replies
Totally	21%	12	26%	15
Partially	64%	37	38%	22
Neutral	7%	4	9%	5
Not at all	3%	2	3%	2
Not applicable	5%	3	19%	11
No Answer	0%	0	5%	3

Stakeholders and public authorities consider to the same extent that the Guidelines are totally[98] or partially[99] clear. The majority of respondents that have replied partially on the clarity of the GBER are stakeholders.[100]

Comments concerning the Guidelines indicate that the lack of clarity may appear in case of misalignment between the rules and other EU policy and legislative developments, or when very concrete situations are not covered by the rules (e.g. in case of modification of the facts on the basis of which a State aid decision was taken during the implementation of the measure).[101] Some suggest that the Commission should reinforce its supervision in addition to ensuring clear rules.

Concerning the GBER articles, respondents that consider the rules to be totally clear are in majority public authorities.[102]

Case practice, in particular ex post monitoring exercises, has not revealed any major or recurrent issues in measures (see Section 3.2.3 'Monitoring').

This shows that, compared to the baseline scenario (see Section 2.2.1 'Description of the intervention and its objectives'), the State aid sets of rules provide overall a comprehensive framework for all stakeholders concerning the requirements for deploying broadband networks. They have struck the right balance between, on the one hand, clear requirements that allow a swift implementation of State aid measures, and on the other hand, the necessary supervision by the Commission on State aid measures that might have significant impact on the market.

98 5 public authorities (out of 24) and 7 business association/company/business organisation (out of 25).

99 16 private operators (12 company/business organisation and 4 business associations) and 16 public authorities.

100 14 vs 8 from the public authorities.

101 Comments illustrated this statement with the following examples: what happens when changes occur within the intervention area over time such as homes built, or when announced investment plans did not materialise, etc.

102 9 vs 6 from the private sector.

In the targeted consultation, stakeholders were asked whether specific concepts used in the Broadband Guidelines and the corresponding provisions of the GBER are clear. It appears that most of them were considered clear (15 out of 22). A majority of respondents find however that four requirements are not clear. In a nutshell, it concerns the concepts of 'reliable' and 'substantially higher' speed as well as the identification of present and planned infrastructures.

Table 2. Clarity of requirements and concepts used in the State aid rules[103]

Are the following requirements or concepts clear?	Yes	No
Distinction between the 3 types of area	94%	6%
Rules on public consultation	93%	7%
Claw-back mechanism	93%	7%
Principle of technological neutrality	89%	11%
Definition of an NGN	88%	12%
Monitoring	88%	12%
Most economically advantageous offer: qualitative criteria have to be weighed against the requested aid amount	81%	19%
Wholesale prices	81%	19%
Public consultations : information on the basis of premises passed rather than premises connected	81%	19%
Application of service of general economic interest in the broadband sector	79%	21%
Distinction between the mapping exercise and the public consultation	79%	21%
Sufficient capacity of passive infrastructure	77%	23%
Concept of step change	69%	31%
Effective wholesale access to all existing infrastructure used in the supported network	66%	34%
Concept of download speed	63%	37%
Concept of 'homes passed'	63%	37%
Assessment of market failures including backhaul and access markets when intervention limited to backhaul	56%	44%
Rules on deploying backhaul networks	55%	45%
Concept of 'substantially higher upload speed'	47%	53%
Identification of market failures: present and planned backhaul infrastructure	43%	57%
To be considered NGA, networks must be able to deliver the relevant speeds "reliably"	31%	69%
To be considered NGA, advanced fixed wireless access networks must provide the relevant speeds reliably	26%	74%

Source : replies to the targeted consultation

The evaluation assessed in more detail whether the Guidelines provided **sufficient clarity**. Replies to the open public consultation show that State aid rules have provided partially sufficient guidance. Respondents were more positive regarding the GBER related provisions than towards the Guidelines.

[103] Questions from the targeted consultation. For the figures in the table, only 'yes' and 'no' replies are used.

Table 3. Replies to questions 2 and 3 of the open public consultation

	Do the Guidelines provide sufficient guidance?		Do the rules in the GBER provide sufficient guidance?	
	%	No	%	No
Totally	16%	9	19%	11
Partially	62%	36	34%	20
Neutral	10%	6	10%	6
Not at all	3%	2	3%	2
Not applicable	7%	4	24%	14
No Answer	2%	1	9%	5

In particular, the results of the targeted consultation show that the following concepts and requirements may not be sufficiently clear:

- **Concept of 'substantially higher upload speed'** (75% the replies were positive in that sense). Respondents consider the terms 'substantially higher' leaves too much room for interpretation and consider that a threshold would be more appropriate. However, replies are very different in terms of proposed thresholds.
- **How to carry out the mapping exercise** (73% of positive replies) and **premises passed vs premises connected** (85% of positive replies). Comments suggest that the rules should have provided, inter alia, a clearer definition of the criteria used for the mapping exercise in order to maximize effectiveness and avoid wrongful interpretation.
- **How to conduct public consultation** to identify areas most in need (70% of positive replies). Respondents suggest that the Guidelines are lacking a more descriptive common approach.
- **Impact of nomadic users** when assessing the actual possibility for a mobile network to provide NGA services (68% of positive replies). Respondents suggest that further clarification on how to measure the effect of nomadic users and how it should have an impact on the assessment may be necessary.
- **Effective wholesale access requirements** with regard to all existing infrastructures used in deploying the publicly supported network (59% of positive replies). Comments refer to the need to delineate which part of the network should be subject to this obligation.
- **NGN definition** (52% of positive replies). In particular, comments stress the role of the concept in light of the new EU policy targets (EECC[104], 5G, etc.)
- **Demand-side measures** (78% of the replies indicated that the Guidelines did not provide sufficient guidance on such measures). Comments indicate that State aid rules should explicitly clarify the conditions, which demand-side measures constituting State aid should fulfil to be considered compatible.

[104] European Electronic Communication Code, Directive (EU) 2018/1972 of The European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code, OJ L321/36.

With regard to wholesale prices, monitoring, and the necessity to ensure that the passive infrastructure has sufficient capacity to support several access seekers in order to guarantee effective wholesale access, respondents consider that State aid rules provide sufficient guidance.

In addition, the Court of Auditors identified in its report of 2018[105] a misunderstanding on the **projects that fall under the Guidelines**. It explains that, according to the Commission, the Guidelines are also relevant for the 100 Mbps and the Gigabit Society targets. However, some Member States have interpreted the rules differently and take the view that public funding is NGA areas already served by speeds above 30 Mbps.

In order to provide interpretative guidance throughout implementation of the State aid rules, the Commission has set up an online tool ("**eWiki**") accessible to Member States' authorities to ask questions about the interpretation of the SAM rules, in particular of the GBER where Member States have the responsibility to apply them. The questions and replies to these questions are available to all Member States. This platform helps clarifying the rules and therefore eases their application by Member States. Up to March 2021, the Commission services received 1 273 questions on the GBER and only a few questions relating to articles for broadband deployment measures (25 questions, 2% of total). This suggests that the GBER rules on broadband have not posed major issues as to their interpretation and implementation and that they have, overall, achieved the objective for transparent and clear rules, compared to the baseline scenario (see Section 2.2.1 'Description of the intervention and its objectives').

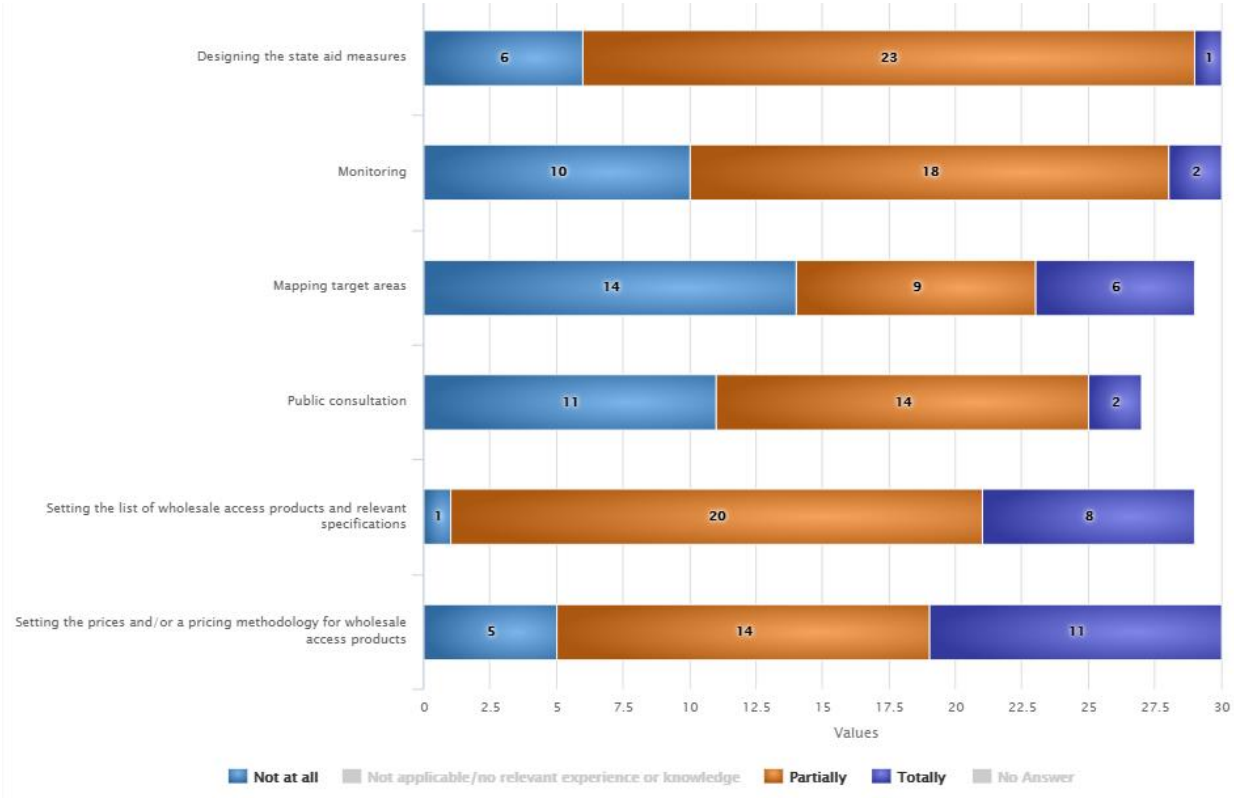
5.1.3.2. SIMPLIFIED RULES

In addition to clarity, the Guidelines have sought to simplify their application. They have for that purpose referred to the national regulatory authorities (NRA) and rely on them for specific tasks for the implementation of the measure. The targeted consultation inquired about the involvement of NRA in different steps, from the design of the measures to the monitoring of their implementation. According to the consultation, NRA have mostly been involved for regulating access to the subsidized network (setting the list of wholesale access products as well as the prices). They seem however to have played a lesser role upfront, when the measures are designed and mapping is carried out.

[105] See footnote 53, paragraph 68.

Figure 18. Replies to question 11 of the targeted consultation

To what extent have the NRAs been involved in?



Comments however did not specify to what extent the NRA involvement role could be improved.

While the design of the State aid rules appears overall clear, compared to the baseline scenario (see Section 2.2.1 'Description of the intervention and its objectives'), the analysis of the replies to the targeted consultation as well as the finding of the report of the Court of Auditors suggest that the rules are not sufficiently clear concerning certain key concepts (see Section 5.1.3.1'Clarity of the rules'). Also, considering the objective of the Guidelines to involve to the extent possible the NRAs, to simplify rules and their application, the analysis shows that the NRAs are mostly involved at the time of the implementation of the aid measures, while it might be appropriate to involve the NRAs also at the moment of their design.

5.2. EFFICIENCY

5.2.1. ADMINISTRATIVE EFFICIENCY

Number of full-time equivalent spent by Member States on administering State aid cases

The lack of quantifiable cost and savings data has hampered analysis of the costs of the measures evaluated. Annual costs incurred by the national administrations are often

difficult to estimate precisely. No stakeholder or known studies has been able to provide an estimation. The discussion below is therefore based mostly on qualitative inputs and an assessment of the overall impression of administrative burden as reported previously by the stakeholders**.**

The WIK study made an attempt to gather data on administrative efficiency associated with operating State aid programmes under the Broadband Guidelines. State aid granting authorities were invited to answer a questionnaire concerning the number of staff (full time equivalent, or FTE) working on the implementation of State aid for Broadband. Stakeholders were also asked to provide their perspective on the degree to which the State aid programmes were administratively efficient via an online survey distributed in mid-2019.

Concerning State aid for Broadband (schemes and individual cases), 17 EU Member States (incl. UK) responded to the request for information about resourcing, of which 13 gave estimates concerning the FTE per annum or cost associated with the administration of State aid for Broadband. Information was also received from 4 regions in Germany.

The number of FTE reported varied widely from 5 or less in Bulgaria, Croatia, Estonia, Finland, Latvia, Slovenia and the German state of North Rhine Westfalia to around 20 in Sweden, 40-50 in Hungary[106] and more than 75 for the German federal scheme and Italy.

Resourcing seems to a large extent to be related to the size and number of projects implemented. While the German national scheme and the four regional schemes were reported as incurring administrative costs of around EUR 31 million, the aid granted under these schemes has been reported at more than EUR 1.5 billion. Similarly, in Italy 103 FTE were reported as administering and monitoring grants worth nearly EUR 1.8 billion. The Swedish authorities report costs of around EUR 2.3 million linked to a State aid budget of around EUR 440 million. As regards the smaller schemes, Bulgaria reports costs of around EUR 50 000 for administering grants of EUR 19 million, Latvia EUR 80 000 for grants of EUR 23 million and Greece costs of EUR 1.6 million to administer grants of EUR 162 million. Thus, the administrative cost as a proportion of the aid actually allocated thus far, was reported at 1-2% at most, and less than 0.5% in some cases.

As regards the split between activities, Italy reports that while 3 FTE were required for mapping and tender processes, 100 FTE were required for monitoring of deployment. The large amount of resources involved may be linked to the fact that Italy implemented the measure using the direct investment model. Similarly, the Spanish authorities report that the majority of the time spent in the administration of State aid was linked to monitoring and certification (8 FTE per year). For the processing of the aid, the Spanish

[106] Average number of FTEs working on broadband development design, preparation, implementation and monitoring, including all obligations of the state (e.g. mapping, public consultation, monitoring) from 2015 to present.

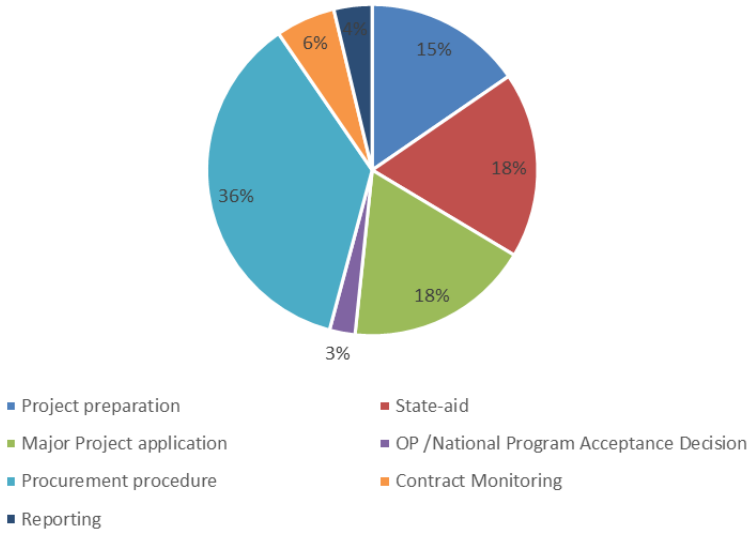
authorities estimated time spent on mapping at 1 FTE, tender 0.15 FTE and award processes at 3.25 FTE per year respectively. Notification of the aid scheme was associated with relatively limited administrative costs compared with other aspects, and was reported at 0.08 FTE in 2013 and 0.2 FTE in 2018-2019.

Another concrete example of the effort involved comes from the authorities in Estonia in connection with the State aid programme for the deployment of passive broadband infrastructure for the next generation electronic communications network (SA.51475)[107]:

- designing the State aid regime, mapping and consultation took 400 working days with 9 officials involved at a cost of approximately EUR 50 000;
- the tender process took 38 working days with 5 officials at a cost of approximately EUR 4 200; and
- ongoing monitoring takes approximately 30 working days per year with 3 officials involved at a cost of EUR 3 300 and is projected to take approximately 120 working days between 2019-2023 at a total administrative cost of approximately EUR 13 200.

The share of cost associated with the administration by the Greek authorities of schemes relating to Rural Broadband, Superfast Broadband and Ultrafast Broadband, are shown in the diagram below.

Figure 19. Share of State aid administration costs by category: Greek authorities



Source: WIK report

[107] SA.51475 Järgmise põlvkonna elektroonilise side juurdepääsuvõrgu passiivse lairibataristu rajamise toetusmeede, under GBER article 52.

National authorities which responded to the survey were for the most part more positive than stakeholders about the procedural efficiency of State aid programmes. However, comments were made in one case about an excessive number of layers in the process, while another observed that the use of EU funds created the need for more administration and control.

For those aspects of the process that lie within their control, there could be scope to increase efficiencies if State aid awarding authorities follow good practice e.g. in terms of limiting the complexity of any framework contracts, consult widely (including with municipalities) and establish clear deadlines for the submission of projected deployment plans (to avoid later amendments to the scope of the target areas), and ensure effective co-ordination between initiatives at different levels of Government.

Stakeholders view on efficient administration of State aid cases

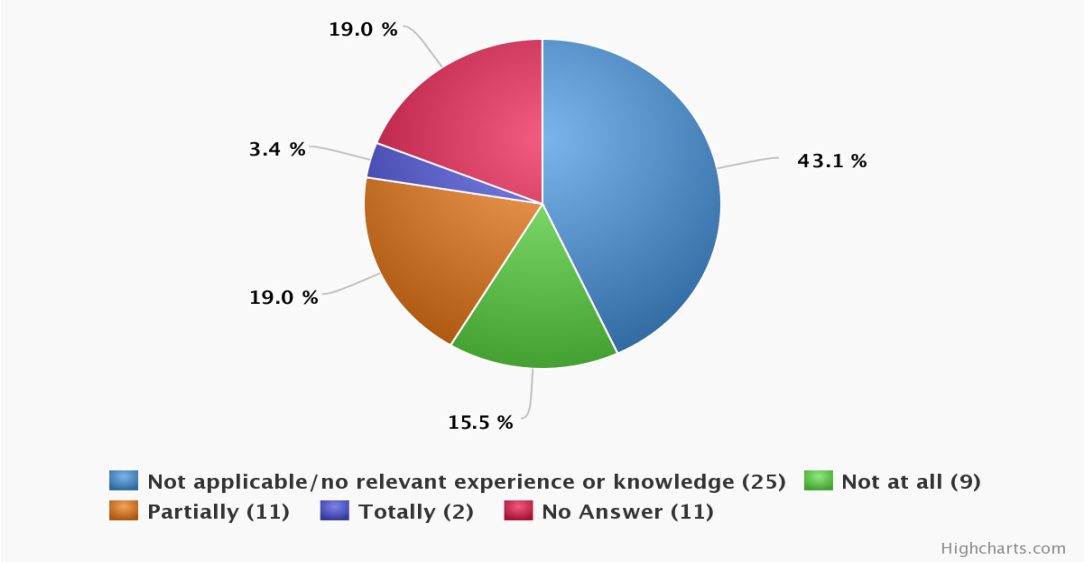
As regards the views of stakeholders, concerns over procedural efficiency were noted in some cases. Information from WIK's online survey conducted in 2019 shows that stakeholders provided an average score of 5 from a point scale of 1-10 (from inefficient to very efficient), but there were differing perspectives of the efficiency of the procedures in different Member States. For example in Austria, some bidders and State aid recipients highlighted the need for improvements in the digitisation of the process, enabling automated processes from application through to payout, while some municipalities bidding for aid also considered that some of the formal criteria were challenging. A respondent from the Irish market noted high costs associated with the NBP, and a lengthy period without resolution. Complaints were also raised in Germany about the large number of projects and procedures that were perceived to be lengthy, complex and inflexible. On the other hand, another respondent noted that while the practical application of State aid programmes were time-consuming, this was necessary to adhere to public procurement obligations and avoid crowding out private investments. Perspectives on processes in Sweden also differed, with a number of the bidders citing challenges with delays and complexities, while others considered that the presence of broadband co-ordinators acting as a buffer between the sector and those granting aid was helpful. On the other hand, respondents in Denmark, Poland and Portugal for the most part declared themselves to be relatively satisfied with the administrative procedures.

Also in the public consultation stakeholders were asked about the level of reduction of the administrative burden brought by the 2013 Broadband Guidelines as compared to the 2009 Broadband Guidelines. Results are shown in

Figure *20* below.

Figure 20. Question 14 to the open public consultation

To what extent have the 2013 Broadband Guidelines reduced the administrative burden (compared to 2009-13, when the sector was regulated only by the 2009 Broadband Guidelines)?



As can be seen, the vast majority of stakeholders did not answer or did not consider themselves in a position to reply to that question. Among those who replied, a majority considered that the Broadband Guidelines have reduced the administrative burden, compared to the baseline scenario (see Section 2.2.1 'Description of the intervention and its objectives').

5.2.2. HAVE THE 2013 BROADBAND GUIDELINES LED TO MORE EFFICIENT STATE EXPENDITURE?

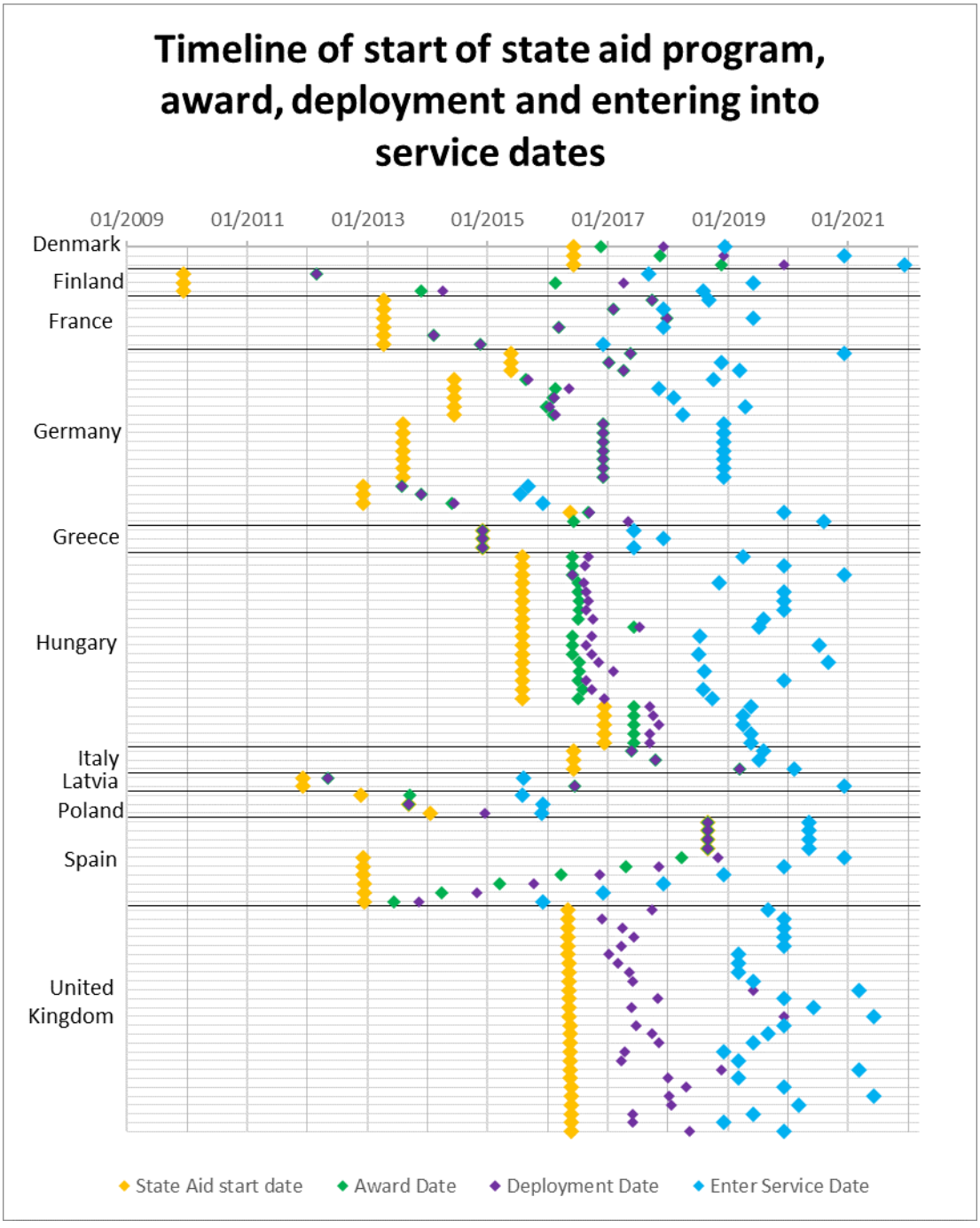
Cost of applying the Broadband Guidelines (duration of procedures, clarity and simplicity of procedures)

One of the concerns raised occasionally by some Member States since 2013 refers to possible delays in implementing the State aid measure. As regards the potential implications of procedural delays, it can be seen from Figure 21 that there have been significant variations in the timeframes associated with the award of State aid, with delays in some countries of 4-5 years between the start date when aid was approved and the entry into service of the network. WIK finds that the delays have occurred at different points in the process and have different underlying causes. Most of the delays are not connected with recommendations included in the Broadband Guidelines and concern for example slow processes for permit approval, or appeals procedures. Moreover, examples from countries which have achieved deployment on the basis of State aid within much shorter periods, such as Spain and Denmark show that it is possible to operate efficient processes in line with the Guidelines.

However, some of the challenges described were linked to the State aid award process, including communication challenges amongst different levels of Government, stringent conditions in Framework contracts, and reopening of mapping procedures.

Meanwhile, lengthy periods can be seen between the start of deployment and entry into service for some projects in the UK and Hungary, while deployment seems to have been achieved in a shorter period (two years or less) in Denmark, France, Spain and Poland.

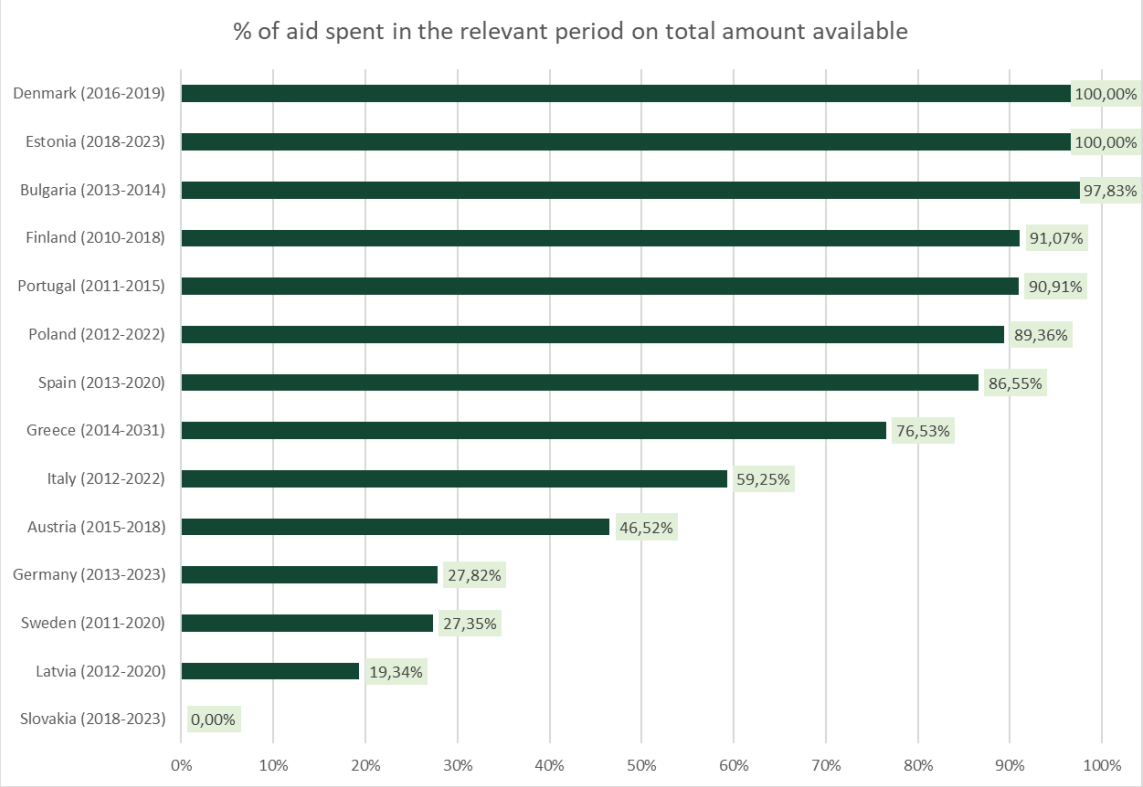
Figure 21. Timeline between start of State aid measure and the entering into service, per project



Source: WIK report

Another possible concern from the EU's objective of fostering the digitisation of the European economy is related to Member States actually only spending a limited proportion of the approved aid. As can be seen from Figure 22 there are significant variations in the degree to which aid approved for broadband deployment has been spent. While a high proportion of the aid has been allocated in countries including Bulgaria Estonia, Denmark and Finland – as of June 2019, less than 30% of the available aid had been spent in Germany, Sweden, Latvia and Hungary. There may be different reasons for this discrepancy. In some cases, projects are ongoing and the aid will be allocated in due time. It should also be noted that payments may not be distributed evenly over time, and thus low payments may not represent delays, in cases where payments apply closer to completion. However, in other cases, the limited allocation of funding may indicate a delay in award of State aid.

Figure 22. Percentage of aid spent on total amount available



Source: WIK report

60% of respondents to the WIK stakeholder survey reported that projects in which they had been involved had been subject to delays impeding the deployment of broadband infrastructure, with a number of respondents reporting delays in Austria, Germany, Greece, Hungary, Italy, Poland, Portugal, Spain and Sweden. In contrast, no delays were reported by respondents in the Czech Republic, Denmark, Finland and Lithuania.

According to the WIK stakeholder survey, the main reason for the delay stems from problems obtaining the necessary permissions and rights of way. Delays were also reported due to problems accessing existing infrastructure, and to a significant but lesser extent, delays in the award of the contract and/or in finalizing the contract.

Table 4. Reasons for delays in the application of broadband State aid as expressed by stakeholders

Reason for delays	Count
Delays in award	16
Delays in finalising the contract	12
The award was appealed	3
Problems in obtaining necessary permissions/rights of way	33
Problems access existing infrastructure	18
Other	19

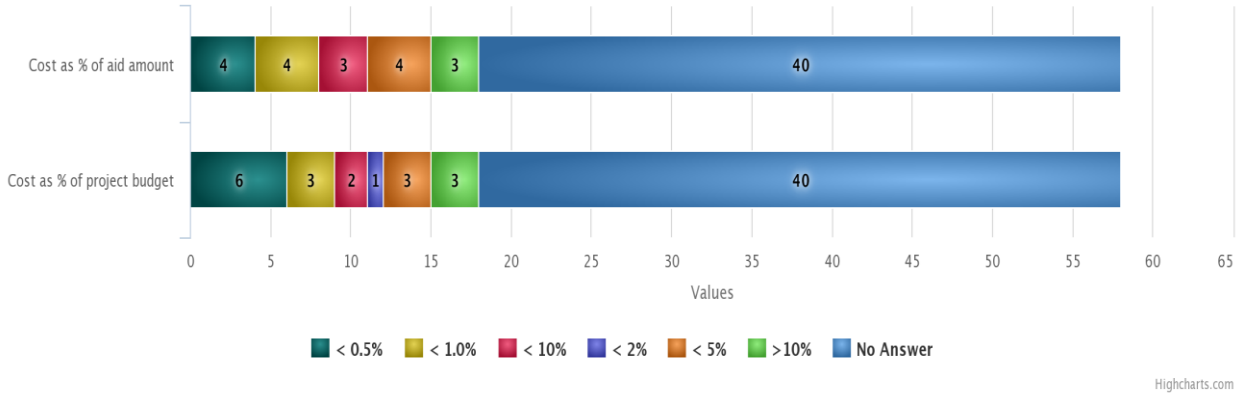
Source: WIK report

While delays in award and in finalising contracts do feature as causes of delay in the provision of broadband services in State aid funded areas, an important take-away from the WIK stakeholder analysis is that perhaps the most significant difficulty experienced by stakeholders relates to challenges in deploying infrastructure. These include problems in obtaining the necessary permissions and rights of way as well as challenges in using existing infrastructure such as ducts and poles.

The public consultation asked about the estimated overall cost of applying the 2013 Broadband Guidelines, both in relation to State aid amount and to the overall project budget. As can be seen the majority of respondents could not, or did not want to reply to this question. Among those who replied, around 66% considered that the cost would be below 5% of the total aid amount while about 16% estimated the cost to exceed 10% of the aid amount.

Figure 23. Question 12 of the open public consultation

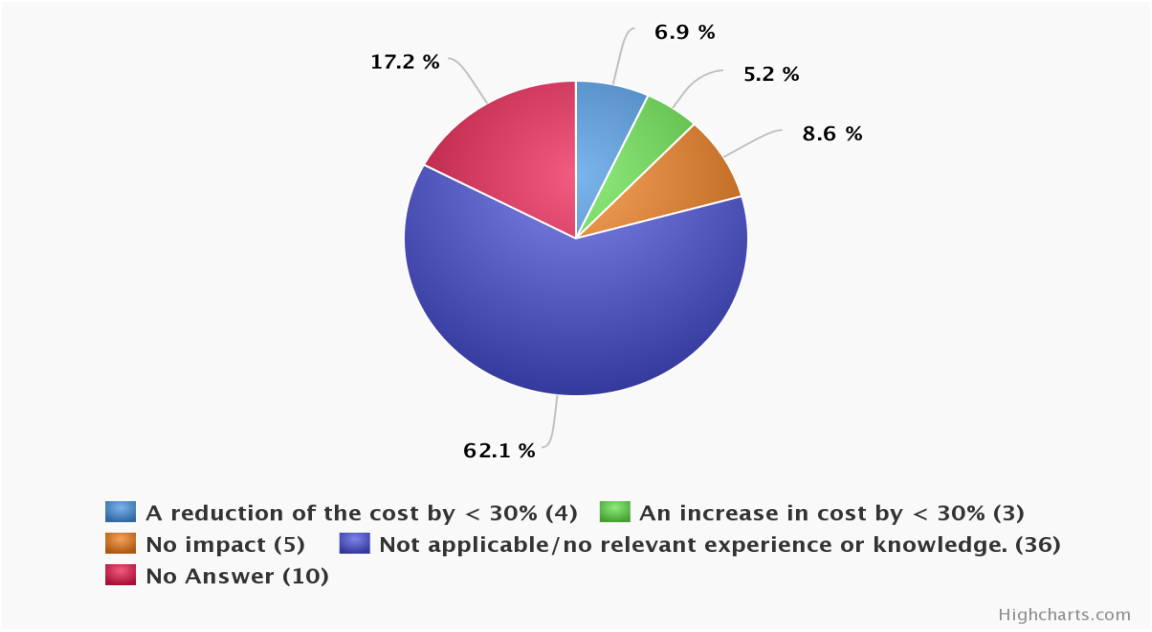
Can you estimate the level of the cost generated by applying the 2013 Broadband Guidelines?



The open public consultation also asked for a cost comparison of applying the 2013 Broadband Guidelines with the 2009 Broadband Guidelines. As can be seen from the

figure below, the vast majority of respondents chose not to reply to that question. Among those who replied, the biggest group did not see an impact, the second biggest saw a cost reduction that the remaining group considered that the 2013 Broadband Guidelines led to an increase in cost.

Figure 24. Question 16 of the open public consultation



In order to obtain better data regarding the implementation of State aid decisions, the Broadband Guidelines impose a reporting obligation on aid granting authorities. The public consultation inquired whether this reporting obligation created an excessive burden. Among all respondents, 48% considered that this is not the case while less than 1% considered that the obligation creates such an excessive burden (the rest did not provide an answer).

Impact on State aid projects

At a general level, the open public consultation asked whether the 2013 Broadband Guidelines have led to a more efficient State aid expenditure, compared to the baseline scenario (see Section 2.2.1 'Description of the intervention and its objectives'). Among those respondents who chose to reply to that question, the vast majority confirmed that this was the case.

Figure 25. Question 11 to the open public consultation

Based on your experience, to what extent have the requirements set by the State aid rules for the deployment of broadband infrastructure led to more efficient State expenditure (timely and less costly intervention) than in 2009-13, when support in this sector was regulated only by the 2009 Broadband Guidelines)?

The Broadband Guidelines contain a number of specific measures which aim to ensure an efficient State aid expenditure. They are discussed in what follows. The percentages ignore respondents who did not take a view on the particular issue.

As explained in Section 5.1.1.2 'Address a market failure or major inequalities', the purpose of the Broadband Guidelines is to stir public investment into areas where the private sector would not, or not to a sufficient degree, roll-out advanced broadband infrastructure ('market failure' areas). In the public consultation, 20% of respondents consider that the rules of the Broadband Guidelines totally allow to efficiently identify the areas most in need for public intervention (and 33% consider it partially), while 8% consider that this is not the case. In this regard, mapping of such areas is the most important tool in the Broadband Guidelines. Correspondingly, 20% of the respondents consider totally that the provisions related to mapping allow to efficiently identify the target area for public intervention (and 47% consider it partially), while 2% considered that this is not the case.

Finally, with regard to the risk of overcompensation, 45% of respondents consider the claw-back rule has been clear and 35% consider that it is sufficient to prevent overcompensation. Instead, 2% considered that it is not clear and 2% considered that it is not sufficient to prevent overcompensation.

Benefits of applying the Broadband Guidelines (cost savings from use of existing infrastructure, tendering, 3 year planned investment rule, duplication of investment (overbuilding)

In order to limit State aid expenditure to the minimum, the Broadband Guidelines require that, based on a public consultation, the public authority first has to establish whether in the coming three years there is no private investor willing to roll-out the required infrastructure in the target area, that there is no duplication of private investment, that aid is granted on the basis of a tender and, where possible, existing infrastructure is to be used.

In the public consultation, 25% of respondents consider totally that the rules of the Broadband Guidelines allow to efficiently consult the market and inform the stakeholders of the public intervention plans (and 22% consider this to be true partially), while 8% consider that this is not the case. However, 35% consider that the Broadband Guidelines do not give sufficient guidance in establishing the private investment plans (against 27% considering that this is the case).

29% of respondents consider totally that the tender process provided for in the Broadband Guidelines achieves value for money (and 31% consider this to be true partially), while 4% consider that this is not the case.

20% of respondents consider totally that the 3 year rule about future investment plans of the Broadband Guidelines is adequate (and 25% consider this to be true partially), while 6% consider that this is not the case. 50% of respondents consider that the step change rule is clear, while 20% disagree.

5.2.3. OVERALL BALANCE: HAVE THE BENEFITS ASSOCIATED WITH THE 2013 BROADBAND GUIDELINES OUTWEIGHED THE COST?

Looking at a wider view of costs vs benefits, WIK reports that national authorities in countries where State aid programmes had been established considered that the benefits of State aid programmes generally outweighed the costs. This overall conclusion is confirmed by the public consultation. Overall, 22% of respondents consider totally (and 31% consider it partially) that the positive effects of the Broadband Guidelines in terms of preventing distortion of competition and crowding out outweigh the negative ones (in terms of higher cost), while 8% consider that this is not the case.

WIK reports that stakeholders had more mixed views on this question, especially in Germany, Hungary, Spain and Italy. There was however a more positive view of the benefits of State aid in comparison with the costs amongst most stakeholders responding in Portugal, Poland, and Austria, and views in other countries may have been affected by concerns over the specific applications of State aid by the stakeholders concerned.

More generally, WIK considers it likely that, if State aid is appropriately targeted and focused on the most performant and future proof technologies, benefits should significantly outweigh both the subsidies and associated administrative costs. This is because there is a variety of evidence to suggest that FTTH directly or higher

bandwidths, which should be associated with increased coverage of high capacity networks, are associated with increases in GDP,[108] as well as supporting the creation and maintenance of jobs in more remote areas. As experience with COVID has shown, high bandwidth connections can also support home working and the remote provision of healthcare and education, which are especially important for rural communities as well supporting the achieving of environmental goals, through reductions in transport.

A summary of the benefits of fibre connectivity in rural areas is included in a 2018 study by WIK.[109] For example, one study assessing developments in Sweden[110] found significant savings in using digital FTTH-based homecare especially in rural areas. It concluded that even with limited adoption,[111] these solutions could contribute to annual net cost reductions of $0.6m in a rural municipality with 8 000 residents by 2020.

Respondents identified several issues generating higher administrative costs and delays in the implementation of State aid measures. While some stakeholders have complained about the administrative burden and lengthy procedures, most of the issues blamed for delays are outside the scope of the Broadband Guidelines and under the control of national authorities. With regard to the Broadband Guidelines, the above indicated in particular that there is demand for more detailed provisions regarding the access to existing infrastructure and more guidance with regard to mapping and to identify private investment plans.

Finally, the above assessment has shown a lack of data to come to more precise conclusions at a more detailed level. This was confirmed by a recent CERRE study[112] which concluded that transparency of the decision-making process plays a role upfront, for the design of the measure, but also ex post, for evaluating the effectiveness of State aid control. CERRE considers there are deficiencies in the data which might allow policymakers and researchers to assess the performance of the broadband State aid activities. They recommend that Member States fill in a detailed standardised reporting

[108] One study (1 Rohman, I.K. and E.Bohlin (2012), Does broadband speed really matter for driving economic growth? Investigating OECD countries, SSRN.2034284) of OECD countries dating from 2012 estimated that doubling the connection speed related to an additional 0.3 percentage points to annual GDP growth. WIK, together with Ecorys and VVA also identified a correlation between broadband speeds across the EU and Total Factor Productivity across a number of sectors in the context of a study for the European Commission, and concluded that if past relationships between broadband speed and GDP growth were to be replicated going forwards, an accelerated deployment of FTTP/B infrastructure which resulted in 55% of households using FTTP by 2025 could result in GDP levels 0.54% higher than the status quo.

[109] WIK (2018) The benefits of ultrafast broadband.

[110] Forzati, M. and C. Mattson (2014), FTTH-enabled digital home care – A study of economic gains, Department for Networking and Transmission, Acreo AB.

[111] This estimate is based on 10% home care service recipients using digital services.

[112] See footnote 47.

template when they notify the measure, and which should then be supplemented with regular reports (perhaps bi-annually) after the project has been approved, with a more detailed report at the end of 5 years. This data should be published and accessible to third parties.

5.3. RELEVANCE

This Section evaluates whether the objectives of the Broadband Guidelines and the corresponding GBER Sections still correspond to the needs within the EU.

In a first step, it thus examines whether the overall objectives were appropriate and whether they are still appropriate in light of potentially changing needs, and therefore whether the action as set out in the intervention logic above continues to be justified.

In a second step, it examines how well adapted are the Broadband Guidelines to subsequent market developments, technological advances and policy developments.

The results of the evaluation show that the Broadband Guidelines have made an important contribution to supporting the deployment and take-up of NGA in areas where the economics of network deployment are challenging (see Section 5.1.1.1 'Facilitate the deployment of broadband infrastructures, in line with the 2020 DAE connectivity targets and bringing connectivity to low population density, rural and remote areas' and Section 5.1.1.2 'Address a market failure or major inequalities').

The public consultation shows a strong support for the fundamental concepts of the Broadband Guidelines. However, while the Broadband Guidelines have met the EU needs so far, they do not fully reflect EU policy developments and Commission priorities for the future, in particular the 2025 EU objectives (and the 2030 Digital Compass objectives). Moreover, they do not seem fully relevant to meet the technological developments in the electronic communications sector and connectivity needs accentuated by the Covid-19 pandemic[113].

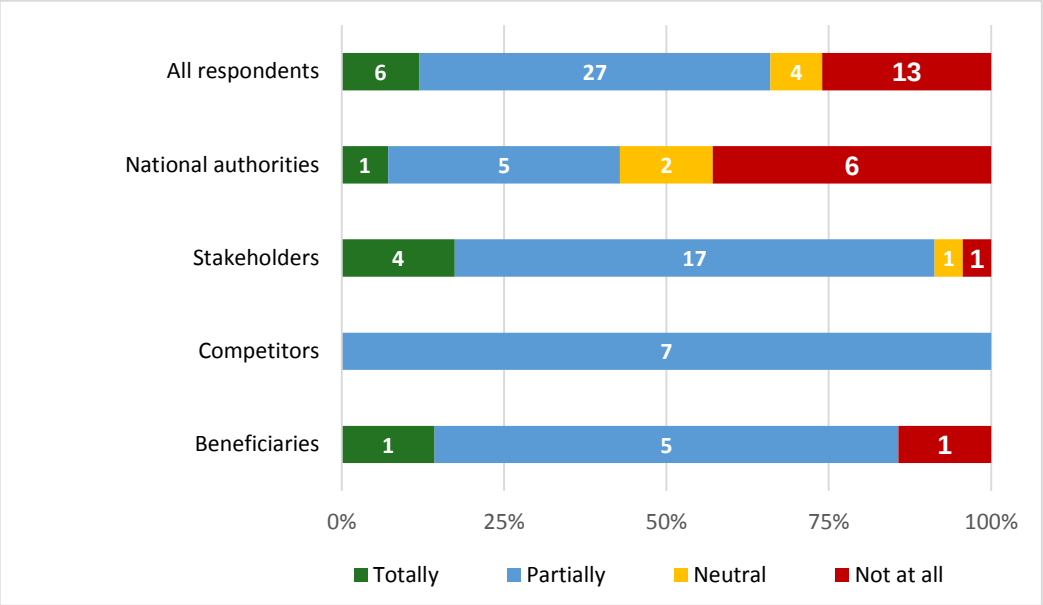
It must be noted that the Broadband Guidelines were adopted in 2013 and they reflect the targets set by the Digital Agenda for Europe (see Section 5.1.1.1 'Facilitate the deployment of broadband infrastructures, in line with the 2020 DAE connectivity targets and bringing connectivity to low population density, rural and remote areas'). In 2016, the Commission adopted the Gigabit Communication, setting new targets. Consequently, other policy acts were adopted such as the Next Generation EU, Europe's Digital Future strategy, the Action Plan on synergies between civil, defence and space industries and the 2030 Digital Compass Communication (for further details of these policy acts, please see the Section 5.4 'Coherence' below).

[113] In the public consultation, 22.41% of the respondents think that Broadband Guidelines did not meet at all the Connectivity needs revealed by the COVID-19 crisis (see replies to question 19 of the General Questionnaire).

In the public consultation, most respondents pointed out that the Broadband Guidelines needed to be aligned with the connectivity objectives set out in the Gigabit Communication and other policy acts. When asked whether the current definition of the NGA networks is still relevant, in light of the objectives of the Gigabit Communication, 24% of the stakeholders stated that they are not relevant at all.

Figure 26. Replies to question 14 of the targeted consultation

Is the definition of an NGA network still valid, especially in view of the Gigabit and 5G connectivity objectives proposed by the Commission in the Gigabit Communication?



Moreover, 46% of the respondents totally agree with the statement that the introduction of a new category of networks, in addition to the existing basic and NGA categories, would facilitate the design and assessment of a State aid measure.

The evaluation therefore clearly shows that the Guidelines need to be aligned with the policy objectives. Some Member States also referred to the need of consistency with the European Electronic Communications Code (EECC) and BEREC Guidelines[114], signalling that adopting a different approach in the Broadband Guidelines would create difficulties in the mapping of the target areas and identifying adequate thresholds for interventions. (For more details on this please see the Section 5.4 'Coherence' below.)

Another important need identified by the evaluation is related to aid for mobile networks. The Broadband Guidelines apply in principle to the deployment of fixed broadband infrastructure. Unlike the fixed network, the mobile network allows consumers to communicate while moving. However, these two types of services might be provided

[114] This definition was further refined in the BEREC Guidelines https://berec.europa.eu/eng/document_register/subject_matter/berec/regulatory_best_practices/guidelines/9439-berec-guidelines-on-very-high-capacity-networks

using the same infrastructure. When aid is granted to a 5G mobile network, it needs to be considered to what extent the publicly financed mast/fibre link is subsequently used also for FWA. The opposite might also be true. In remote areas, when aid is granted to provide FWA links, subsequently a mobile operator could then use the mast/fibre link also for mobile services, potentially in areas where, due to coverage obligations of its licence, it is obliged to roll-out such infrastructure at its own costs. In this context, mobile networks are not substitutable with fixed broadband networks and considered to belong to a different relevant market. This view is also supported by the public consultation where the clear majority of respondents consider that fixed and mobile networks belong to separate relevant markets.

Public support for the deployment of mobile infrastructure has been assessed directly under the TFEU, using State aid compatibility principles and referring to the Broadband Guidelines by analogy. The case practice[115] concerning investments in mobile infrastructure focuses on the mobility aspect of mobile connections, distinguishing them from fixed broadband connections.

The evaluation clearly indicates that stakeholders would welcome guidance for state support for the deployment of mobile networks[116]. According to the stakeholders, such guidance could increase legal certainty and transparency, since the Commission would follow that guidance when assessing notifications, instead of applying a case-by-case approach. The Commission has adopted ambitious targets for 5G mobile deployment (as explained in the Section 3.2.6 'State aid policy developments and recent events'). While investment in 5G expected to be primarily driven by private investments, in some sparsely populated areas such investment might require public subsidy.

Furthermore, the evaluation indicated that Member States and stakeholders consider that more guidance regarding demand side measures would be necessary. The Broadband Guidelines acknowledge that demand-side measures may contribute positively to broadband penetration.[117] The existence of a broadband infrastructure is in some cases not sufficient to ensure the actual use of broadband services, due to high subscription prices. Demand-side measures (mainly vouchers) together with supply-side measures constitute a useful tool to bridge the digital divide and help to reach the Gigabit targets. There are discrepancies in terms of broadband take-up, which is larger in areas that are richer, more urbanised, with greater levels of education and lower unemployment. This is confirmed by DESI report, observing that there is a substantial gap between urban and rural fixed broadband penetration rates. Although fixed broadband is available to 98% of

[115] The Commission has to date authorised six measures for public support for the deployment of mobile infrastructure, in 2009, in 2015, in 2018 and in 2020 (N245/2009, SA.39089 & SA.39090 and SA.48324, SA.55578, SA.54684).

[116] Notably, Austria, Denmark, Germany, Italy, Malta and Spain indicated that further clarifications concerning the support of mobile network would be welcome.

[117] Recital (44) of the Broadband Guidelines.

EU households (and fast broadband to 87% of EU households), take-up rates of fixed broadband connections amount to only 77% and take-up of fast broadband connections is at 50%. 69% of rural households in the EU had a fixed broadband subscription in 2020. Furthermore, some Member States (e.g. Italy, Greece) report that the gap in terms of adoption and availability of infrastructure is much higher for ultrafast networks. It is therefore not surprising that Member States have put in place demand-side measures (such as vouchers, demand aggregation, etc.). The increased number of such measures shows the growing interest of Member States in using this form of public intervention.[118] The Commission has assessed in recent cases these new types of interventions directly under the Treaty, applying some of the guidelines principles by analogy.[119]

The importance of demand side measures has increased due to the Covid-19 pandemic[120], when it became a priority for Member States intend to ensure that businesses and citizens have access to broadband (for online work or for online school)[121]. A revision of the Broadband Guidelines would also benefit the timely implementation of the various RRPby providing clear guidance to Member States. This would allow the Commission to deal with the expected high increase in the number of upcoming notifications. Demand side measures can lower the cost of subscriptions to broadband services either by covering part of the monthly fee for a certain time period or part/all of the setup costs for end-users (consumers and in some cases business) in areas where connectivity is already available.

The Broadband Guidelines do not reflect this most recent case practice and do not give sufficient guidance to the Member States. This shows that subsequent market developments lead to gaps in the scope of the Broadband Guidelines and corresponding provisions of the GBER. Therefore, some adjustments and clearer rules to better cover demand-side measures appear necessary.

Furthermore, another recent policy development is the adoption of the Green Deal outlining the policies to achieve climate-neutrality in Europe by 2050 and to tackle environmental-related challenges is one of the key priorities of the current Commission.

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[118] Three decisions adopted in Seven months: SA.57357 – Greece – *Broadband voucher scheme for students*; SA.57495 – Italy – *Broadband vouchers for certain categories of families*; SA.49935 – Greece – *Superfast Broadband* (SFBB).

[119] Such as mapping and public consultation of the target area, technological neutrality, non-discriminatory open selection procedure.

[120] Question 19 of the General Questionnaire *inter alia* inquired to what extent the Broadband Guidelines met the Connectivity needs revealed by the COVID-19 crisis. According to 22.41 % of the respondents, these need were not met at all by the Broadband Guidelines.

[121] In order to tackle the consequences of the crisis stemming from the COVID-19 outbreak, the Commission adopted a Recovery Plan. The effects of the Recovery Plan on broadband deployment are not yet known, since Member States are in the process of preparing their recovery and resilience plans and these plans are not yet implemented. However, we can expect that Member States will increasingly use the Recovery and Resilience Facility for financing broadband deployment.

Competition policy, and State aid rules in particular, have an important role to play in enabling Europe to fulfil its Green Deal and Just Transition objectives. The State aid rules will have to accompany the new Green Deal in all its facets, including its ambitious new emissions targets. In this context, we note that in the public consultation respondents considered that the State aid rules could cover additional objectives, such as public health, security, education and environmental aspects (in decreasing order or preference)[122].

5.4. COHERENCE

This Section evaluates the coherence of the Broadband Guidelines and the relevant provisions of the GBER. In a first step, it examines the so-called "internal" coherence, that is to say whether the State aid rules concerning the deployment of broadband networks are coherent with each other. In a second step, it examines the "external" coherence, i.e. whether the State aid rules at stake are coherent with other EU policies/legislation.

The Commission case practice shows that the rules are coherent internally. Notably, during the assessment of the cases adopted under the Broadband Guidelines, the Commission did not find any indications that the rules of the Guidelines and the relevant provisions of the GBER would lack coherence with each other or with any other State aid rules. This finding is confirmed by the public consultation. As to internal coherence of the rules, 44.82 % of the stakeholders state that the rules on broadband deployment are coherent with other State aid rules (while 39.66 % state that this question is not applicable or do not provide an answer). Only 3.45 % of the stakeholders think that the rules on broadband deployment are not coherent at all with other State aid rules.

As to the question whether Broadband Guidelines are internally consistent, 51.73% of the stakeholders state that the rules are totally or partially consistent (while 32.76 % of the respondents state that this question is not applicable or do not provide an answer). Only 3.45 % of the stakeholders thinks that the Broadband Guidelines are not at all internally consistent.

As to the external coherence of the rules, the analysis shows that the State aid rules on broadband are to a certain extent coherent with other EU policies and legislation. It appears however that the rules do not always reflect more recent legislative developments after their adoption such as the Gigabit Communication, Broadband Cost Reduction Directive and the European Electronic Communications Code. Only a small percentage of respondents to the public consultation (8.62 %, 13.79% and 10.34% respectively) think that the broadband rules are totally coherent with these acts.

[122] Based on replies to question 20 of the General Questionnaire: *Are there aspects that the State aid rules for the deployment of broadband infrastructure do not currently cover, for which extra objectives could be added*?

The adoption of the Gigabit Communication and several other policy acts, such as the Next Generation EU, Europe's Digital Future strategy and the 2030 Digital Compass Communication[123] introduced ambitious targets for connectivity (see Section 3.1 'Rules').

The need to align the Broadband Guidelines with other EU policies is also pointed out by the CERRE Broadband Report. The report refers to significant changes to the broader electronic communications regulatory framework (the adoption of European Electronic Communications Code). The CERRE Report notes that it would be surprising if consequential revisions to the Broadband State aid Guidelines were not required in order to maintain (or introduce) consistency between the State aid regime and the new regulatory framework. Moreover, the Special Report on Broadband prepared by the Court of Auditors invites the Commission to clarify for Member States the application of the State aid guidelines with regard to the 100 Mbps and the Gigabit society targets[124].

The WIK report concludes that the Broadband Guidelines are internally coherent as well as coherent with more recently adopted measures including the EECC and the Broadband Cost Reduction Directive. In the event of a revision of the Guidelines, there could be scope to make further reference to linkages with these measures e.g. in the context of mapping and associated BEREC Guidelines as well as the design of remedies.

There may be a divergence between the wholesale access obligations under the Broadband Guidelines and those which are applied under the SMP framework of the EECC. According to the WIK report, questions over the operational coherence between State aid measures and the SMP access regime under the EECC may occur if State aid is awarded to an SMP operator and the access remedies under State aid differ from those applied under the SMP regime. The WIK report points out the need for coherence between the application of SMP and State aid remedies, noting that remedies under State aid may nonetheless go beyond those applied to an SMP operator. Similarly, the CERRE report also suggests that coherence between the application of SMP and State aid remedies needs to be ensured.

Moreover, the WIK report refers to mapping as another area where more coherence could be ensured between the Guidelines and the EECC. Similarly, the CERRE report recommends to update the Guidelines to reflect the provisions of the EECC on mapping

[123] See footnote 5.

[124] The Court of Auditors suggests in this report that, when interpreting the Broadband Guidelines, some Member States take the view that public funding is prohibited when the intervention increases the speed beyond 30 Mbps in black and grey areas. In the Court of Auditors' view, this shows that stakeholders need more clarity in this respect.

and to explain to Member States how the processes outlined in the EECC (Article 22 in particular[125]) are to interact with the requirements of the Guidelines.

5.5. EU ADDED VALUE

As explained above in Section 2.1 'Legal and policy background', the provisions on State aid, as part of competition policy, are enshrined in the TFEU. Competition policy represents an area of exclusive EU competence pursuant to Article 3(b) TFEU and therefore the subsidiarity principle does not apply. The rules covered by the current evaluation (Broadband Guidelines and relevant Sections of the GBER) belong to the field of State aid law, an area where the TFEU gives the Union exclusive competence. Only the EU can/must act in this area.

In the absence of the Broadband Guidelines and the GBER, all planned State aid measures would have to be notified to the Commission individually by Member States and the Commission would have to assess them directly under Article 107 TFEU and take individual decisions on each of them. The mere existence of such State aid rules thus intrinsically reduces administrative burden.

In addition, the existence of the Broadband Guidelines allow Member States and potential beneficiaries to know ex-ante the rules that the Commission will use to assess the compatibility with the internal market of the aid schemes notified by Member States. This guarantees predictability and increases the legal certainty of the system. At the same time, the GBER allows for implementation of schemes without notification. The existence of State aid rules also contributes to the convergence of State aid measure across different Member States and hence delivers on the objective of a level playing field.

In order to evaluate the EU added value, stakeholders were asked whether the Broadband Guidelines provided an added value in comparison to a situation without Guidelines and GBER, in which case each individual State aid measure would have to be dealt with separately, directly applying the TFEU). A clear majority of respondents said yes (75.86 %), fully or at least partially.

Moreover, the WIK report also concludes that the Broadband Guidelines make a significant contribution to adding value at EU level compared with the actions of individual national authorities and regulators. The WIK report emphasises that a key benefit is that they have promulgated best practice in the development of tendering procedures, associated conditions and enforcement of State aid, supporting increased deployment and take-up of NGA and VHC broadband in challenge areas across the EU.

[125] Article 22 of the EECC provides that National regulatory and/or other competent authorities shall conduct a geographical survey of the reach of electronic communications networks capable of delivering broadband by 21 December 2023 and shall update it at least every three years thereafter.

6. CONCLUSIONS

This evaluation aims at assessing how the Broadband Guidelines and the corresponding provisions of the GBER worked in the past. It establishes what has worked well or less well, and it compares actual performance to earlier expectations (see Section 2.2.1 'Description of the intervention and its objectives'). The evaluation examines the application of the Broadband Guidelines and the corresponding provisions of the GBER against five criteria: effectiveness, efficiency, relevance, coherence and EU added value.

Overall, the analysis indicates that the State aid rules for the deployment of broadband infrastructure largely meet their triple objective and hence are **effective** as a State aid architecture.

The data reported by the Member States to the WIK report and from the public consultation demonstrate that, compared to the baseline scenario, without the adoption of the 2013 Broadband Guidelines the deployment of broadband networks in line with the EU connectivity targets would have likely been constrained. The Broadband Guidelines fostered the alignment between concepts used for State aid control purposes and their practical implementation by national authorities. Furthermore, the Broadband Guidelines were largely effective in protecting competition in the sector.

In particular, Broadband Guidelines and the corresponding provisions of the GBER seem to have provided a clear framework that facilitates the deployment of broadband infrastructures. They cater for various types of projects, the design of which are decided by the Member States according to national parameters. At the same time, they provide safeguards ensuring that the deployed networks do not crowd out but incentivise private investments and deliver the best outcome for consumers. The evaluation shows that public support for the construction of broadband infrastructure in market failure areas is unlikely to result in crowding out of private investments to any significant degree. Indeed, when effectively implemented and targeted, State aid can lead to higher levels of private investments, as public support unlocks private financing and investment that may not otherwise have been available.

The evaluation shows however that there might still be room for a further adjustment of the scope and for further improving the rules in the broadband sector in order to best accompany the necessary investments in the coming years, especially following the experience of the pandemic.

It can be concluded that State aid rules on the deployment of broadband networks seem to have, to a large extent, proven to be effective in achieving their specific objectives, even though the present evaluation has revealed various issues that may need further clarification. This for instance concerns the need to take account of the development of technologies and of the market as well as the society's connectivity needs, clarifications and more guidance on how to conduct mapping and public consultation or clear and updated rules ensuring that a step change is genuinely achieved.

With regard to **efficiency**, the available evidence also suggests that the rules on broadband deployment have clearly led to a more efficient State aid expenditure. A majority of respondents consider that the main principles and concepts of the Broadband Guidelines, such as the market failure approach, clawback, the use of existing infrastructure, tendering and public consultation, wholesale access requirements, etc. have worked well. Complex and/or large measures with potentially important effects in the market are assessed by the Commission to ensure that their distortive effects are kept to the minimum and are balanced by their positive effects in fulfilling an objective of common interest. As regards the GBER, it has been increasingly and successfully used, ensuring that manifestly compatible measures can be implemented by Member States without prior examination by the Commission. By comparison to the 2009 Broadband Guidelines, the majority of respondents consider that the administrative burden and cost has been reduced. Such cost account for 1-2% of allocated aid. Public authorities could increase efficiencies by following more good practice (i.e. by exchanging more information among each other).

As to the **relevance** of the rules, the evaluation suggests that the objectives of the rules on broadband deployment have been to a large extent appropriate for meeting the needs within the EU so far. However, they do not seem fully relevant to meet the technological developments in the electronic communications sector and connectivity needs accentuated by the Covid-19 pandemic. The evaluation suggests that State aid rules do not fully reflect more recent EU policy developments and Commission priorities for the future, in particular the updated EU connectivity objectives but also the Green Deal ambitions. The current and expected very high speeds and significant qualitative characteristics of broadband infrastructure of today are likely to have an impact on the fine balance to be struck between intervening with public funds in order to provide significantly more performant infrastructure to end-users and protecting existing or planned investment. As services develop and are broadly used, the need and demand for high quality broadband infrastructure will rise, fully in line with EU policy objectives for the digital transformation.

As regards **internal coherence**, it appears that the various provisions of the Guidelines or the GBER on broadband deployment are coherent among themselves and operate well together to achieve the objectives.

With regard to **external coherence**, the analysis suggests that the State aid rules on broadband deployment are to a certain extent coherent with other EU policies and legislation. It appears however that the rules do not always reflect more recent legislative developments that occurred after their adoption. In particular, the Broadband Guidelines do not fully mirror certain provisions of the Gigabit Communication, the Broadband Cost Reduction Directive and the European Electronic Communications Code.

Overall, the Broadband Guidelines and corresponding provisions of the GBER have a clear **EU added value** that is acknowledged by stakeholders as they reduce administrative burden and provide clarity, stability and predictability.

Based on the above, it results that **the Broadband Guidelines need to be adapted** to reflect recent legislative developments, current priorities, as well as market and technology developments. The evaluation also indicated room for further clarification of the rules. In particular, the following areas could be considered:

- The assessment suggests that the current **intervention** threshold of the Broadband Guidelines does not fully reflect Gigabit targets and recent policy developments, as well as the increasing importance of other parameters such as upload speeds. The intervention threshold identifies the minimum speeds below which networks could be overbuild, and is therefore a key instrument to ensure that public money is channelled to market failure areas, avoiding crowding out of private investment.

- The evaluation has shown that the Broadband Guidelines lack a clear explanation as to how to apply the rules to the **deployment of mobile infrastructure**. Such provisions would increase transparency and legal certainty for stakeholders.

- The evidence suggests that the Broadband Guidelines lack a clear explanation of the application of rules to demand-side measures such as **vouchers**. The existence of a broadband infrastructure is in some cases not sufficient to ensure the actual use of broadband services, due to high subscription prices. Demand-side measures (mainly vouchers) together with supply-side measures constitute a useful tool to bridge the digital divide and help to reach the Gigabit targets.

- The evaluation has shown that the current rules are not sufficiently clear regarding the '**private extensions**' – i.e. for a situation when an operator uses its own resources to connect to the state-funded infrastructure to provide services outside the area for which the original aid was granted.

- Evidence indicates that Commission strategic priorities are not sufficiently taken into account, such as the **Green Deal** to allow Member States, within the framework of the Broadband Guidelines, to take into account environmental and energy consumption considerations when projects are designed.

- Evidence suggests that the current rules are not sufficiently up-to-date concerning **wholesale access obligations.** Such obligations ensure open wholesale access to the network to competitors, while making sure that such obligation do not unduly increase the amount of the aid granted.

- The evaluation has shown that the current rules are not sufficiently clear on certain **technical issues** (e.g. how to define wholesale prices; how to conduct mapping and public consultation; how to take into account the impact of nomadic users when assessing the possibility for a mobile network to provide NGA services).

ANNEX 1: PROCEDURAL INFORMATION

1. LEAD DG

European Commission Directorate-General for Competition (DG Competition).

2. ORGANISATION AND TIMING

Organisation

The Decide reference of this evaluation is PLAN/2020/7735.

The roadmap[126] was published on 16 June 2020. It set out the context, purpose and scope of this evaluation exercise, as well as its Better Regulation aspects (Consultation of citizens and stakeholders, data collection and methodology). Stakeholders had the opportunity to submit their feedback[127] concerning this roadmap until 11 August 2020.

On 8 September 2020 a press release[128] announced the launch of a Public Consultation[129], which was open for reactions until 5 January 2021. This Public Consultation consisted of both a public and a targeted questionnaire, with the purpose that they would be filled out by the main stakeholders and interested parties.

An Inter-Service Steering Group (ISSG) was set up which met for the first time on 25 June 2020. This ISSG gathered representatives from the Commission's Secretariat General (SG), the Legal Service (LS), the Joint Research Centre (JRC), and 6 Directorates-General: AGRI, CNECT, ECFIN, ENER, GROW, REGIO. The Commission presented the evaluation and the roadmap to the ISSG during this first meeting. The ISSG members received the draft questionnaires of the Public Consultation on 7 July 2020. Once the Commission had processed the results of the Public Consultation it sent the related Factual Summary to the ISSG on 18 February 2021.

On 7 May 2021 the ISSG discussed the draft Staff Working Document concerning the evaluation.

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126 https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12398-Evaluation-of-State-Aid-rules-for-broadband-infrastructure-deployment

127 This feedback can be found when clicking on the link mentioned in footnote 1.

128 https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1576

129 https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12398-Evaluation-of-State-Aid-rules-for-broadband-infrastructure-deployment/public-consultation

Agenda planning – Timing

Date	Description
16 June 2020	Publication of the Roadmap concerning the evaluation of the State aid rules for broadband infrastructure.
25 June 2020	1st ISSG meeting – presentation of the evaluation of the State aid rules for broadband infrastructure deployment to the ISSG
7 July 2020	Draft questionnaires of the Public Consultation sent to the ISSG
8 September 2020 – 5 January 2021	Publication of the Public Consultation
16 February 2021	Publication of the responses to the general questionnaire of the public consultation: https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12398-Evaluation-of-State-Aid-rules-for-broadband-infrastructure-deployment/public-consultation
18 February 2021	Factual Summary concerning the Public Consultation sent to the ISSG.
23 February 2021	Publication of the responses to the targeted questionnaire of the public consultation: https://ec.europa.eu/competition/consultations/2020_broadband/index_en.html
9 March 2021	Publication of the Factual Summary of the Public Consultation[5]:
7 May 2021	2nd ISSG meeting – presentation of the draft Staff Working Document on the evaluation of the State aid rules for broadband infrastructure deployment to the ISSG.
May-June 2021	Inter-service consultation
June 2021	Publication of the SWD

3. EXCEPTIONS TO THE BETTER REGULATION GUIDELINES

No exceptions were made to the Better Regulation Guidelines[130] during this evaluation.

4. CONSULTATION OF THE RSB

Consultation of the Regulatory Scrutiny Board (RSB) was not required concerning this evaluation.

5. EVIDENCE, SOURCES AND QUALITY

Apart from the Public Consultation, the Commission used the following sources to collect information and data on the use and application of the State aid rules for the deployment of broadband infrastructure.

Some data were already available at the start of the evaluation exercise. Among them the

[130] https://ec.europa.eu/info/better-regulation-guidelines-and-toolbox en

information resulting from the Commission's extensive case practice, consisting of the assessment of State aide schemes and measures concerning broadband deployment, and the monitoring of some of those, as well as the measures that have until now been registered under the GBER.

The Commission also used data from the State aid scoreboard[131], which comprises aid expenditure made by Member States falling under the scope of Article 107(1) TFEU.

Information and data were also drawn from the contacts in the context of the European Broadband Competence Offices (BCO), which provided the Commission with valuable input on whether and how the Guidelines and the GBER have contributed to the deployment of broadband infrastructure in a way that fosters competition. The Commission sought specific input from the BCO Network on the Public Consultation questionnaires.

The Commission used the data in the Digital Economy and Society Index[132] (DESI, a composite index that summarizes relevant indicators on Europe's digital performance and EU Member States' digital competitiveness). The Commission also used analysis on the broadband markets provided by external studies, either conducted at the request of the Commission[133][134] or not[135], such as various reports on broadband coverage and prices or studies analyzing the role of the different technologies providing broadband services.

There were regular contacts between the Commission and BEREC, the body of European regulators for electronic communications representing at the European level the national regulatory authorities, which usually assists the Commission and the national regulatory authorities in implementing the EU regulatory framework for electronic communications.

Throughout the evaluation, the Commission has continued its tradition of maintaining an open door policy towards the various stakeholders, remaining available for informal contacts with stakeholders via email, telephone or (currently) video meetings.

131 https://ec.europa.eu/competition/state_aid/scoreboard/index_en.html

132 https://ec.europa.eu/digital-single-market/en/connectivity

133 Study on Future electronic communications product and service markets subject to ex-ante regulation, available here: https://ec.europa.eu/digital-single-market/en/news/study-future-electronic-communications-product-and-service-markets-subject-ex-ante-regulation.

134 The role of State Aid for the broadband networks rapid deployment of in the EU, by WIK-Consult: https://ec.europa.eu/competition/publications/reports/kd0420461enn.pdf

135 https://www.cerre.eu/sites/cerre/files/CERRE_StateAidBroadband_FinalReport_0.pdf

ANNEX 2: SYNOPSIS REPORT

1. OUTLINE OF THE CONSULTATION STRATEGY

The consultation strategy is described at https://ec.europa.eu/competition-policy/public-consultations/closed-consultations/2020-broadband_en and the roadmap was published on a specific web page for the initiative: https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12398-Evaluation-of-State-Aid-rules-for-broadband-infrastructure-deployment. The publication of the roadmap involved a consultation on the activities scheduled by the roadmap, which gathered 16 feedbacks.

Another webpage[136] presents the consultations launched for the evaluation exercise, structured in two different public consultations: the open public consultation and the targeted consultation.

The open public consultation aims to get an overview of respondents' views on State aid policy on the deployment of broadband infrastructure. It is divided into five parts, corresponding to the five evaluation criteria (Effectiveness, Efficiency, Relevance, Coherence and EU added value).

The targeted consultation aims to gather a detailed response on specific rules pertaining to State aid policy on the deployment of broadband infrastructure. It is divided into 18 sections, each pertaining to a different topic of the evaluation exercise.

a. Stakeholders

The main stakeholders identified were the Member States, businesses involved in the broadband sector, and their associations:

- National, regional and local competent authorities involved in the granting of aid and in the deployment of broadband (high interest);
- Businesses and SMEs, in particular industries specialising in telecommunications, broadband deployment and the manufacturing of equipment (high interest);
- Trade associations and interest groups representing businesses (high interest).

Anyone else interested in the consultation was however able to contribute to both the open public and the targeted consultations.

b. Methods of engagement

The consultation strategy used the following methods to involve and interact with stakeholders:

- Open public consultation (16 weeks) through a consultation that was made available via the European Commission's public consultation portal: https://ec.europa.eu/info/consultations_en
- Targeted consultation (16 weeks) addressed to stakeholders that are directly impacted by the rules, for example Member States, regional or local authorities, or businesses, made available via DG Competition's consultation website: https://ec.europa.eu/competition/consultations/open.html

[136] https://ec.europa.eu/competition/consultations/2020_broadband/index_en.html

- Exchanges at the request of individual Member State authorities, the association of NRAs (BEREC) and stakeholders took place between September and December 2020.
- The Commission also had interactions with the Committee of Regions.

All consultation activities have been promoted via DG Competition's "State Aid Weekly e-News" Newsletter and the DG Competition's Twitter account. In addition, the Commission informed the European Parliament and the Committee of the Regions of the launch of the consultation activities on 08/09/2020.

Table 1: Overview on consultation activities by stakeholder group and timing

Consultation activity	**Feedback on the Evaluation Roadmap**	**Open public consultation**	**Targeted consultation**	**Consultation by external consultant**	**Meetings with interested parties**
Timing	16/06/2020-11/08/2020	08/09/2020-05/01/2021	08/09/2020-05/01/2021		July-December 2020
Targeted stakeholders:					
Member States authorities	X	X	X	X	X
Businesses	X	X	X	X	X
Business associations	X	X	X	X	X
NGOs/ Interest groups	X	X	X		
Others	X		X		

2. METHODOLOGY AND TOOLS USED TO PROCESS THE DATA

The evaluation will use data provided by stakeholders, statistical information and internal analyses by the Commission as well as any relevant completed or ongoing study. In particular, in its internal analysis, the Commission will use, in addition to the results of the open public consultation and the targeted consultation: data collected in the monitoring and reporting exercises and from the Transparency Award Module (TAM);[137] experience from its extensive case practice;[138] internal statistics; scoreboard data;[139] and information received via the network of Broadband Competence Offices.[140]

[137] Available online at: https://webgate.ec.europa.eu/competition/transparency/public?lang=en

[138] Notably including both authorised and block-exempted cases. Data on case practice is available online at: https://ec.europa.eu/competition/elojade/isef/index.cfm?clear=1&policy_area_id=3

[139] Available online at: https://ec.europa.eu/competition/state_aid/scoreboard/index_en.html

[140] Available online at: https://ec.europa.eu/digital-single-market/en/broadband-competence-offices-network

The Commission's internal analysis will be complemented by the external studies, including the study commissioned in 2019, aiming at the collection of information on the implementation and outcome of broadband State aid interventions. The report of the study has been published in parallel to the public consultation.[141]

3. THE RESULTS OF THE STAKEHOLDER CONSULTATIONS

This section contains an overview of opinions and evidence collected from the different categories of stakeholders during the public consultation activities. It must be noted that, regarding both the open public and the targeted consultation, respondents were prevalently private businesses and business associations, although Member States' authorities are well represented (24 out of 58 respondents for the open public consultation and 25 out of 54 respondents for the targeted consultation). The public consultation thus accurately describes the opinions of both the private and the public sector. Furthermore, the results of the targeted consultation were analysed using cross-sectional data according to the category of respondents, which ensures a more accurate representation of the different views. Finally, as regards the publication of the results of the consultations, 21 contributions to the open public consultation and 10 contributions to the targeted consultation were not published for confidentiality reasons.

a. The open public consultation

The open public consultation was composed of 24 closed questions and 26 open questions. The consultation was made available to stakeholders from 08/09/2020 to 05/01/2021 on the "Better Regulation Portal" in 23 EU official languages (all except Gaelic). The Commission received 58 replies[142], of which 47% accounted for industrial stakeholders (businesses and business associations) and 41% accounted for public administrations.[143] In total, the open public consultation received 63 replies of which 58 through the EU survey online tool (27 from businesses and business associations, 24 from public authorities, 2 from individuals and 1 from other respondents and 4 from 'others') and five position papers which were sent outside the online tool.

[141] Available here: https://ec.europa.eu/competition/publications/reports/kd0420461enn.pdf

[142] 58 contributions were sent through the EU Survey Portal and 5 additional ones were received by the Commission outside the portal due to technical issues encountered by the respondents. The replies of contributions that were not submitted via the online consultation are not included in the statistical report of the consultation.

[143] In addition, respondents included two EU citizens, one National Regulatory Authority, and one academic and research institution.

Figure 1: Profile of respondents

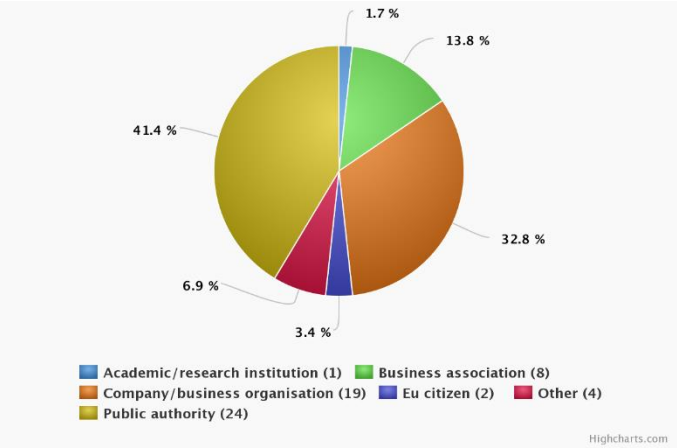
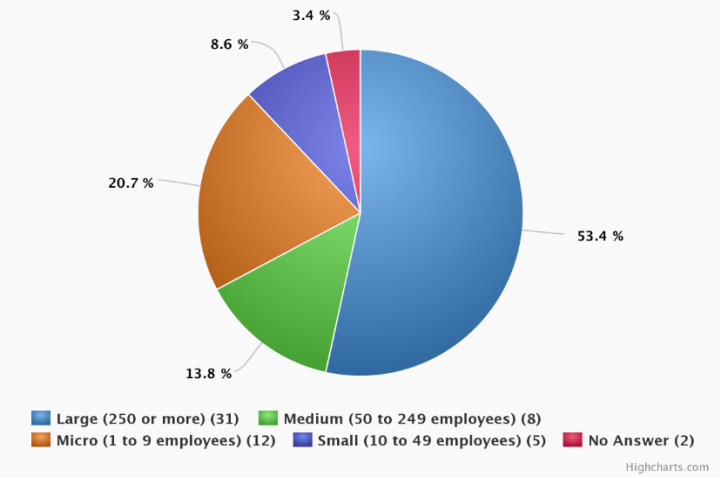


Figure 2: Organisation size of respondents



The geographical representation of the respondents was rather balanced, roughly following the population distribution across Member States, and included 4 stakeholders from non-EU countries (China, UK and US).

Figure 3: Country of origin of respondents

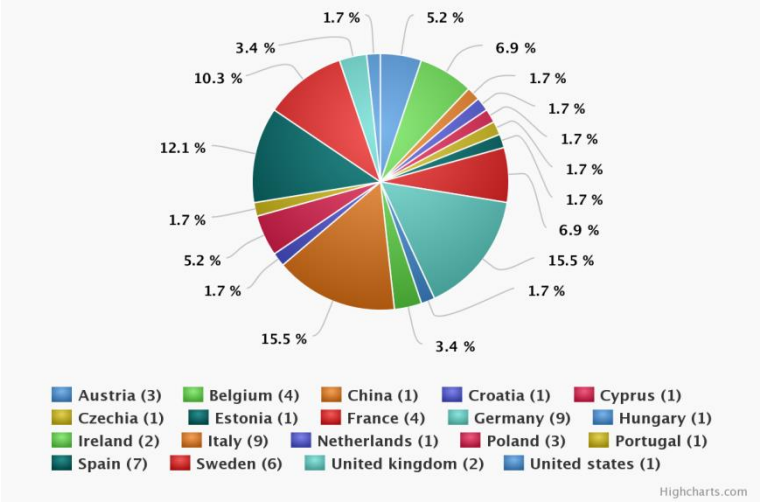
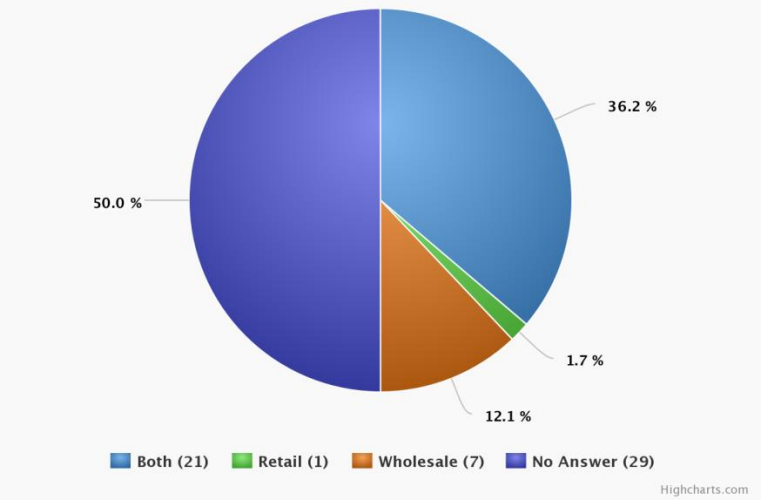


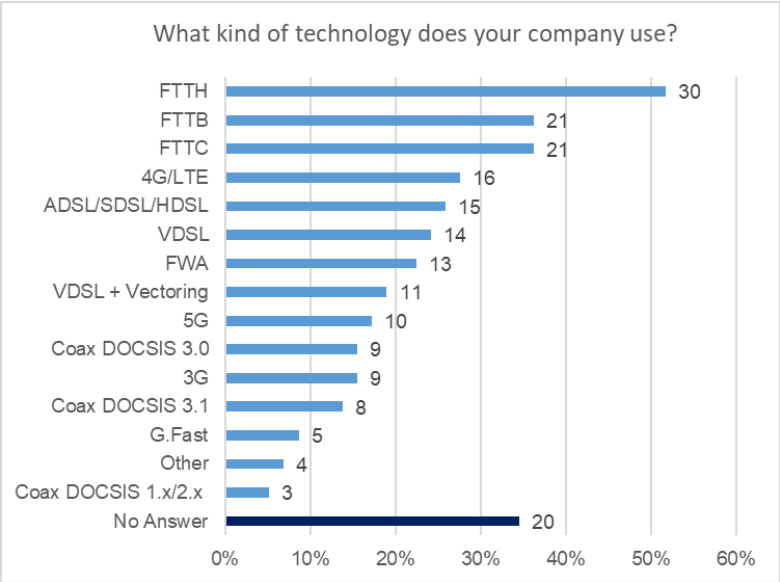
Figure 4: Services provided by respondents



As regards what services the respondent provides, 1 provides only retail services, 7 provide only wholesale services and 21 provide both retail and wholesale services, while 29 respondents did not answer the question (figure 4).

The most common technologies used by the respondents are optical fibre technologies, among which FTTH (30), FTTB (21) and FTTH (21), followed by 4G/LTE (16), ADSL (15), VDSL (14) and FWA (13). 5G is used by 10 respondents, while 20 chose not to answer the question. See Figure 5 for details.

Figure 5: Technologies used by respondent companies



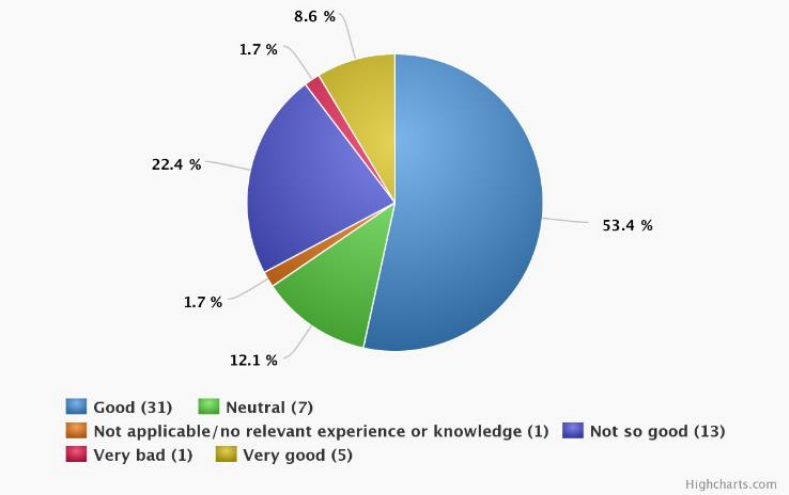
For MS which display more than one reply, these generally originate from regional authorities or business associations. In the case of Belgium, also multinational associations.

The aim of the consultation was to gather feedback and experiences on the implementation of the State aid rules related to broadband deployment, as well as views on how to improve the rules.

The open public consultation was divided into 5 evaluation categories: **Effectiveness, Efficiency, Relevance, Coherence** and **EU added value**.

Under **Effectiveness**, 62% of respondents expressed either a very good or good judgment as regards the assessment of State aid policy in general, and scores on the three different objectives listed[144] were generally positive and consistent between the Broadband Guidelines and the GBER.

Figure 6: Question - What is your assessment of state aid policy on broadband infrastructure deployment in general?

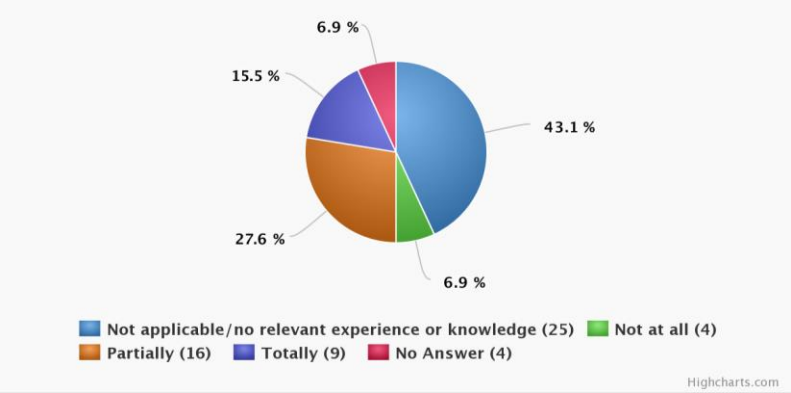


The most common barriers to the deployment of broadband infrastructure mentioned were "Administration related to national procedures" and "Rights of way", thus concerning the phase of implementation of projects by Member States. Transparency and access to information show very high rates of approval in terms of both substantial and procedural aspects. Finally, 75% of opinions expressed state that State aid rules have delivered better results with the entry into force of the Broadband Guidelines 2013 and the GBER compared to the previous guidelines.

On most questions regarding **Efficiency**, a relative majority of respondents chose not to answer questions or declared them not applicable, making the sample less representative. Among those who did answer, however, it can be pointed out that the results are less positive than under "Effectiveness". While 86% of opinions expressed state that State aid rules for the deployment of broadband infrastructure totally or partially led to a more efficient State expenditure, 40% find that the 2013 Broadband Guidelines did not at all reduce the administrative burden. The opposite is true for the GBER since 42% of expressed opinions state that it totally reduced the administrative burden. Respondents also indicate that the 2013 Broadband Guidelines and the GBER had no, or a very moderate, positive impact on the cost of applying the rules, as compared to their predecessors.

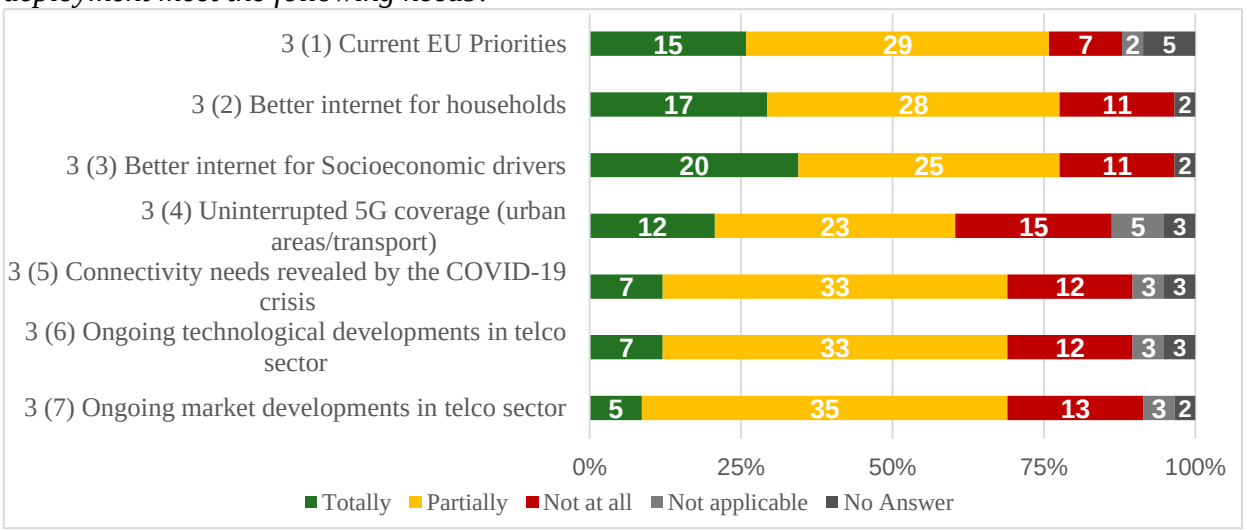
[144] Objective 1: supporting the rapid deployment of broadband infrastructure, helping reduce the 'digital divide', Objective 2: Limiting distortion of competition, Objective 3: Transparent decision making.

Figure 7: Question - Based on your experience, to what extent have the requirements set by the state aid rules for the deployment of broadband infrastructure led to more efficient State expenditure (timely and less costly intervention) than in 2009-13, when support in this sector was regulated only by the 2009 Broadband Guidelines?



Replies regarding **Relevance** exhibit a clear trend: initial objectives, which were already considered while drafting the 2013 Broadband Guidelines and the GBER, achieve higher ratings than new challenges.[145]

Figure 8: Question - How well do the objectives of State aid rules for Broadband deployment meet the following needs?



Concerning **Coherence**, most respondents find that State aid rules for broadband deployment are at least partially consistent with EU policy on electronic communication. Internal consistency in the Broadband Guidelines and in the GBER, as well as between the Broadband Guidelines and the GBER, is overall confirmed by the respondents.[146]

[145] Namely, "Connectivity needs revealed by the COVID-19 crisis" and "Ongoing technological/market developments in the telecommunication sector".

[146] 77% of opinions expressed support for "Total" or "Partial" internal consistency regarding the BB GL, while 78% of opinions expressed support for "Total" or "Partial" consistency between the GBER and the BB GL.

Figure 9: Question - To what extent are the State aid rules for the deployment of broadband infrastructure consistent with EU policy on electronic communications, in particular the following acts:

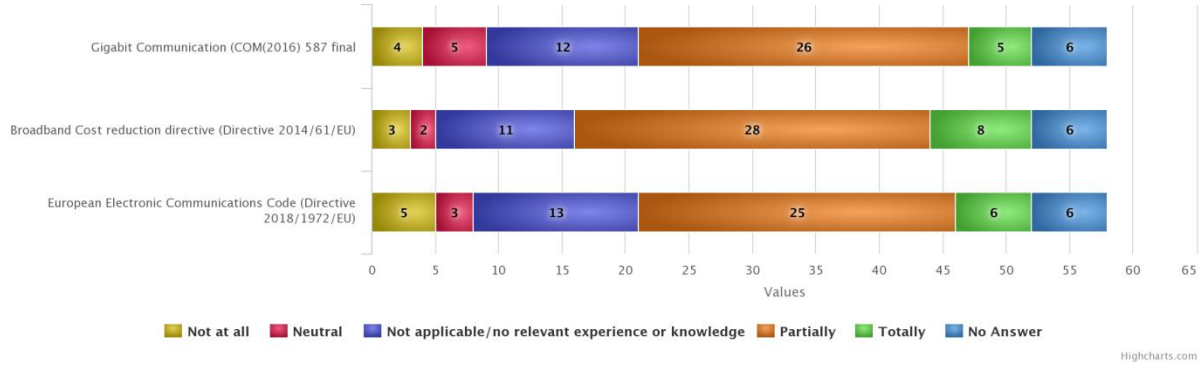
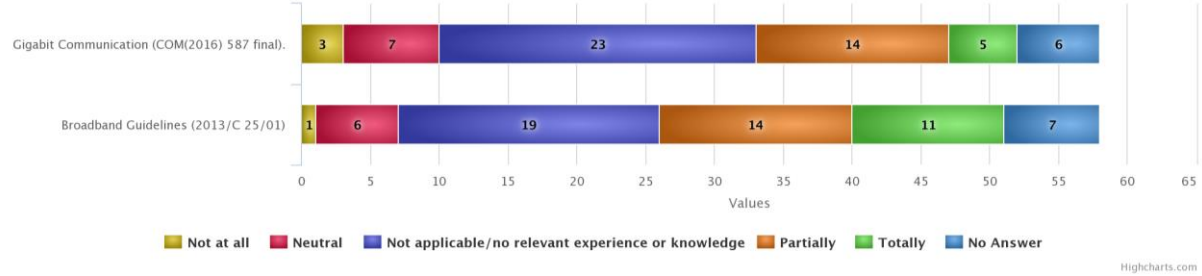


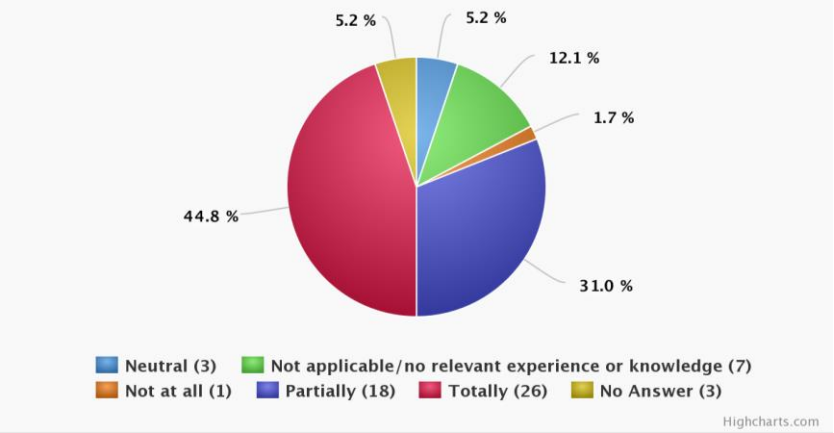
Figure 10: Question - To what extent are the rules in the General Block Exemption Regulation consistent with the following acts:



Finally, on **EU added value**, 91% of the opinions[147] coming from all categories of stakeholders sustained the added value of State aid rules for broadband deployment, including the Broadband Guidelines and the GBER, as opposed to a situation in which only the Treaty on the Functioning of the European Union had to be applied.

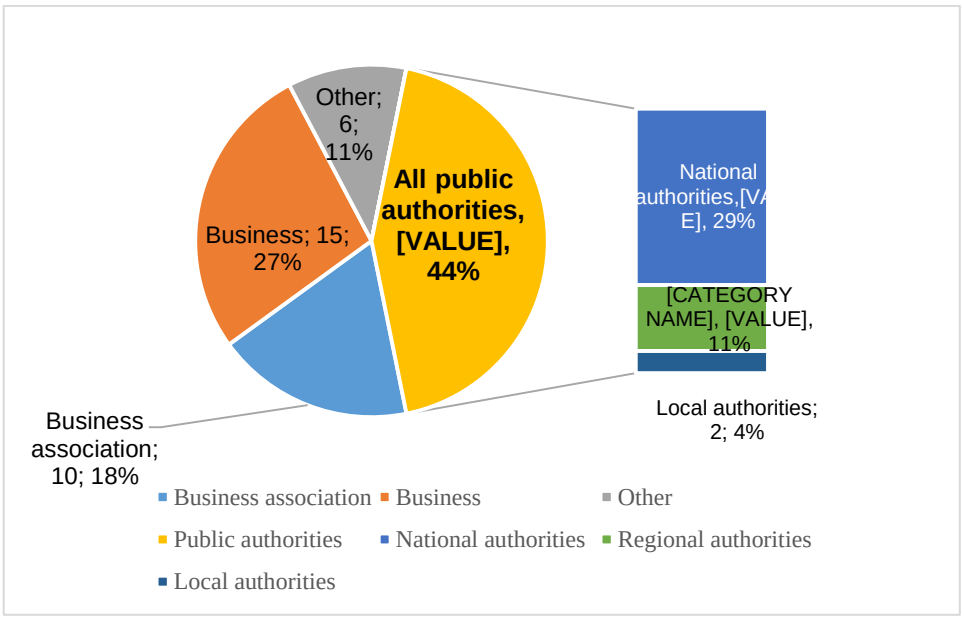
[147] Amounting to 76% of all replies, if the categories "No Answer" and "Not applicable/no relevant experience or knowledge" are to be included.

Figure 11: Question - Have the state aid rules subject to the current evaluation provided an added value in comparison to a situation without Guidelines and General Block Exemption Regulation, in which case each individual state aid measure would have to be dealt with separately, directly applying the TFEU)?



b. The targeted public consultation

On 08/09/2020 (until 05/01/2021), the Commission launched the targeted consultation. It received 54 replies[148]through the EU survey online tool, from 24 public authorities (44%) and 25 businesses and business associations (45%). In total, the targeted public consultation received 59 replies: 25 from businesses and business associations, 24 from public authorities, 1 from individuals, 4 from other respondents, and five position papers which were sent outside the online tool. The number of position papers attached to the consultation was 5.



[148] Two contributions were submitted outside the EU survey platform. The replies of contributions that were not submitted via the online consultation are not included in the statistical report of the consultation.

The target group was composed of public administrations at local, regional and national level, businesses, business associations, and academic and research institutions. The aim of this consultation was to gather information on specific points of the Broadband Guidelines and the GBER, with a view to possible amendments of these. The targeted consultation was composed of 148 closed questions complemented by a total of 164 open questions and free-text answer boxes. It was published in English, French and German on the Commission's website, via the EU Survey platform.

The questions were divided in 18 sections, according to the topic inquired. This document focuses on the most relevant ones.

As regards Section 1, dealing with Services of General Economic Interest (SGEI), 79% of the expressed opinions agree that the Broadband Guidelines provide clear guidance, while 66% agree that the conditions they require to declare a measure as an SGEI are adequate.

In Section 2, on Additional measures supporting broadband rollout, about half of the respondents confirmed that demand-side measures have been implemented in their country, and of those 78% expressed the view that the Broadband Guidelines do not provide sufficient guidance on such measures. As for the alternative, no-aid measures, the most common ones were measures covered by the Broadband Cost Reduction Directive[149], adopted by 50% of respondents, followed by ex ante regulation (33%) and other[150] (24%). Such alternative measures were deemed effective by 73% of expressed opinions, with a peak of 91% for Telecommunication operators.

With respect to Section 3, inquiring about the role of National Regulatory Authorities (NRA), a large share of expressed opinions considered that State aid rules for the deployment of broadband infrastructure favoured the NRA involvement only partially or were neutral about it. This share represents 66% of the expressed opinion concerning the design of aid measures, and 80% concerning monitoring the implementation of State aid measures.

In Section 4, concerning Next Generation Access (NGA) Networks, 12% of the opinions state that the definition of NGA is totally still valid in light of the Gigabit and 5G connectivity objectives, while 54% deem it partially and 26% not at all so. Opinions are the most negative among Member States' authorities (not at all: 45%). As for the concept of 'substantially higher upload speed', a relative majority of respondents think that this concept is not clear (42%), while 61% argue that it should have been further clarified.

Opinions in Section 5, concerning the distinction between white, grey and black areas, are very favourable to the said distinction, with 96% of them stating that it is totally (54%) or partially (38%) useful for identifying areas most in need of State aid. Moreover, 73% of judgments agree that additional network categories would totally (51%) or partially (22%) facilitate the design and assessment of State aid measures, with 62% of total support among the Telecommunication operators.

[149] Directive 2014/61/EU of the European Parliament and of the Council of 15 May 2014 on measures to reduce the cost of deploying high-speed electronic communications networks Text with EEA relevance OJ L 155, 23.5.2014, p. 1–14

[150] Such as spectrum rights of use.

Section 6 deals with mapping. Most opinions either totally (25%) or partially (65%) agree that State aid rules on mapping allow the efficient identification of areas most in need of State aid support. Stakeholders ask for more guidance on mapping exercises: 73% of opinions agree that more guidance would have been necessary, with 90% for telecommunication operators. Most opinions (65%) also find that it is appropriate to use different criteria for existing and planned infrastructure, with 82% for telecommunication operators. Opinions are mixed regarding the possibility of adjusting mapping granularity in proportion to the timeframe for deploying the network: 55% agree while 45% disagree, a share that is consistent across all categories of respondents. The same split is also found regarding the clarity of the distinction between fixed networks and mobile networks in the mapping requirements (50% agree that it was adequately clear while 50% disagree), while it is worse for wireless networks (33% agree while 67% disagree). Finally, according to 74% of the opinions, State aid rules should have defined mobile and fixed networks as belonging to different markets.

In Section 7, concerning public consultations, according to most opinions, State aid rules for the deployment of broadband infrastructure totally (28%) or partially (53%) helped efficiently identify areas in most need of State aid. However, 70% of opinions also express the need for more guidance. As regards the concepts of premises passed versus premises connected, most respondents (81% of substantive opinions[151]) agree that the requirement is clear, but also that more guidance could have been given (85%). Opinions show some criticism about credible private investments: according to 65% of the sample, the rules do not enable to efficiently identify these, while according to 58% the rules do not provide enough guidance. As regards the 3-year timeframe, the overwhelming majority of respondents agree that it is adequate (93%), and totally or partially valid (72%).

The issue of step change, to which Section 8 is dedicated, received positive feedback. 69% of substantive opinions deem the concept clear, while 78% maintain that the related rules totally (32%) or partially (46%) helped ensure that the public investment delivers an improvement. Finally, most respondents disagree that a network upgrade consisting in only active components should be regarded as a sufficient step change.

Competitive selection procedures, enquired about in Section 9, also gathered praise, with very few negative opinions reported. They are deemed either totally (35%) or partially (37%) efficient for the purpose of achieving value for money by 72% of the substantive opinions, and the conditions totally (35%) or partially (45%) on whether they ensure an optimal outcome. Cross-border relevance is very limited: no granting authority received bids from an operator based in another country, and only one stakeholder participated in a competitive selection procedure in another country. Finally, there is some criticism about State aid rules for the deployment of broadband infrastructure: 30% of substantive opinions, and 47% of stakeholders, argue that they favoured one particular type of operator which disproportionately wins bids.

Section 10 deals with the technological neutrality principle: 56% of substantive opinions state that it did not prevent distortions of competition, while telecommunication operators are in contrast with the general results (63% favourable). Its application in selection procedures, however, is widely regarded as non-problematic (65% of substantive

[151] 'yes' or 'no'.

opinions) by all groups except for national authorities (45% deem it problematic). As for the trade-off between greater competition and higher cost of providing and managing networks in network architectures, most respondents (72% of substantive opinions) agree that in either all or most cases, the benefits of more pro-competitive architectures outweigh the costs, a view that is consistent across all groups of stakeholders.

In Section 11, concerning the use of existing infrastructure, opinions are more mixed. Effectiveness of the rules in general gathers 26% of completely negative (not at all) answers as opposed to 32% of completely positive (totally) answers. The relevance of national database on the availability of existing infrastructures is considered much more favourably (89% of positive answers among substantive opinions, with 61% totally and 28% partially).

Section 12 enquires about wholesale access obligations, finding that, as regards all access products, 79% of the substantive opinions are favourable to their provision as a means to compensate for the advantage of the aid beneficiary. Telecommunication operators (a group which includes both aid beneficiaries and their competitors) show a lesser degree of contentment, only reaching 62%. In addition, 73% of substantive opinions find that the costs of providing all access products are proportionate to the benefits related in terms of encouraging competition. On the other hand, according to 39% of opinions, the obligation to provide all access products has prevented the deployment of certain network solutions.

About wholesale pricing, to which Section 13 is dedicated, the Broadband guidelines are deemed clear (81% of substantive opinions), their guidance sufficient (83%) and the requirements appropriate, with a total of 68% for totally (32%) or partially (36%). NRA involvement in setting wholesale access prices, preserving a level playing field, gathers no negative feedback, with the lowest vote being neutral (3%) and the rest being either totally (26%) or partially (61%) positive opinions.

Clawback rules, the subject of Section 14, are widely appreciated: they are considered clear (93% of substantive opinions), adequate (89%) and sufficient to prevent overcompensation (90%), and the majority (80%) maintains that no clawback clauses are more suitable than other in preventing overcompensation.

Section 15, dealing with monitoring, also gathers positive feedback: monitoring rules are clear (88%) and the guidance is sufficient (70%). As for Section 16, the rules regarding the obligation to publish information on aid measures on a centralised website are considered to provide sufficient transparency (79%), while reporting, in Section 17, did not create an excessive burden (96%).

Section 18 concerns the forms of intervention. 80% of opinions state that forms of intervention totally (60%) or partially (20%) affected the cost and take-up associated with a State aid measure. The Broadband Guidelines propose different forms of intervention, and on the question which model respondents consider to have an adverse effect on competition, a majority of the respondents do not find that any of the models has an adverse effect on competition or express no view, whereas the views of those who do find that a specific model had such adverse effects are very scattered.

4. CONTRIBUTIONS RECEIVED OUTSIDE THE FORMAL CONSULTATION CONTEXT

The Commission services have had contacts with stakeholders during the period of the evaluation (2020-2021). In particular, the Commission met with Member States' representatives in the Broadband Competence Office (BCO) network, BEREC (Body of European Regulators for Electronic Communications), and the Council of European Municipalities and Regions.

5. USE OF THE INFORMATION GATHERED

The results of the open public and targeted consultations allowed the Commission to collect a very significant number of views and opinions on the initiative. This may not be representative at statistical level, due to the relatively small number of answers from some categories of stakeholders, but it is significant in terms of quality. The public consultation attracted in total 115 replies, which is a small number compared to the reference population of companies and public authorities potentially affected by the State aid rules. In addition, it cannot be excluded that some stakeholders answered selectively to the consultation due to their interests or connections, and thus do not represent a representative sample of the whole population of stakeholders. The Commission takes these limitations into account when analysing the results of the public consultations and always attempts to mitigate its impact by triangulating with other data sources described above.

The Commission collected a large quantity of data to be used for assessing impact of possible policy options from different categories of stakeholders. Before the public and targeted consultations an external consultant carried out a qualitative assessment of the guidelines, and the now collected data was compared against the consultant's report in order to identify contradictory or supportive statements and evidence to reach the conclusions in the final assessment.

Overall, the results of the consultation activities confirmed the problem definition, even if different categories of stakeholders sometimes disagree on which specific objective should prevail in the ranking of the options. All widely supported views were considered in the final report, with less widely supported views identified as such.

ANNEX 3: OVERVIEW OF THE STATE AID RULES FOR BROADBAND INFRASTRUCTURE DEVELOPMENT SUBJECT TO THE EVALUATION

State Aid rules under Fitness Check	Entry into force	Expiry/ Review	Part of SAM[152]	OJ reference	Preceded by	Objective
EU Guidelines for the application of State aid rules in relation to the rapid deployment of broadband networks	27 January 2013	No	No	OJ C 25, 26.1.2013, p. 1	Community Guidelines for the application of State aid rules in relation to rapid deployment of broadband networks (OJ C 235, p. 7)	To facilitate State aid control in the broadband sector by ensuring that State aid measures will result in a higher level, or a faster rate, of broadband coverage and penetration than would be the case without State aid, while supporting higher quality, more affordable services and pro-competitive environment.
Commission Regulation (EU) No 651/2014 of 17 June 2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty (as amended by the Commission Regulation No. 2017/1084) (GBER)	10 July 2017	Yes	Yes	OJ L 187, 26.6.2014, p. 1 and OJ L 156, 20.6.2017, p. 1-18 Prolonged and targeted COVID adjustments by OJ L 215, 7.7.2020, p. 3-	Regulation (EU) No 800/2008 (OJ L 214, 09.08.2008, p.8)	To declare specific categories of State aids (see Art. 1 GBER) compatible with the TFEU and exempt them from the requirement of prior notification and Commission approval.

[152] State aid modernisation initiative.

ANNEX 4: OVERVIEW OF THE IMPLEMENTATION OF THE STATE AID RULES FOR BROADBAND INFRASTRUCTURE DEVELOPMENT

The statistics (State aid Scoreboard, Transparency Award Module) and the internal analysis of the case practice show an increasing volume of compatible aid granted in the period 2013-2020 in the broadband sector. Since 2013, the Commission has adopted 62 decisions, approving Member State plans to roll-out broadband networks, and Member States have communicated 171 schemes or amendments of those schemes under the GBER. The most prolific Member States have been Germany (53 aid measures communicated to the Commission), Spain (35 aid measures), Austria (23 aid measures), the United Kingdom (19 aid measures) and the Netherlands (18 aid measures).

In the period 2014-2020, DG Competition has monitored 24 schemes, out of which 7 were measures under GBER.

Up to 2020, nine evaluation plans have been approved either because of the large budget involved or because they contained elements of novelty. One scheme under GBER has been subject to the evaluation requirement, in Poland.

Table 5. Number of Commission decisions approving a broadband aid measure (2013-2020), the overall allocated budget and overall expenditure (2014-2019)

Total number of Commission decisions approving a broadband aid measure	Allocated budget (millions EUR)	Expenditure (million EUR)
62	42 755.8	5 934.6

Table 6. Number of broadband aid measures put under GBER (2014-2020), the overall allocated budget and overall expenditure (2014-2019)

Total number GBER measures	Allocated budget (millions EUR)	Expenditure (million EUR)
171	19 991.08	1 817.3

Table 7. Aid measures approved by Commission decision (2013-2020) and under GBER (2014-2020) per Member States

Member State	Non-GBER	GBER	Total
Austria	7	16	23
Belgium	0	2	2
Bulgaria	1	0	1
Croatia	2	0	2
Cyprus	0	0	0
Czechia	0	3	3
Denmark	0	8	8
Estonia	0	2	2

Finland	3	2	5
France	1	2	3
Germany	17	36	53
Greece	5	0	5
Hungary	0	8	8
Ireland	2	1	3
Italy	6	9	15
Latvia	0	0	0
Lithuania	3	1	4
Netherlands	1	17	18
Poland	6	2	8
Portugal	1	0	1
Romania	1	1	2
Slovakia	0	0	0
Slovenia	0	1	1
Spain	2	33	35
Sweden	1	11	12
United Kingdom	3	16	19
Total	**62**	**171**	**233**

Table 8. Approved budget per aid measures approved by Commission decision (2013-2020) and under GBER (2014-2020) per Member States

Member State	**Aid measures approved by Commission decisions (in million EUR)**	**Aid measure under GBER (in million EUR)**	**Total (in million EUR)**
Austria	2 311	2 767.73	5 078.73
Belgium	0	181.82	181.82
Croatia	355.49	0	355.49
Cyprus	0	0	0
Czechia	0	464.19	464.19
Denmark	0	108,37	108,37
Estonia	0	39,32	39,32
Finland	249.5	630	879.5
France	13 000	783.25	13 783.25
Germany	1 8712.6	5 736.92	24 449.52
Greece	581.08	0	581.08
Hungary	0	904.23	904.23
Ireland	2 610.06	1 448.77	4058.83
Italy	3 191.87	266.28	3 458.15
Latvia	0	0	0
Lithuania	121	0.39	121.39
Netherlands	38	453.61	491.61
Poland	0	1 024.44	1 024.44
Portugal	106.2	0	106.2
Romania	84	63.83	147.83

Slovakia	0	0	0
Slovenia	0	97.66	97.66
Spain	760	1 327.15	2 087.15
Sweden	0	2391.97	2 391.97
United Kingdom	635	1 301.15	1 936.15
Total	**42 755.8**	**19 991.08**	**62 746.88**

Table 5. Total amount of aid expenditure reported by Member States (2014-2019)

Austria	200.56
Germany	1438.31
Spain	370.52
United Kingdom	1720.33
Ireland	9.57
Italy	1063.08
Lithuania	33.77
Sweden	264.31
Estonia	0
Finland	98.39
Slovenia	0
Poland	1131.42
Lativa	29.79
Bulgaria	18.93
Greece	145.12
Portugal	13.7
Denmark	26.22
Netherlands	53.52
Romania	62.9
Slovakia	12.14
Hungary	181.79
France	877.46
Total	7 751.8

Table 6. Number of annual broadband measures approved by a Commission decision and put under GBER per year (2013-2020)

Procedure	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**Total**
Non GBER	13	9	8	4	5	8	7	8	62
GBER	0	17	28	23	23	30	21	29	171

Table 7. Broadband measures annual expenditure per year (in million of euros)

Procedure	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**Total**	**% of total**
Non-GBER	693.2	1 301.39	680.98	536.18	944.49	1 778.35	5 934.59	77
GBER	16.83	27.83	249.76	592.92	657.61	272.3	1 817.25	23

Table 8. Evaluation, monitoring and transparency

Total number of measures subject to evaluation	**Total number of measures subject to monitoring**	**Total number of individual aid beneficiaries published in TAM**
9	24	323 (1383 TAM entries)