

## RECOVERY AND RESILIENCE FACILITY – STATE AID

### **Guiding template: Measures to support the deployment and take-up of fixed and mobile very high capacity networks, including 5G and fibre networks**

#### ***Link to European Flagship: Connect***

*Disclaimer: this is a working document drafted by the services of the European Commission for information purposes and it does not express an official position of the Commission on this issue, nor does it anticipate such a position. It is not intended to constitute a statement of the law and is without prejudice to the interpretation of the Treaty provisions on State aid by the Union Courts. In any case, the services of the Directorate General for Competition (DG Competition) are available to provide further guidance to Member States on the issues below in the context of the preparation of their respective Recovery and Resilience Plans.*

#### **I. Objective of the guiding template**

1. The outbreak of the coronavirus pandemic has changed the economic outlook for the years to come in the European Union. Investments and reforms are needed more than ever to ensure convergence and a sustainable economic recovery. Carrying out reforms and investing in the EU's common priorities, notably green, digital and social resilience will help create jobs and sustainable growth, while modernising our economies, and allow the Union to recover in a balanced, forward-looking and sustained manner.
2. The Recovery and Resilience Facility (“the Facility”) aims at mitigating the economic and social impact of the coronavirus pandemic and at making the EU economies and societies more sustainable, resilient and better prepared for the challenges and opportunities of the twin green and digital transitions.
3. State aid rules apply in the framework of the Facility. Member States should therefore ensure that all investments comply with the EU State aid rules and follow all regular procedures and rules<sup>1</sup>.
4. With this guiding template, DG Competition aims at assisting Member States upfront with the design and preparation of the State aid elements of their recovery plans, and to provide guidance on the State aid-related aspects of those investments which are expected to be common to most of those plans.
5. The investments covered by this guiding template have been chosen in line with the European flagships of the Commission's Annual Sustainable Growth Strategy 2021<sup>2</sup>. These flagships, which will result in tangible benefits for the economy and citizens across the EU, aim at strengthening economic and social resilience, addressing issues that are common to all Member States, need significant investments, create jobs and growth and are needed for the digital-green twin transition. Pursuing these flagships will contribute to the success of the recovery of Europe.

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<sup>1</sup> Commission staff working document - Guidance to Member States Recovery and Resilience Plans - Part 1. Also the relevant public procurement rules must be respected, where applicable.

<sup>2</sup> Communication from the Commission to the European Parliament, the Council, the European Central Bank, the European Economic and Social Committee, the Committee of the Regions and the European Investment Bank — Annual Sustainable Growth Strategy 2021, COM/2020/575 final.

6. The guiding template follow a uniform structure, providing sector-specific guidance as to when:
  - i. Instances in which the existence of State aid may be excluded, and therefore a prior notification to the Commission is not necessary.
  - ii. State aid would be involved but no notification is necessary, and specific rules may apply (in case of aid exempted from the notification obligation); and
  - iii. State aid would be involved and a notification is necessary, with reference to the main applicable State aid rules.
7. The guiding template also contains ‘boxes’ with examples of the State aid assessment of the investments and reforms contained in the components published by the Commission,<sup>3</sup> per flagship. The aim is merely illustrative, to provide additional clarifications to Member States on the State aid assessment contained in those components.

## **II. Description of the investment**

8. Fast rollout of fixed and mobile broadband networks, including fibre and 5G networks, is crucial for connecting all EU citizens, public service providers and economic actors in the Union, including in its remote regions, and to contribute to the economic recovery after the COVID-19 outbreak. Such very high capacity infrastructure has a significant impact on growth, productivity and employment, relevant among others for Europe’s digital transformation in healthcare, public administration, public services, agriculture, transport, and energy sectors and a transition to a climate-neutral economy. While many areas are expected to be covered rapidly through private financing, the Facility should contribute to address connectivity market failures and bridge the digital divide to facilitate the development of economic activities as envisaged in the EU 2025 objectives. This will also help, in addition to higher growth, productivity and employment, to mitigate the social and economic impact of the COVID-19 crisis, support the green and digital transitions and contribute to restoring the growth potential of the economies of the European Union.
9. This guidance paper covers the public financing of the construction, maintenance, operation and use of broadband infrastructure. The investments in this area will contribute to the *Connect* flagship - The fast rollout of rapid broadband services to all regions and households, including fibre and 5G networks.<sup>4</sup>
10. It notably provides a comprehensive but not exhaustive list of examples of State aid measures to support the roll-out and the take-up of reliable and secure very high capacity networks (VHCN), including fibre and 5G networks. The various measures described can be complementary and can be envisaged together as part of a broader plan to enhance the effectiveness of interventions under the Facility in line with State aid rules.

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<sup>3</sup> Available at [https://ec.europa.eu/info/business-economy-euro/recovery-coronavirus/recovery-and-resilience-facility\\_en#example-of-component-of-reforms-and-investments](https://ec.europa.eu/info/business-economy-euro/recovery-coronavirus/recovery-and-resilience-facility_en#example-of-component-of-reforms-and-investments).

<sup>4</sup> More information on this flagship can be found here: [https://ec.europa.eu/info/files/example-component-reforms-and-investments-digital-connectivity\\_en](https://ec.europa.eu/info/files/example-component-reforms-and-investments-digital-connectivity_en).

### III. Instances in which the existence of State aid may be excluded

11. Please note that the following sections present a comprehensive, but not exhaustive, number of separate instances in which the application of State aid rules or the existence of State aid may be excluded. Given the cumulative nature of the criteria of Article 107(1) TFEU, if one of the following criteria is not met, the presence of State aid can be excluded<sup>5</sup> and therefore there is no need to notify the measure to the Commission prior to its implementation.

#### A. No economic activity

12. Aid for activities that are not of an economic nature<sup>6</sup>, i.e. are not used for offering goods or services on the market, is not considered State aid. Therefore, the funding of infrastructure that is not meant to be commercially exploited is in principle excluded from the application of State aid rules. This concerns for instance cases where public funding is allocated to build infrastructure or procure broadband services to satisfy the own needs of the public administration, such as to connect only public authorities among themselves through ‘closed networks’ not used for any commercial exploitation.<sup>7</sup> The funding of such activities consequently falls outside the scope of State aid rules, as does, accordingly, the public funding of the related ‘closed networks.’<sup>8</sup>
13. However, if such a network (for instance, its extra capacity) is made available for use by commercial broadband investors or other operators, the public financing of such infrastructure may constitute State aid. Similarly, if an initially ‘closed network’ is subsequently made available for commercial use, State aid rules may apply.<sup>9</sup> For instance, when public authorities select a third party as their provider of connectivity services and finance the construction of a network to address the own needs of the public authorities, State aid may be involved if this provider uses the infrastructure for other commercial activities.
14. If broadband infrastructure is used for both economic and non-economic activities, public funding thereof will fall under State aid rules only insofar as it covers the costs linked to the economic activities<sup>10</sup> in question. To avoid falling under State aid rules as concerns economic activities, Member States have to ensure that the public funding provided for the non-economic activities cannot be used to cross-subsidise the entity's economic activities, for instance by ensuring that the operator using the network for commercial purposes pays a market price for this use of the network and by limiting the

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<sup>5</sup> In such cases State aid conditions do not apply, including the need to demonstrate a market failure area (irrespective of the type of networks and level of connectivity already present or planned).

<sup>6</sup> See paragraph 201 *et seq.* of the Commission Notice on the notion of State aid as referred to in Article 107(1) of the Treaty on the Functioning of the European Union (“Notice on the notion of State aid”), OJ C 262, 19.7.2016, p. 1.

<sup>7</sup> See Commission decision in Case N 46/07 – United Kingdom – *Welsh Public Sector Network Scheme*.

<sup>8</sup> See Case C-288/11 P *Mitteldeutsche Flughafen and Flughafen Leipzig-Halle v Commission*, EU:C:2012:821, paragraph 42; See Commission decision of 30 May 2007 in case N 46/2007 – United Kingdom – *Welsh Public Sector Scheme*, OJ C 157, 10.07.2007, p. 2.

<sup>9</sup> See Commission decision in Case SA.31687 – Italy – *Broadband in Friuli Venezia Giulia (Project Ermes)* and in Case N 407/09 – Spain – *Xarxa Oberta*.

<sup>10</sup> See Commission decision in case SA.28969 – Spain – *Optical fiber Catalonia*. See also paragraph 205 of the Notice on the notion of State aid.

public funding only to the net cost (including the cost of capital) of the non-economic activities, to be identified based on a clear separation of accounts.<sup>11</sup> CAPEX (and related depreciations) used both for non-economic and economic activities would have to be allocated between the two activities on the basis of relevant allocation keys.

See the State aid assessment of the additional examples of investments and reforms contained in the [component – Digital connectivity](#)

**Investment 2: Invest in capacity-building and upskilling of workers and civil servants:** Initiatives to develop the skills and/or certify individuals, e.g. through vocational training, do not fall under State aid rules. However, public funding to train the workforce of specific undertakings may constitute training aid.

*B. No State resources / no selectivity*

*a. Non-monetary demand side measures*

15. In general, non-monetary demand-side measures do not amount to State aid. This is the case for instance of measures that aim to increase the perceived value of broadband access by addressing aspects of broadband demand other than price. Such measures usually aim at either increasing the quality of the available content or informing consumers on how to make use of them. The former can include (i) the promotion of e-government programs (e.g. telemedicine, eCare, distance education, ICT in schools); (ii) the promotion of local and sectoral digital content (e.g. cultural heritage, tourism, educational content, local agriculture/food products, etc.); (iii) the increase of Internet security, privacy and setting quality or advertising standards.
16. Other **non-monetary demand-side measures such as demand aggregation tools** can be used to reduce uncertainty about the size of a market for potential suppliers, to coordinate demand and to provide more certainty about the likely profits of entering a specific market. This can be done by first measuring potential demand through the use of surveys and then presenting the results of the surveys on a publicly available website of the public authorities. This may include an element of general endorsement of the users before the roll-out, for instance through service platforms, to verify and aggregate a certain level of demand in advance of public or private investment. Users can also have an option of becoming stakeholders of a project through bottom up/self-help models of investment, such as cooperatives. This information should be made available to all operators on non-discriminatory terms. However, if the demand thus aggregated is made available only to one or selected operators, for instance by pooling customers into one contract, or by including an element of commitment of the users to subscribe to a single or few operators, this may result in State aid granted to those operators.

*b. Administrative and regulatory measures*

17. Administrative and regulatory measures supporting broadband roll-out, e.g. by facilitating permit granting procedures<sup>12</sup>, in principle do not fall under State aid rules (as they are general measures, not selective or do not entail the transfer of State

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<sup>11</sup> See paragraph 206 of the Notice on the notion of State aid.

<sup>12</sup> For instance, simplifying and streamlining permit granting procedures, or allowing the submission of applications for all the necessary permits required to deploy elements of very high capacity networks by electronic means.

resources).<sup>13</sup> Member States may, in line with (or going beyond) legal obligations, facilitate for instance the process of granting rights of ways and/or require that network operators share part of their infrastructure. Further, in line with regulatory rules, Member States may require that operators be given access to physical infrastructure (including buildings and street furniture) controlled by public bodies, which is capable of hosting VHCN elements. Operators that want to deploy VHCN can request e-communications, gas, electricity, heating and water network companies performing civil works, fully or partially financed by public means, to meet reasonable request to coordinate civil works.<sup>14</sup> Such coordination will not constitute State aid provided that the requesting operator bears its own costs and the opportunity is offered in a transparent and non-discriminatory way to all interested operators (i.e. electricity gas, water utilities, etc.) not just electronic communications operators.<sup>15</sup>

18. However, it cannot be excluded that public funding of such works may entail State aid if they are limited to or clearly geared towards the broadband sector or towards one or several selected broadband operators.
19. In the same vein, in line with the EU regulatory framework for electronic communications, financing a single information point which makes available information concerning any existing infrastructure (subsidised or otherwise, including any kind of infrastructure capable of hosting elements of high-speed electronic communications networks) possibly also including planned works, could help the roll-out of further connectivity and would not constitute State aid.

See the State aid assessment of the additional examples of investments and reforms contained in the [component – Digital connectivity](#)

**Reform 1: Address investment bottlenecks in administrative capacity:** *Administrative and regulatory measures supporting broadband roll-out, e.g. by facilitating permit granting procedures, in principle do not fall under State aid rules. [Member States may decide in accordance with the EU regulatory framework for electronic communications, for instance, to facilitate the acquisition process of rights of ways, to require that network operators coordinate their civil engineering works and/or that they share part of their infrastructure. In the same vein, Member States may also require that for any new constructions (e.g. new water, energy, transport or sewage networks) and/or buildings a very high capacity network connection should be in place. Third parties may also place at their own cost their passive network infrastructure when general civil engineering works are carried out in any event. This opportunity should be offered in a transparent and non-discriminatory way to all interested operators and should in*

<sup>13</sup> Note however that funds under the Facility constitute State resources for the purposes of Article 107(1) TFEU.

<sup>14</sup> Directive 2014/61/EU of the European Parliament and the Council of 15 May 2014 on measures to reduce the cost of deploying high-speed electronic communications networks.

<sup>15</sup> See paragraphs 28 and 29 of the Communication from the Commission EU Guidelines for the application of State aid rules in relation to the rapid deployment of broadband networks (“Broadband Guidelines”), OJ C 25, 26.1.2013, p. 1 and Commission decision of 8 February 2010 in case N 383/09 *Amendment of N 150/08 Broadband in the rural areas of Saxony*. This case concerned a situation where general civil engineering works, like road maintenances, did not constitute State aid. The measures taken by the German authorities constituted ‘general civil engineering works’ which would have been carried out by the State for maintenance purposes in any event. The possibility of placing ducts and broadband infrastructure when carrying out road maintenance – and at the costs of the operators – was announced publicly and not limited to or geared towards the broadband sector. However, it cannot be excluded that public funding of such works falls within the notion of aid of Article 107(1) TFEU if they are limited to or clearly geared towards the broadband sector.

*principle be open to all potential users and not just electronic communications operators (i.e. electricity gas, water utilities, etc.). However, it cannot be excluded that public funding of such works falls within the notion of aid of Article 107(1) TFEU if they are limited to or clearly geared towards the broadband sector. [...]].*

### C. No advantage

#### a. Market-conform investments

20. If a public authority invests into the development of broadband infrastructure in terms comparable to those that a private investor operating under normal market conditions would apply, in line with the Market Economy Operator (MEO) principle, then State aid would not be involved.<sup>16</sup>
21. This may be relevant for various network deployments, especially in urban/peri-urban areas, where there is a sufficient business case to allow for a credible commercial investment from private and public partners under normal market conditions. For instance, in urban areas and major terrestrial transport paths where the deployment of 5G networks may attract private financing, Member States may consider to what extent private operators and public entities could participate in a 5G mobile deployment project or a 5G corridor in conformity with normal market terms, in which case no State aid would be involved. Such projects may take the form of a joint-venture or the set-up of equity programmes or funds<sup>17</sup> to support operators to deploy new or modernise existing networks, with the overall aim to attract additional private investment. Such measures would not involve State aid if they are designed in line with normal market conditions.
22. Compliance with market conditions would need to be established on an *ex-ante* basis<sup>18</sup>, based on information available at the time the intervention was decided upon (e.g. by means of a business plan based on economic evaluations comparable to those which, in similar circumstances, a rational market economy operator would have had carried out to determine the profitability or economic advantages of the transaction). A transaction's compliance with market conditions can be directly established through transaction-specific market information: where the transaction is carried out '*pari passu*' by public entities and private operators<sup>19</sup>; or where it concerns the sale and

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<sup>16</sup> For more details, see section 4.2 of the Notice on the notion of State aid. To note, only the benefits and obligations linked to the role of the State as an economic operator, to the exclusion of those linked to its role as a public authority, can be taken into account (e.g. if a State intervention is driven by public policy reasons such as bridging the digital divide, the State's behaviour, while being rational from a public policy perspective, may at the same time include considerations which a market economy operator would normally not consider.

<sup>17</sup> See paragraphs 108 to 114 of the Notice on the notion of State aid.

<sup>18</sup> *Ex post* economic evaluations entailing a retrospective finding that the investment made by the Member State concerned was actually profitable would not be sufficient.

<sup>19</sup> See paragraphs 86 to 88 of the Notice on the notion of State aid. In particular, to consider a transaction '*pari passu*', the following criteria should be assessed: (a) whether the intervention of the public bodies and private operators is decided and carried out at the same time or whether there has been a time lapse and a change of economic circumstances between those interventions; (b) whether the terms and conditions of the transaction are the same for the public bodies and all private operators involved, also taking into account the possibility of increasing or decreasing the level of risk over time; (c) whether the intervention of the private operators has real economic significance and is not merely symbolic or marginal; and (d)

purchase of assets, goods and services (or other comparable transactions) carried out through a competitive, transparent non-discriminatory and unconditional tender procedure.<sup>20</sup> If the intervention of the public bodies is not *pari passu* with that of private operators or a transaction has not been realised through a tender, it may be possible to demonstrate that the transaction complies with market conditions through benchmarking<sup>21</sup> or other assessment methods.<sup>22</sup> Specific considerations apply to establish whether the terms for loans and guarantees are in line with market terms.<sup>23</sup>

23. In the broadband sector,<sup>24</sup> the Commission has clarified in its case practice that the conformity of a public investment with market terms may be demonstrated,<sup>25</sup> for instance if it is made at the same time,<sup>26</sup> at equal terms and conditions (and therefore with the same level of risks and rewards) as an economically significant participation of a private operator (e.g. in capital, total amount, share of the total cost) of a comparable size and situation operating in normal conditions of a market economy ('concomitant participation'). The concomitance analysis constitutes one but not necessarily the only

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whether the starting position of the public bodies and the private operators involved is comparable with regard to the transaction, taking into account, for instance, their prior economic exposure vis-à-vis the undertakings concerned, the possible synergies which can be achieved, the extent to which the different investors bear similar transaction costs, or any other circumstance specific to the public body or private operator which could distort the comparison.

<sup>20</sup> See paragraphs 89 to 96 of the Notice on the notion of State aid.

<sup>21</sup> Benchmarking in the light of the terms under which comparable transactions carried out by comparable private operators have taken place in comparable situations. See paragraphs 98 to 100 of the Notice on the notion of State aid.

<sup>22</sup> See paragraphs 100 to 105 of the Notice on the notion of State aid.

<sup>23</sup> See paragraphs 108 to 114 of the Notice on the notion of State aid.

<sup>24</sup> See Commission decisions in cases C-53/2006 – The Netherlands – *Citynet Amsterdam* and SA.33063 – Italy – *Trentino NGA*. In the "Citynet Amsterdam" case, the Commission confirmed that investment by the City of Amsterdam in a fibre-to-the home (FttH) network did not entail State aid. In the "Trentino" case, the Commission expressed significant doubts that the project met the criteria to be considered in line with market conditions. The Trentino NGN project notified to the EU authorities in 2012 concerned a public-private partnership between the Province of Trento and Telecom Italia (TI) for the rollout of a Next Generation Network (NGN) including FTTH in remote areas of the province. The Province made a cash contribution of 50 million EUR while TI would make contributions in kind, including (1) Indefeasible rights of use (IRUs) on its existing passive infrastructure (ducts and poles) immediately and (2) the ownership of the whole copper network with the perspective of migrating the customers into the new FTTH network to be deployed. Two additional shareholders joined the project with smaller financial participations. After 6 years from the first contribution or a certain number of lines activated on the new network, TI could decide to exercise a "call" option and acquire the full ownership of Trentino NGN. Additionally, Telecom Italia was to be appointed as service provider for Trentino NGN for the construction and operation of the network and the provision of connectivity services. In particular, the Commission had doubts about whether: (a) The evaluation of the in-kind contributions made by Telecom Italia was done on market terms and did not contain any hidden advantage for TI, and in particular the value of the copper network to be switched off; (b) There were any hidden advantages from the separate contracts appointing TI as supplier of services to Trentino NGN and connectivity services to end users; (c) The project was effectively profitable taking the perspective of a Market Economy Investor; and (d) The call option recognised to Telecom Italia did not limit the return of the PAT to a level which a private investor would not have accepted, given the level of risk taken by the PAT as financial investor to the project.

<sup>25</sup> See paragraph 17 of the Broadband Guidelines and Commission decision in case C-53/2006 – The Netherlands – *Citynet Amsterdam*.

<sup>26</sup> The existence of consecutive State interventions concerning the same broadband infrastructure project might invalidate the conclusion that a similar measure would also have been undertaken by a market economy investor. See in this respect paragraph 81 of the Notice on the notion of State aid.

element for establishing the absence of State aid. Other elements are also relevant, such as the existence of an *ex ante* sound business plan (preferably validated by external experts) demonstrating that the investment provides an adequate rate of return for the investor(s), in line with the normal market return that would be reasonably expected by operators on similar projects taking into account the level of risk and future expectations (based on a calculation of the internal rate of return of the investment or Net Present Value calculations)<sup>27</sup>. As underlined in the case practice, where private investors take part in the project, it is a *sine qua non* condition that they would have to assume the commercial risk linked to the investment under the same terms and conditions as the public investor, so that the public investment does not fall under State aid rules.<sup>28</sup> This would also apply to other forms of State supports such as soft loans or guarantees.

24. If an investment is market conform, it would not be State aid. Thus, State aid rules, including the need to demonstrate a market failure, would not apply<sup>29</sup> (irrespective of the type of networks and level of connectivity already present). If not designed in line with normal market terms and conditions, State aid control would apply.

See the State aid assessment of the additional examples of investments and reforms contained in the [component – Digital connectivity](#)

**Investment 1: Invest in building new and upgrading existing network infrastructure for very high capacity networks:** *Appropriate measures can include for instance [...] (b) set up of equity programmes or funds (e.g. through National Promotional Banks and Institutions, if applicable) to support operators to deploy new or modernise existing networks, with the overall aim to attract additional private investment [...]. The envisaged public support measures may amount to State aid. [...] Measures aiming to set up equity programmes or funds as described under point b) above will not involve State aid as they will be designed in line with normal market conditions. [This would be the case, for instance, if in similar circumstances, a private investor would also participate in the investment at the same conditions. If the investment is market conform, it can go beyond market failure areas. If not designed in line with normal market conditions, state aid rules would apply [...]].*

<sup>27</sup> For more information see in this respect chapter 4.2 and in particular paragraphs 101 to 105 of the Notice on the notion of State aid. See also Commission decision in case SA.22668 – Spain – *Ciudad de la Luz film studios* and Commission decision in case SA.33063 – Italy – *Trentino NGA*.

<sup>28</sup> See paragraph 17 of the Broadband Guidelines.

<sup>29</sup> A ‘market failure’ exists if markets, left to their own devices, without intervention fail to deliver an efficient outcome for society. This may arise, for instance, when certain investments are not being undertaken even though the economic benefit for society exceeds the cost. In such cases, the granting of State aid may produce positive effects and overall efficiency can be improved by adjusting the economic incentives for firms. In the broadband sector, one form of market failure is related to positive externalities. Such externalities arise where market players do not internalise the whole benefit of their actions. For example, the availability of broadband networks paves the way for the provision of more services and for innovation, both of these are likely to benefit more people than the immediate investors and subscribers to the network. The market outcome would therefore generate insufficient private investment in broadband networks. Due to economics of density, the deployment of broadband networks is generally more profitable where potential demand is higher and concentrated, i.e. in densely populated areas. Because of high fixed costs of investment, unit costs increase significantly as population densities drop. Therefore, when deployed on commercial terms, broadband networks tend to profitably cover only part of the population. However, widespread and affordable access to broadband generates positive externalities because of its ability to accelerate growth and innovation in all sectors of the economy. Where the market does not provide sufficient broadband coverage or the access conditions are not adequate, State aid may therefore help to remedy such market failure (see paragraphs 37 and 38 of the Broadband Guidelines).



b. *Operation of broadband infrastructure entrusted as a service of general economic interest (SGEI) in line with the Altmark criteria*

25. An operator can be entrusted with the deployment and the operation of a broadband infrastructure in the form of the service of general economic interest (SGEI) under the following conditions:<sup>30</sup>
- the project must address a market failure only in unconnected areas where it can be demonstrated that private investors are not in a position to provide in the near future adequate broadband coverage to all users, thus leaving a significant part of the population unconnected (‘white spots’);<sup>31</sup>
  - the network must offer universal connectivity for all residential and business premises in the white spots;
  - the network must be a passive-only<sup>32</sup>, technologically neutral<sup>33</sup> and open<sup>34</sup> wholesale-only infrastructure;
  - the network operator/SGEI provider must offer all possible forms of open wholesale access on a non-discriminatory basis;
  - retail services must be excluded;
  - no exclusive or special right can be granted to the SGEI provider.
26. The compensation for the provision of broadband services defined as SGEI does not involve State aid if it complies with the following four cumulative conditions (the so-called *Altmark* conditions).<sup>35</sup>
- First, the infrastructure project must be necessary for the provision of genuine services of general economic interest for the provision of which the recipient undertaking has been entrusted with clearly defined public service obligations; in broadband, this includes compliance with the above conditions concerning the SGEI definition.
  - Second, the parameters based on which the compensation is calculated must have been established in advance in an objective and transparent manner; in broadband, compensation should be established on an *ex ante* basis to cover the expected funding gap over a given period<sup>36</sup>.
  - Third, the compensation cannot exceed what is necessary to cover all or part of the costs incurred in discharging the public service obligations, taking into account the relevant revenues and a reasonable profit for discharging those

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<sup>30</sup> See Broadband Guidelines, Section 2.3.

<sup>31</sup> See Broadband Guidelines, Section 2.3, paragraph 20.

<sup>32</sup> The passive infrastructure is basically the physical infrastructure of the networks: such as ducts, dark fibre, cabinets.

<sup>33</sup> A network should be technologically neutral and thus enable access seekers to use any of the available technologies to provide services to end users.

<sup>34</sup> Open, non-discriminatory wholesale access shall be granted to third party operators.

<sup>35</sup> See judgment of the Court of Justice of 24 July 2003 in case C-280/00 *Altmark Trans and Regierungspräsidium Magdeburg* EU:C:2003:415 and Communication from the Commission on the application of the European Union State aid rules to compensation granted for the provision of services of general economic interest, OJ C 8, 11.1.2012, p. 4.

<sup>36</sup> See Commission decision in case SA.37183 – France – *Plan France Très Haut Débit*.

obligations; in broadband, the compensation should be limited to the provision of wholesale access services.<sup>37</sup>

- Fourth, where the undertaking that is to discharge public service obligations is not chosen following a public procurement procedure to select a tenderer capable of providing these services at the least cost to the community, the level of compensation must be determined based on an analysis of the costs of a typical well-run undertaking.<sup>38</sup>
27. When at least one of the above criteria is not met, the public intervention amounts to State aid within the meaning of Article 107 TFEU. In such situations, the aid should be considered in light of the compatibility conditions of the SGEI Decision or the SGEI Framework, taking into account the specific conditions of the Broadband Guidelines section 2.3.<sup>39</sup>

*D. No effect on trade between Member States and no distortion of competition*

28. For cases covered by the *de minimis* Regulation<sup>40</sup> with very low amounts of public support, distortion of competition can be excluded *a priori*. Support granted under the *de minimis* Regulation is not regarded as State aid if no more than EUR 200 000 is granted to a single undertaking over a period of three fiscal years and the other conditions laid down in the *de minimis* Regulation are also respected. For cases falling under the *de minimis* Regulation, there is no need for prior approval from the Commission. Member States do not even have to inform the Commission of such public support.
29. For cases covered by the SGEI *de minimis* Regulation<sup>41</sup>, public funding granted for the provision of a SGEI not exceeding EUR 500 000 over a period of three fiscal years is not regarded as State aid, provided the other conditions of the SGEI *de minimis* Regulation are also fulfilled.

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<sup>37</sup> See section 2.3 of the Broadband Guidelines.

<sup>38</sup> In some of its broadband cases, the Commission has acknowledged the non-existence of State aid due to the fulfilment of the *Altmark* criteria, e.g. in case N381/2004 – France – *Haut débit en Pyrénées Atlantiques*, case SA.21630 – France – *Réseau à très haut débit en Hauts-de-Seine*, and case SA.37183 – France – *France Très Haut Débit*.

<sup>39</sup> In implementing the provisions regarding Universal Service Obligations foreseen in Article 84 and following of the Directive (EU) 2018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code (Recast) (OJ L 321, 17.12.2018, p. 36), a Member State may design universal service obligations and potential compensation thereof if it has established, taking into account the results, where available, of the geographical survey conducted in accordance with this Directive, and any additional evidence where necessary, that the availability at a fixed location of an adequate broadband internet access service and of voice communications services as defined in this Directive cannot be ensured under normal commercial circumstances or through other potential public policy tools in its national territory or different parts thereof. In such cases, the measures would need to be designed in compliance with the SGEI Decision or SGEI Framework, taking into account the specific conditions of the Broadband Guidelines section 2.3 or could possibly be designed in compliance with the *Altmark* conditions.

<sup>40</sup> Commission Regulation (EU) No 1407/2013 of 18 December 2013 on the application of Articles 107 and 108 of the Treaty on the Functioning of the European Union to *de minimis* aid, OJ L 352, 24.12.2013, p. 1.

<sup>41</sup> Commission Regulation (EU) No 360/2012 on the application of Articles 107 and 108 of the Treaty on the Functioning of the European Union to *de minimis* aid granted to undertakings providing services of general economic interest, OJ L 114, 26.4.2012, p. 8.

30. Demand-side measures can be a useful tool to bridge the digital divide and reach the Gigabit Society targets<sup>42</sup> alongside supply-side measures. Monetary demand-side measures such as vouchers 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 set-up costs for end-users (consumers and business) in areas where connectivity is already available or planned. Such measures that are aimed at consumers do not constitute State aid provided that the advantage received by service providers and/or operators does not exceed the *de minimis* levels (e.g. cumulated value of vouchers received by a services provider).
31. Services provided through Wi-Fi hotspots created in public administration buildings in order to provide access to public sector services and information as well as free Internet access to the citizens may not distort or threaten to distort competition under some conditions.<sup>43</sup> This will be the case, for instance if some restrictions on data transmission speed, volume and time per user during specific periods of time are imposed. In addition, such hotspots should be made available for free of charge use by the general public and operators should not be allowed to commercially exploit such hotspots to provide broadband services to their users. No ancillary services of a commercial nature (e.g. advertising on a dedicated webpage) can be allowed through such hotspots.<sup>44</sup>

#### **IV. Instances in which there is no need to notify for State aid clearance, but other requirements may apply**

32. If a given investment meets the cumulative conditions of Article 107(1) TFEU and thus entails State aid<sup>45</sup>, it may be considered compatible with the internal market and can be granted without notification in the following instances:

##### *A. Aid covered by an existing State aid scheme (conditions for no notification)*

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<sup>42</sup> 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 SWD(2016) 300 final. The Gigabit Society Communication defines as strategic objectives for 2025: (i) 100% coverage of all households with download speeds of at least 100Mbps, upgradeable to 1Gbps; (ii) 1Gbps symmetric for all main socio-economic drivers such as schools, transport hubs and main providers of public services as well as digitally intensive enterprises; (iii) uninterrupted 5G coverage for all urban areas and all major terrestrial transport paths until 2025.

<sup>43</sup> The activity would be deemed non-economic and thus fall outside State aid rules if only public services and public-sector content is made accessible over such Wi-Fi networks (public-sector websites and websites of public services providers), ensuring free accessibility of public services online which would also be available gratuitously offline (such as administrative information, e-Government, or non-commercial tourist information). To preserve the non-economic character, Member States should not allow the commercial exploitation of the new network to provide broadband services to residential or business users, thus limiting risks of substitutability to unlimited broadband access to the internet and reducing risks of distortion of competition vis-à-vis third parties offering similar content and/or services (Commission decision in case NN24/2007 – Czechia – *Prague Municipal Wireless Network*).

<sup>44</sup> See Commission decisions in cases SA.34665 – Poland – *Regional public administration broadband network in the region of Rzeszow*, NN24/2007 – Czechia – *Prague Municipal Wireless Network* and N46/2007 – United Kingdom – *Welsh public network scheme*.

<sup>45</sup> Aid can also take the form of tax advantages, reductions of social security contributions, and other measures mitigating the normal charges of specific undertakings. Fiscal aid can be found compatible under the same rules as other forms of aid (i.e. grants), in particular if the tax advantage is linked to a specific investment or activity.

33. If a Member State plans to grant State aid under an aid scheme already approved by Commission decision, it does not need to notify again the scheme to the Commission for approval and can directly provide the support to the beneficiary, as long as the conditions of the authorisation decision are complied with.<sup>46</sup>
34. Moreover, any increase of up to 20% of the original budget of an aid scheme already approved by Commission decision is not considered an alteration to existing aid. If this is the only change to a scheme already authorised by the Commission, it does not need to be re-notified to the Commission for approval<sup>47</sup>.
35. In any event, full compliance with the future Regulation of the European Parliament and of the Council establishing a Recovery and Resilience Facility should be ensured (see in particular Article 14.1a)<sup>48</sup>.

*B. Fixed broadband roll-out covered by the General Block Exemption Regulation (GBER)<sup>49</sup>*

36. If State aid falls under the GBER, Member States do not have to notify such State aid. However, they have to inform the Commission thereof.
37. The measure is exempted from notification if it is granted in compliance with the conditions of the GBER. In particular, Article 52 GBER allows investment aid (including gap funding) for fixed broadband infrastructure up to EUR 70 million total costs per project. Such projects should be carried out in areas where no NGA network capable to reliably provide at least 30 Mbps download is present or planned in the next three years from the moment of publication of the planned aid measures (so-called ‘NGA white areas’). It is thus possible to roll-out fixed VHCN, including based on fibre and 5G fixed wireless solutions (provided that 5G fixed wireless solutions can reliably provide speeds above 30Mbps download<sup>50</sup>) to connect households and socio-economic drivers including public service providers (such as schools, hospitals, etc.), in white NGA areas under the GBER, provided that the GBER conditions are met.
38. The aid must be:
  - granted on the basis of an open, transparent and non-discriminatory competitive selection process, respecting the principle of technological neutrality.<sup>51</sup>

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<sup>46</sup> A list of all Commission decisions taken under the State aid rules concerning broadband is available at [http://ec.europa.eu/competition/sectors/telecommunications/broadband\\_decisions.pdf](http://ec.europa.eu/competition/sectors/telecommunications/broadband_decisions.pdf).

<sup>47</sup> In case of budget increases to already authorised schemes exceeding 20% and/or their prolongation up to 6 years, the so-called simplified notification procedure under Article 4 of the Implementing Regulation (Commission Regulation (EC) No 794/2004 of 21 April 2004 implementing Council Regulation (EC) No 659/1999 laying down detailed rules for the application of Article 93 of the EC Treaty, OJ L 140, 30.04.2004, p. 1) can be used, whereby the Commission aims to complete the assessment of notified State aid measures within one month.

<sup>48</sup> As currently proposed in the Council Presidency compromise proposal of 7 October 2020.

<sup>49</sup> 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, OJ L 187, 26.6.2014, p. 1.

<sup>50</sup> Including at peak times.

<sup>51</sup> This does not preclude giving priority to certain objective qualitative features. Thus, within the context of a competitive tender procedure, the aid granting authority shall establish qualitative award criteria on which the submitted bids are assessed. Relevant award criteria may include, for instance, the achieved geographical coverage, sustainability of the technological approach or the impact of the proposed solution on competition. Such qualitative criteria have to be weighed against the requested aid amount. In order to

- The network operator must offer the widest possible active and passive wholesale access under fair and non-discriminatory conditions, including physical unbundling in the case of NGA networks.
- Such wholesale access must be granted for at least seven years and the right of access to passive infrastructure such as ducts or poles shall not be limited in time. In the case of aid for the construction of ducts, the ducts must be large enough to cater for several cable networks and different network topologies.
- Moreover, the wholesale access price must be based on the pricing principles set by the national regulatory authority and on benchmarks that prevail in other comparable, more competitive areas of the Member State or the Union taking into account the aid received by the network operator. The national regulatory authority should be consulted on access conditions, including pricing, and in the event of dispute between access seekers and the publicly supported infrastructure operator.
- Finally, Member States must put in place a monitoring and mechanism to ensure the absence of overcompensation if the amount of aid granted to the project exceeds EUR 10 million.

39. Conditions of transparency, incentive effect, aid intensity and eligible costs<sup>52</sup>, cumulation and publication established in Chapter 1 of the GBER also apply.

See the State aid assessment of the additional examples of investments and reforms contained in the [component – Digital connectivity](#)

**Investment 1: Invest in building new and upgrading existing network infrastructure for very high capacity networks:** *Appropriate measures can include for instance: (a) Setup of public support measures, including grant funding programmes, to (i) address structural connectivity shortages in market failure areas and, when necessary, (ii) ensure appropriate access to physical infrastructures (e.g. ducts, manholes, cabinets, poles) for the deployment of appropriate very high capacity networks, with a particular focus on remote and rural areas, in line with national broadband plans; [...]. The envisaged public support measures may amount to State aid. Measures related to market failure areas, as for example indicated in national broadband plans, envisaged under point a) above are in principle compliant with Art. 52 of the General Block Exemption Regulation (GBER) or with the Broadband Guidelines. Those not complying with all the requirements of the GBER will be notified to the Directorate General for Competition of the European Commission. [...]*

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reduce the amount of aid to be granted, at similar if not identical quality conditions, the bidder with the lowest amount of aid requested should in principle receive more priority points within the overall assessment of its bid. The awarding authority shall always specify in advance the relative weighting which it will give to each of the (qualitative) criteria chosen (see paragraph 78 of the Broadband Guidelines).

<sup>52</sup> Please note that the references to 'eligible costs' in this guiding template are to be understood exclusively for the purposes of State aid. Therefore, they have no bearing on whether a particular measure and its associated cost can be financed or not by the Facility.

### C. Service of General Economic Interest: SGEI Decision<sup>53</sup>

40. If the deployment and the operation of a broadband infrastructure is necessary for the provision of a SGEI, it may be considered as part of the SGEI mission (see point 25 above).
41. State aid for the compensation of such a SGEI up to EUR 15 million per year (average over the whole duration of the entrustment<sup>54</sup>), may be exempted from notification on the basis of the SGEI Decision, provided that the criteria of that Decision are met, in particular: (i) definition and entrustment of the SGEI<sup>55</sup>, for instance connectivity to and inside public or private undertakings entrusted with the operation of services of general economic interest in the areas of education, social services including health, public administration, transport, postal services, culture, as referred to in Article 106(2) TFEU and in line with the Commission Decision 2012/21/EU; (ii) parameters of compensation established *ex ante* in a transparent manner; (iii) amount of compensation not exceeding the costs for the provision of the SGEI and a reasonable profit; and (iv) a mechanism to ensure the absence of overcompensation.<sup>56</sup> The specific conditions of section 2.3 of the Broadband Guidelines should also be taken into account.

### V. Instances in which notifying for State aid clearance is necessary

42. If the measure constitutes State aid and does not meet the conditions allowing an exemption from notification, a notification to the Commission for State aid clearance is required. The aim of the present section is to assist Member States in identifying and providing the necessary information to the Commission in the context of pre-notifications and notifications, bearing in mind that the Commission will assess all State aid notifications received from Member States in the context of the Facility as a matter of priority, as explained below.

#### A. Procedure for pre-notification and notification

43. In case the planned investment entails State aid and is not exempt from notification, the Member State should, in compliance with Article 108(3) TFEU, proceed to notify the measure to the Commission for approval before implementation.
44. For measures that must be notified, the Commission is committed to assess and treat those cases as a matter of priority and to engage with national authorities early on, in order to address problems in ‘real time’ in the context of the preparation of their Recovery and Resilience Plans. Therefore, informal contacts and pre-notifications are encouraged as soon as possible.

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<sup>53</sup> Commission Decision 2012/21/EU of 20 December 2011 on the application of Article 106(2) of the Treaty on the Functioning of the European Union to State aid in the form of public service compensation granted to certain undertakings entrusted with the operation of services of general economic interest, OJ L 7, 11.01.2012, p. 3.

<sup>54</sup> Initial support for investment on necessary infrastructure may be averaged as (annual) compensation for the duration of the entrustment as SGEI compensation: normally 10 years, unless justified by the amortisation of investments (those infrastructures may be depreciated for more than 10 years).

<sup>55</sup> An SGEI must be defined in line with the same conditions as explained in section III concerning the *Altmark* conditions.

<sup>56</sup> See Section 2.3 of the Broadband Guidelines on ‘State aid for broadband deployment as an SGEI’.

45. The Commission aims to complete the assessment of notified State aid measures within six weeks of receiving a complete notification from the Member State.

*B. Relevant legal bases for compatibility with the Treaty*

*a. Broadband roll-out / supply-side measures*

46. The compatibility of aid for the roll-out of fixed broadband infrastructure to connect households, enterprises, and socio-economic drivers including public service providers (such as schools, hospitals, etc.) may be assessed on the basis of Article 107(3)(c) TFEU.

47. On the basis of Article 107(3)(c) TFEU, the Commission may consider compatible with the internal market State aid to facilitate the development of certain economic activities within the European Union, where such aid does not adversely affect trading conditions to an extent contrary to the common interest.

48. To assess whether State aid for broadband can be considered compatible with the internal market, the Commission analyses whether the design of the aid measure ensures that the positive effect of the aid on the development of the supported economic activity (positive condition) exceeds its potential negative effects on trade and competition (negative condition). This analysis will be done in light of the Broadband Guidelines<sup>57</sup>.

49. In its compatibility assessment, the Commission will check whether the conditions of Article 107(3)(c) TFEU are met. In particular:

- The aid measure needs to facilitate the development of economic activities and have an incentive effect without resulting in an infringement of relevant EU law affecting the compatibility test.
- The aid measure must not unduly affect trading conditions to an extent contrary to the common interest. For those purposes the Commission will check whether the State intervention is needed, appropriate and proportionate and addresses a market failure to achieve the objectives pursued by the measure. The Commission will also verify that transparency of the aid is ensured. Together, these conditions ensure that the distortive effects of the aid are as far as possible limited.
- The Commission will assess the negative effects of the aid measure in terms of distortions of competition and impact on trade between Member States against the common interest of the Union. In particular, the Commission will in this step not only consider the benefits of the aid for the beneficiary's economic activity, but also take into account the positive effects of the aid for the community at large.
- The Commission will finally balance the positive effects with the negative effects of the aid on competition and trade.

50. The Broadband Guidelines aim to address connectivity shortages and boost the roll-out of broadband infrastructure with public support in market failure areas, while

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<sup>57</sup> The Broadband Guidelines explain that the broadband sector is characterised by specific features, in particular by the fact that a broadband network can host several operators of telecommunication services and can therefore provide an opportunity for the presence of competing operators.

minimising risks of crowding out private investment and mere duplication of infrastructures.<sup>58</sup>

51. For this assessment, the Commission will apply specific compatibility conditions explained in the Broadband Guidelines<sup>59</sup>. In particular:

- Member State authorities are required to identify the target area of the intervention and classify it as white<sup>60</sup>/grey<sup>61</sup>/black<sup>62</sup> NGA areas in terms of NGA infrastructure existing and planned in the near future, on the basis of a detailed mapping<sup>63</sup> and public consultation<sup>64</sup>, taking into account the various technologies that can reliably provide at least 30 Mbps download speeds. 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).<sup>65</sup> Mapping and public consultation exercises should be done at addresses level, based on premises passed, not premises connected<sup>66</sup> and should concern all relevant infrastructures, passive or active, including utilities infrastructure that could be used for the purposes of broadband roll-out.
- Member States must demonstrate that the publicly supported interventions will deliver a significant improvement compared to what can offer the infrastructure present or planned, bringing significant new investments in the broadband network and significant new capabilities to the market in terms of capacity, speed and competition (‘step change’).<sup>67</sup>
- Member States must select beneficiaries through open competitive selection processes based on transparent, non-discriminatory criteria<sup>68</sup> allowing the selection of the most economically advantageous offer.<sup>69</sup> 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.<sup>70</sup> The selection procedure needs to be technologically neutral, allowing the bidder to propose the technology or mix of technologies they prefer as long as they achieve the qualitative criteria set out in the tender. Based on objective tender criteria, the granting authority is entitled to select the most suitable

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<sup>58</sup> See paragraphs 37 and 38 of the Broadband Guidelines.

<sup>59</sup> The main compatibility conditions are detailed in paragraphs 78 and 80 of the Broadband Guidelines.

<sup>60</sup> White NGA areas are those where no NGA network (capable of providing speeds above 30Mbps download) is present or planned in the near future.

<sup>61</sup> Grey NGA areas are those where one NGA network is present or planned in the near future.

<sup>62</sup> Black NGA areas are those where two or more NGA networks are present or planned in the near future.

<sup>63</sup> See paragraphs 61 to 72, as well as paragraph 78(a), of the Broadband Guidelines.

<sup>64</sup> See in particular paragraphs 63 to 65 and paragraph 78(b) of the Broadband Guidelines.

<sup>65</sup> See paragraph 63 and footnote 79 of the Broadband Guidelines.

<sup>66</sup> See footnote 92 of the Broadband Guidelines.

<sup>67</sup> See paragraph 51, 67 to 71, 76 and 83 to 85 of the Broadband Guidelines.

<sup>68</sup> See paragraph 78(c) of the Broadband Guidelines.

<sup>69</sup> See paragraph 78(d) of the Broadband Guidelines.

<sup>70</sup> See paragraph 78(c) and footnote 96 of the Broadband Guidelines. See also case SA.48325 – Austria – NGA-Broadband project in Upper Austria.



technological solution or mix of technology solutions. Additional points in the selection procedure can be granted for more pro-competitive technological approaches (e.g. wholesale-only model, passive-only model), more sustainable, energy-efficient, networks that exhibit significant enhanced technological characteristics and performance.

- The publicly supported network must ensure effective open and non-discriminatory wholesale access to third parties<sup>71</sup>, in line with the principle of technological neutrality.<sup>72</sup> Wholesale access prices should be based on pricing principles set by the NRA or on benchmarking.<sup>73</sup> In terms of wholesale access products, Annex II of the Broadband Guidelines indicate minimum access requirements of typical broadband deployment, dependent on the network deployment considered.
- 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<sup>74</sup>.
- Member States must ensure regular monitoring and supervise State aid compliance.<sup>75</sup>
- For projects with an aid amount above EUR 10 million, a mechanism to ensure the absence of overcompensation has to be introduced.<sup>76</sup>
- 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<sup>77</sup>, as well as annual reports regarding State aid expenditure.<sup>78</sup>
- To ensure transparency, all relevant information regarding the aid measure must be published on a publicly available online website<sup>79</sup>.

*i. Fixed broadband roll-out in NGA white areas that do not fit the GBER requirements*

52. The compatibility of State aid for broadband infrastructure for the provision of connectivity for households and socio-economic drivers including public service providers (such as schools, hospitals, etc.) in white NGA areas that does not comply with the GBER conditions (e.g. exceeding EUR 70 million total costs per project) may be assessed on the basis of the Broadband Guidelines (see point 51 above).

*ii. Fixed broadband roll-out in NGA grey areas*

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<sup>71</sup> See paragraphs 78(g) and 80 of the Broadband Guidelines.

<sup>72</sup> See paragraph 78(e) of the Broadband Guidelines.

<sup>73</sup> See paragraph 78(h) of the Broadband Guidelines.

<sup>74</sup> See paragraph 78(f) of the Broadband Guidelines.

<sup>75</sup> See paragraph 78(f) of the Broadband Guidelines.

<sup>76</sup> See for instance case SA.40720 – United Kingdom – *National Broadband Scheme for the UK for 2016-2020*.

<sup>77</sup> See paragraph 78(k) of the Broadband Guidelines.

<sup>78</sup> See Article 26 of Council Regulation (EU) 2015/1589.

<sup>79</sup> See paragraph 78(j) of the Broadband Guidelines.

53. Areas where it is necessary to ensure connectivity for households and socio-economic drivers including public service providers (such as schools, hospitals, etc.) but where there is already one NGA infrastructure present or planned in the near future – meaning three years or the adequate period corresponding to the duration of deployment of the State aided network – (‘grey NGA areas’) can be eligible for State support under certain conditions, as explained in the Broadband Guidelines.
54. A market failure must be demonstrated.<sup>80</sup> For instance, according to several recent decisions<sup>81</sup>, this may be the case for areas where one infrastructure is present or planned capable of delivering reliable download speeds of or above 30Mbps but not able to deliver reliable higher speeds such as 100Mbps download or higher due to a demonstrated market failure. In this case, to determine whether there is a market failure, the mapping and public consultation exercise should identify the presence (and number) of all existing and credibly planned networks providing at least 30Mbps download (in order to determine if the intervention takes place in a white, grey or black NGA area<sup>82</sup>) but should also identify present or planned infrastructures capable of supporting those networks offering speeds below and above the thresholds for intervention identified in the notification (e.g. above 100 Mbps download or more), to facilitate the assessment of the measure. A step change can be demonstrated if as the result of the public intervention, the selected bidder makes significant new investments in the broadband network and the subsidised infrastructure brings significant new capabilities to the market in terms of broadband service availability and capacity, speeds and competition. Significant investments exclude mere upgrades of active elements of the infrastructure (e.g., software upgrades).<sup>83</sup> A step change requires that a State-funded infrastructure should not only duplicate an existing commercial network (which would cause a distortion of the market and a waste of taxpayers’ money), but should provide a significantly better connectivity than the infrastructure present or planned.<sup>84</sup> Consequently, to ensure a step change the Commission has generally requested a doubling of the download speed and at least a significant increase of the upload speed compared to existing or planned infrastructure.
55. For instance, the Commission found this condition complied with in various cases, taking into account the specificities of each case.
56. Thus, in a case concerning Bavaria (Germany)<sup>85</sup> the Commission allowed State aid interventions in certain grey NGA areas<sup>86</sup> under the following main conditions:

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<sup>80</sup> See paragraphs 37 and 38 of the Broadband Guidelines.

<sup>81</sup> See Commission decisions in cases SA.48418 – Germany – *Bavarian gigabit pilot project*, SA.54668 – Germany – *Bavarian gigabit scheme*, SA.53925 – Spain – *Broadband Scheme for NGA White and Grey Areas* and SA.52732 – Germany – *National Gigabit Scheme*.

<sup>82</sup> See Commission decisions in cases SA.48418 – Germany – *Bavarian gigabit pilot project*, SA.54668 – Germany – *Bavarian gigabit scheme*, and SA.53925 – Spain – *Broadband Scheme for NGA White and Grey Areas*.

<sup>83</sup> See paragraph 51, as well as footnotes 64 and 65, of the Broadband Guidelines.

<sup>84</sup> See paragraphs 51, 67 to 71, 76 and 83 to 85 of the Broadband Guidelines.

<sup>85</sup> See Commission decisions in cases SA.48418 – Germany – *Bavarian gigabit pilot project*, SA.54668 – Germany – *Bavarian gigabit scheme*.

<sup>86</sup> Also interventions in white NGA areas were allowed. Areas with more than one existing or planned NGA network (black NGA areas) were excluded.

- As concerns households: eligible areas are areas where there is only one NGA infrastructure present or planned in the next three years and that NGA infrastructure cannot reliably provide speeds of 100Mbps or more; the State aided infrastructure must be capable of providing speeds of at least 200Mbps symmetrical (upload and download); areas with one existing or planned NGA infrastructure able to reliably provide speeds of at least 100Mbps download are excluded.
  - As concerns socio-economic drivers, including public service providers such as schools, hospitals, as well as companies: eligible areas are areas where there is only one NGA infrastructure present or planned in the next three years and that NGA infrastructure cannot reliably provide speeds of at least 200Mbps symmetrical or more than 500Mbps download; the State aided infrastructure must be capable of providing at least 1Gbps symmetric speeds; areas with one existing or planned NGA infrastructure able to reliably provide speeds of at least 200Mbps symmetric or more than 500 download are excluded.
57. In a case concerning Spain<sup>87</sup>, the Commission allowed State aid interventions in certain grey NGA areas<sup>88</sup> under the following main conditions: eligible areas are areas where there is only one NGA network present or planned in the next three years and that NGA infrastructure cannot reliably provide speeds above 100Mbps download to households and companies/socio-economic drivers; the aided infrastructure must be capable of providing speeds of at least 300Mbps symmetrical (upload and download); areas with one existing or planned NGA infrastructure able to reliably provide speeds above 100Mbps are excluded.
58. In a recent case concerning Germany, the Commission has allowed State aid intervention in certain grey NGA areas<sup>89</sup> to support the deployment of 1Gbps symmetric infrastructure under the following main conditions, taking into account the specificities of the case<sup>90</sup>:
- As concerns households:
    - i. Until end-2022 eligible areas are areas where there is only one NGA infrastructure<sup>91</sup> present or planned in the next three years and that NGA

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<sup>87</sup> See Commission decision in case SA.53925 – Spain – *Broadband Scheme for NGA White and Grey Areas*.

<sup>88</sup> Also interventions in white NGA areas were allowed. Areas with more than one existing or planned NGA network (black NGA areas) were excluded.

<sup>89</sup> Also interventions in white NGA areas were allowed. Areas with more than one existing or planned NGA network (black NGA areas) were excluded.

<sup>90</sup> The Commission took into account replies by stakeholders in the public consultation signalling concerns that the scheme could lead to a crowding-out of private investments and investment plans, in particular due to a scarcity of construction capacity in the market, whereas the resulting state-funded increase in demand could generate a significant further increase of construction prices. As private investment into very high capacity networks accelerates, constraints on construction capacity can become more stringent and cause significant price increases in the sector. If in addition the public sector fosters considerable demand for further roll-out, in particular when done under time pressure, such capacity constraints can worsen. This can further raise costs for privately and public funded infrastructure projects. As a result, private projects, which would be profitable under normal circumstances, risk being crowded out. For the public sector, the construction cost increase can reduce the number of projects that can be financed. As a result, a significant part of public funds risks being passed on into higher profits to the benefit of shareholders of construction companies without contributing to EU digitisation objectives.

<sup>91</sup> I.e. able to support reliable speeds of 30Mbps download or more.

infrastructure cannot reliably provide speeds of 100Mbps download or more. In the public consultations, investors are invited to indicate their investment plans for the next three years. However, a planned mere upgrade of existing infrastructure, such as an upgrade of existing FTTC-infrastructure by (super-)vectoring leading to reliable 100Mbps download speeds will be taken into account for the definition of the target areas provided that the upgrade will be finalised within one year from the public consultation, while completely new investment plans into such new 100Mbps download networks (such as a newly planned deployment of an FTTC-infrastructure in combination with (super-)vectoring) will not be taken into account. Areas with one NGA infrastructure existing or planned in the next three years able to reliably provide speeds above 200Mbps symmetrical or more than 500Mbps download are excluded.

- ii. As from 1 January 2023, eligible areas include areas where there is only one NGA infrastructure present or planned in the next three years but that infrastructure cannot reliably provide speeds of at least 200Mbps symmetrical or more than 500Mbps download. Areas with one infrastructure existing or planned in the next three years (as of the second public consultations) capable of reliably providing speeds of at least 200Mbps symmetric or more than 500Mbps download are excluded. The deployment of the Gigabit infrastructure may start in 2023. The marketing of services in the relevant target areas under the second step is possible with a view to a start of operation of the Gigabit network at the end of 2025 and a subsequent provision of services at retail level on the new gigabit network. Public consultations related to the second step may start earliest as from 1 November 2022.
- As concerns socio economic drivers including companies and public institutions: as from the approval of the scheme, eligible areas are areas where there is only one infrastructure present or planned in the next three years and that NGA infrastructure cannot reliably provide speeds of at least 200Mbps symmetrical or more than 500Mbps download. Areas with one NGA infrastructure existing or planned in the next three years capable of reliably providing speeds of at least 200Mbps symmetric or more than 500Mbps download are excluded.
  - The State aided infrastructure must be capable of providing at least 1Gbps symmetric speeds.
  - In addition, in this decision the Commission has clarified that, in order to protect the overbuilding of private investments into NGA-infrastructure that were encouraged by a previous State aid measure, a protection of such investments should be put in place until the end of an ‘earmarking period’ where this is requested by a concerned private investor during the public consultation. Any such ongoing investment, which is fully privately financed, may request a corresponding protection, if a need for this can be demonstrated, which municipalities should take into due consideration.<sup>92</sup>

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<sup>92</sup> See Commission decision in case SA.52732 – Germany – *National Gigabit Scheme*.

59. The specificities of each case are taken into account when assessing such State aid measures to support further broadband roll-out in grey NGA area.
60. In addition to the capacity of the infrastructure (present or planned) to support certain speeds, other technological aspects and capacity features could be considered in the step change assessment, such as latency,<sup>93</sup> jitter<sup>94</sup> or the robustness of the network<sup>95</sup> as well as competition aspects, such as the accessibility and affordability of services or competition constraints (e.g. limitations to wholesale access on existing or planned infrastructure, overall entry barriers), which may be demonstrated by the mapping and public consultation exercise relating to existing and planned infrastructure.<sup>96</sup>

*iii. Fixed broadband roll-out in NGA black areas*

61. In areas where at least two NGA infrastructures are present or planned in the near future – meaning three years or the adequate period corresponding to the duration of deployment of the State aided network – (‘black NGA areas’), a market failure cannot be assumed and must be sufficiently demonstrated. However, an intervention to connect households and socio-economic drivers including public service providers (such as schools, hospitals, etc.) in some black areas where a market failure still endures is not excluded, though stricter conditions apply. In particular, it should be demonstrated that: (i) the existing or planned NGA networks do not reach the end-user premises with fibre networks; (ii) the market situation is not evolving towards the competitive provision of services above 100Mbps in the near future; (iii) there is demand for such qualitative improvements; (iv) the new network must be wholesale-only.<sup>97</sup> For instance, where there are at least two NGA networks present or planned capable of reliably providing download speeds above 30Mbps but below 100Mbps, a public support for the deployment of a network capable of reliably providing e.g. at least 300Mbps symmetric upgradable to 1Gbps symmetric could be justified.
62. Areas with one or more existing or planned networks able to reliably provide at least 100Mbps download speeds (e.g. fibre-based networks) should be excluded from such public interventions. A public intervention should also be excluded where an existing operator commits to up-grade its network to at least 100 Mbps download speed within a year. If no such commitment is made, public intervention can be envisaged (subject to meeting the step change and other conditions).

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<sup>93</sup> Network latency is an expression of how much time it takes for a packet of data to get from one designated point to another.

<sup>94</sup> Latency is the delay between the sender and the receiver decoding a signal. This delay may not be constant for the signals: “jitter” is the deviation from true periodicity of a presumed periodic signal – it is therefore the variance in packet delay.

<sup>95</sup> The ability of a network to withstand failures and perturbations.

<sup>96</sup> See paragraph 51 of the Broadband Guidelines. See relevant decision-making practice of the Commission in this regard, including: case SA.37183 – France – *Plan France Très Haut Débit*; case SA.41065 – Croatia – *National Programme for broadband aggregation infrastructure*; case SA.40720 – United Kingdom – *Broadband development UK*; case N330/10 – France – *Programme national “Très haut débit” – Volet B*; case N131/2005 – United Kingdom – *Fibre Speed Broadband Project in Wales*; case N890/2006 – France – *Projet de contrat de concession pour la “Conception, Réalisation et Exploitation d’un réseau à Très Haut Débit sur le Sud-Est Toulousain”*; case N 284/05 – Ireland – *Regional Broadband Programme: Metropolitan Area Networks*.

<sup>97</sup> See in particular paragraphs 82 to 85 of the Broadband Guidelines.

*iv. Mobile networks roll-out*

63. Traditionally, investments in mobile infrastructure are largely privately funded. In addition, many Member States attach coverage obligations to spectrum licences (e.g., typically 95-98% population coverage under 3G/4G mobile license obligations, but also lower coverage obligations in some Member States). The rollout of mobile electronic communication networks, including rollout of 5G networks and corridors is expected to be driven by private investment.
64. Although many urban areas and major terrestrial transport paths are expected to be covered with 5G networks and 5G corridors through private financing, Member States may consider to what extent private operators and public entities could participate in a 5G mobile deployment project or a 5G corridor in conformity with normal market terms, in which case no State aid would be involved.
65. It is not excluded that market failures regarding the deployment of 5G networks could be demonstrated in some less densely populated parts of the Member States' territory. For instance, high percentages in population coverage may not exclude a lack of coverage in parts of the territory less densely populated. In such limited situations, Member States can envisage punctual public interventions where necessary to remedy a market failure and address the digital divide between the urban and rural population, and thus enable for various economic activities, safety services and more generally the uninterrupted provision of mobile services.
66. State aid to ensure the availability of mobile voice and data transmission services, including State aid for 4G or 5G networks should contribute to developing the economic activity<sup>98</sup> (mobile networks and associated services) and should be limited to market failure areas correctly identified based on mapping and public consultation concerning mobile coverage. For example, a market failure may be demonstrated where mobile networks have not been deployed or where only mobile networks capable of supporting mobile services of up to 3G are available and where there are no 4G and/or 5G mobile networks present or planned in the near future (i.e. the next three years or the adequate period corresponding to the duration of deployment of the State aided network).<sup>99</sup> The aided infrastructure should not be taken into account to meet the coverage obligations of the mobile networks operators that arise out of spectrum licence conditions. The State aid rules indicated above for fixed networks would apply *mutatis mutandis*.
67. The support can take a form of either aid to local authorities, who may construct the required passive infrastructure and rent it out to all interested network providers or put construction and operation of the passive infrastructure out to tender as a public works concession.<sup>100</sup> The Member State should demonstrate that the proposed support measure constitutes the most appropriate instrument to reach the desired objectives.

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<sup>98</sup> See judgement of the Court of Justice of 22 September 2020, *Austria v Commission*, C-594/18 P, ECLI:EU:T:2018:439, paragraph 20 and 24.

<sup>99</sup> See Commission decision in case SA.54684 – Germany – *High-capacity mobile infrastructure roll-out in Brandenburg* (concerning interventions where only networks capable of supporting mobile services of up to 2G are in place).

<sup>100</sup> See Commission decisions in cases SA.48324 – Germany – *Mobilfunk Bayern*; SA.39089 and SA.39090 – Italy – *Mobile telephony in mountainous areas of Bolzano*; and SA.55578 – Germany – *Mobile infrastructure roll-out in Hesse*.

The private beneficiary should be selected through a competitive selection process, in line with the principles and the spirit of the public procurement rules and respecting the principle of technological neutrality. Effective, full open access to the supported infrastructure should be guaranteed to all mobile network operators and/or any other access seeker on equal conditions. Potential distortive effects on competition should be minimised. The supported infrastructure should bring a significant improvement (a step change) in comparison to the existing or planned mobile networks. A step change would be considered demonstrated if, as a result of the subsidised intervention, a significant new investment in the mobile network is undertaken and the subsidised network brings significant new capabilities to the market in terms of mobile service availability, capacity, speeds and competition, compared to existing as well as concretely planned network roll-outs. For instance, a project could be considered to bring a sufficient step change if it includes substantial investments in passive infrastructure (e.g. backhaul) going beyond marginal investments related merely to the upgrade of the active components of the network and if it provides for instance 4G (and above) services where only mobile networks capable of supporting mobile services up to 2G are available, or 5G services where only mobile networks capable of supporting mobile services of up to 3G are available. New capabilities are provided when the investment allows for high performance voice and data mobile services in areas where no robust broadband mobile services or only voice services were offered and for upgrading the backhaul infrastructure, e.g. from microwave links to fibre.<sup>101</sup>

68. Further, in case of a potential provision of advanced fixed wireless services over a publicly supported 4G or 5G network, a Member State should also consider the fixed networks in the target area, to limit risks of competition distortions. The following approaches can be envisaged in principle:

- to restrict the use (by both the beneficiary or an access seeker) of the new 4G or 5G network to not include 4G or 5G advanced fixed wireless; or
- to demonstrate that no aid is transferred to the use of the network for 4G or 5G advanced fixed wireless purposes (by the beneficiary or an access seeker). This can be ensured e.g. by ensuring the operator using the network for 4G or 5G advanced fixed wireless purposes pays a market price for this use of the network and by limiting the public funding only to the net cost (including the cost of capital) of the 4G or 5G mobile activities, to be identified based on a clear separation of accounts.<sup>102</sup> CAPEX (and related depreciations) used both for 4G/5G mobile and 4G/5G advanced fixed wireless would have to be allocated between the two on the basis of relevant allocation keys; or
- to demonstrate that the aid transferred to the use of the network for the provision of 4G or 5G advanced fixed wireless (by the beneficiary or an access seeker) will meet State aid compatibility conditions for support for fixed networks (as above described). To this end, the mapping and public consultation exercise must include also the fixed networks present or planned, and the 4G or 5G advanced fixed wireless solution in question must deliver a significant improvement (i.e. a step change) compared to what can offer the fixed present

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<sup>101</sup> See Commission decision in case SA.54684 – Germany – *High-capacity mobile infrastructure roll-out in Brandenburg*.

<sup>102</sup> See paragraph 206 of the Notice on the notion of State aid.

or planned infrastructure identified based on the mapping and public consultation. For instance:

- i. Supporting the use of the network for 4G or 5G advanced fixed wireless in white NGA areas (areas where there is no present or planned infrastructure able to support speeds above 30 Mbps download) would follow the rules applicable to support for fixed broadband in white NGA areas, provided that the supported 4G or 5G advanced fixed wireless solution can reliably provide a sufficient step change compared to basic fixed networks in place (e.g. at least a doubling of download and upload speed).
  - ii. Supporting the use of the network for 5G advanced fixed wireless in grey NGA areas (areas where there is one infrastructure able to support speeds above 30 Mbps download present or planned) would follow the rules applicable to support for fixed broadband in grey NGA areas, provided that the supported 5G advanced fixed wireless solution can reliably provide a sufficient step change compared to the NGA network in place or planned (e.g. at least a doubling of download and upload speeds). Therefore, if intending to support 5G advanced fixed wireless to connect households in grey NGA areas where there is no present or planned infrastructure able to support speeds above 100Mbps download, this may only be possible if the 5G advanced fixed wireless solution can provide a sufficient step change, e.g. by ensuring at least 200Mbps symmetrical speeds.
69. 5G corridors may be deployed through market conform investments, not amounting to State aid (see point 21 above). Where the roll-out of 5G corridors involves State aids, the rules concerning the roll-out of 5G networks may be applied *mutatis mutandis*, taking into account potential specificities of 5G corridors deployments. Such specificities may include, for instance, higher density of deployment to ensure uninterrupted service, higher quality of service (e.g. in terms of capacity and very low latency) and edge cloud capacity.

*b. Monetary broadband take-up / demand-side measures*

70. While the availability of a broadband infrastructure is a prerequisite for the possibility to subscribe to the service, this could, in some cases, not be sufficient to ensure the development of high-performing services, due to the end-users' relatively low propensity to subscribe to broadband services. Monetary demand-side measures, such as voucher schemes in the broadband sector, generally aim at increasing the take-up (subscriptions) of Internet services by reducing the cost for end-users (consumer and businesses) and driving more ambitious private investments. Vouchers can be designed typically to reduce the subscription fee for a certain time-period or to cover the set-up costs of a connection.
71. Vouchers stimulating the demand or maintenance of broadband services by lowering their costs, can confer an advantage to the recipient business end-users and/or to operators providing services to end-consumers (and in some cases infrastructure



operators)<sup>103</sup> who will be able to offer services over existing broadband infrastructures to a larger number of end-users, strengthening their market position.<sup>104</sup> Electronic communications operators and service providers are considered undertakings and thus fall within the scope of State aid rules, if the advantage they receive exceeds the *de minimis* levels.

72. **Social vouchers** to support certain individual consumers to procure or maintain fixed and/or mobile broadband services of adequate quality<sup>105</sup> irrespective of the underlying technology are subject to notification and can be considered compatible with the internal market, based on Article 107(2)(a) TFEU.<sup>106</sup> Such public support has to have a social character and be reserved for particular categories of individual consumers whose financial characteristics justifies the payment of aid for social reasons (e.g. lower income families, students, pupils, etc.), for instance in order to enable them to acquire and/or maintain a broadband subscription, in order to benefit from distance learning, teleworking or other solutions established to cope with consequences triggered by the COVID-19 outbreak. The public support should be used to acquire or maintain broadband services from any provider capable of providing the broadband services without any discrimination on its origin or on the origin of the products and services, respecting the principle of technological neutrality. In order to be proportionate the measure must be limited in time.
73. **Connectivity vouchers** can be designed for broader categories of end-consumers (e.g. vouchers for all citizens, undertakings) and are subject to notification. Such vouchers can be considered compatible with the internal market on the basis of Article 107(3)(c) TFEU<sup>107</sup> provided that they (i) promote the take up of broadband services contributing to the development of such economic activity<sup>108</sup> as envisaged in the EU objectives (e.g. for speeds above 30 Mbps or for Gigabit speeds); (ii) address insufficient take-up; (iii) are limited in time, proportional and are technologically neutral. All operators able to provide the targeted speeds/connectivity should be able to benefit from vouchers, irrespective of the technology/technology platform chosen. A non-discriminatory open selection procedure based on transparent, non-discriminatory eligibility criteria should be ensured for all eligible operators, respecting the principle of technological neutrality (e.g. via an online open, transparent registry of eligible suppliers, from which consumers can freely select their provider of choice). Mapping and public consultation should be performed in order to: (i) identify eligible areas where suitable infrastructure is present/planned but which face demand/take-up deficiencies (e.g. too high prices);

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<sup>103</sup> According to the Notice on the notion of State aid, an advantage can be conferred on undertakings other than those to which State resources are directly transferred (indirect advantage).

<sup>104</sup> Without prejudice to the assessment under State aid rules of measures taken at national level in the implementation of the universal service obligations included in the EU regulatory framework for electronic communications (Directive (EU) 2018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code (Recast), OJ L 321, 17.12.2018, p. 36).

<sup>105</sup> See Commission decision in case SA.57357 – Greece – *Broadband voucher scheme for students*, not published yet.

<sup>106</sup> See Commission decisions in cases SA.57495 – Italy – *Broadband vouchers for certain categories of families* and SA.57357 – Greece – *Broadband voucher scheme for students*, not published yet.

<sup>107</sup> See Commission decision in case SA.49935 – Greece – *Superfast Broadband (SFBB) Project*.

<sup>108</sup> See judgement of the Court of Justice of 22 September 2020, *Austria v Commission*, C-594/18 P, ECLI:EU:T:2018:439, paragraphs 20 and 24.

(ii) identify potential operators able/willing to offer desired services; (iii) identify potential distortions of competition and assess need of additional safeguards (e.g. in cases where there is only one likely beneficiary who may be an integrated operator/incumbent, wholesale access obligations could provide an additional safeguard). In cases where voucher schemes are designed to support infrastructure deployment (where there is no suitable existing infrastructure providing services that vouchers may support take-up of), such a demand-side measure may amount to a supply-side measure requiring the fulfilment of the full spectrum compatibility conditions, including wholesale access obligations, a demonstration of step change, etc.

*c. Service of General Economic Interest: SGEI Framework<sup>109</sup>*

74. The compatibility of State aid for broadband infrastructure which is necessary for the provision of an SGEI (see point 25 above)<sup>110</sup> and that exceeds EUR 15 million per year may be assessed on the basis of the SGEI Framework. Section 2.3 of the Broadband Guidelines illustrates the application of some of the principles of the SGEI Framework to broadband financing.

## **VI. References**

- Commission Notice on the notion of State aid as referred to in Article 107(1) of the Treaty on the Functioning of the European Union, OJ C 262, 19.7.2016, p. 1.
- EU Guidelines for the application of state aid rules in relation to the rapid deployment of broadband networks, OJ C 25, 26.01.2013, p. 1.
- 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, OJ L 187, 26.6.2014, p. 1.
- Commission Regulation (EU) No 1407/2013 of 18 December 2013 on the application of Articles 107 and 108 of the Treaty on the Functioning of the European Union to de minimis aid, OJ L 352, 24.12.2013, p. 1.
- Commission Decision 2012/21/EU of 20 December 2011 on the application of Article 106(2) of the Treaty on the Functioning of the European Union to State aid in the form of public service compensation granted to certain undertakings entrusted with the operation of services of general economic interest, OJ L 7, 11.01.2012, p. 3.
- European Union framework for State aid in the form of public service compensation, OJ C 8, 11.1.2012, p. 15.
- Communication from the Commission on the application of the European Union State aid rules to compensation granted for the provision of services of general economic interest, OJ C 8, 11.1.2012, p. 4.

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<sup>109</sup> European Union framework for State aid in the form of public service compensation, OJ C 8, 11.1.2012, p. 15.

<sup>110</sup> An SGEI must be defined in line with the same conditions as explained in Section III concerning *Altmark* conditions.

- Council Regulation (EU) 2015/1589 of 13 July 2015 laying down detailed rules for the application of Article 108 of the Treaty on the Functioning of the European Union, OJ L 248, 24.9.2015, p. 9.
- Indicative list of Commission decisions adopted under State aid rules: [http://ec.europa.eu/competition/sectors/telecommunications/broadband\\_decisions.pdf](http://ec.europa.eu/competition/sectors/telecommunications/broadband_decisions.pdf).
- Broadband investment guide, available at <https://ec.europa.eu/digital-single-market/en/news/broadband-investment-guide>.
- European Broadband Competence Offices (BCO) Network, see <https://ec.europa.eu/digital-single-market/en/broadband-competence-offices>.