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**EU Guidelines for the application of state aid rules in relation to the rapid deployment
of broadband networks**

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1. INTRODUCTION

- (1) Broadband connectivity is of strategic importance for European growth and innovation in all sectors of the economy and to social and for territorial cohesion. The Europe 2020 Strategy ("EU2020") underlines the importance of broadband deployment as part of the EU's growth strategy for the coming decade and sets ambitious targets for broadband development. One of its flagship initiatives, the Digital Agenda for Europe ("DAE")¹ acknowledges the socio-economic benefits of broadband, highlighting its importance for competitiveness, social inclusion and employment. The achievement of Europe 2020 objective of a smart, sustainable and inclusive growth depend also on the provision of widespread and affordable access to high speed internet infrastructure and services. Meeting the challenge of financing a good quality and affordable broadband infrastructure is a crucial factor for Europe to increase its competitiveness and innovation, provide job opportunities for young people, prevent de-location of economic activity and attract inward investments. The DAE restates the objective of the EU2020 to bring basic broadband to all Europeans by 2013 and seeks to ensure that, by 2020, (i) all Europeans have access to much higher internet speeds of above 30 Mbps and (ii) 50% or more of European households subscribe to internet connections above 100 Mbps.
- (2) To achieve the objective of access to internet speeds of above 30 Mbps it is estimated² that up to €60 billion of investment would be necessary and up to €270 billion for at least 50% of households to take up internet connections above 100 Mbps.³ Such investments shall primarily come from commercial investors. However, the DAE objectives cannot be reached without the support of public funds. For this reason, the DAE calls on Member States to use "*public financing in line with EU competition and State aid rules*" in order to meet the coverage, speed and take-up targets defined in EU2020⁴. Demand for capacity-intensive services is expected to increase in the future, as cloud computing, a more intense use of peer to peer technologies, social networks and video on demand services will develop further.

¹ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, COM (2010) 245 final *A Digital Agenda for Europe*.

² See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, European broadband: investing in digitally driven growth, COM (2010) 0472 final *European broadband: investing in digitally driven growth*,

³ The actual investments costs could be significantly lower depending on the re-usability of existing (passive) infrastructures and depending on the market, technology and regulatory developments.

⁴ Paragraph 2.4,3. Key Action 8.

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- (3) The electronic communication sector has undergone a thorough liberalisation process and is now subject to sectoral regulation. The EU regulatory framework for electronic communications also deals with issues related to broadband access.⁵ With regard to legacy broadband networks, wholesale markets are to date subject to ex ante regulation in all Member States. The regulatory approach has proved successful to foster competitive markets, to encourage investment and to increase consumer choice: for example, the highest broadband coverage and take-up is found in Member States with infrastructure competition, combined with effective ex ante regulation to promote service competition. Further deployment of broadband networks and in particular of Next Generation Access ("NGA") networks continues to require the intervention of the national regulatory authorities ("NRAs") due to their position and role in the electronic communication sector.
- (4) It is all the more important that public funds are carefully used in this sector and that the Commission ensures that state aid is complementary and does not substitute investments of market players. Any state intervention should limit as much as possible the risk of crowding out private investments, of altering commercial investment incentives and ultimately of distorting competition to an unacceptable extent.
- (5) In its Communication on State Aid Modernisation (SAM), the Commission notes that state aid policy should focus on facilitating well-designed aid targeted at market failures and objectives of common European interest⁶. State aid measures can, under certain conditions, correct market failures, thereby improving the efficient functioning of markets and enhancing competitiveness. Further, where markets provide efficient outcomes but these are deemed unsatisfactory from a cohesion policy point of view, State aid may be used to obtain a more desirable, equitable market outcome. In particular, a well targeted state intervention in the broadband field can contribute to reducing the 'digital divide'⁷ between areas or regions where affordable and competitive broadband services are on offer and areas where such services are not.
- (6) However, if state aid for broadband were to be used in areas where market operators would normally choose to invest or have already invested, this could significantly undermine the incentives of commercial investors to invest in broadband in the first place. In such cases, State aid to broadband might become counterproductive to the objective pursued. The purpose of State aid control in the broadband sector is to ensure that State aid measures will result in a higher level, or a faster rate, of broadband coverage and penetration than would be the case without state aid, while supporting higher quality, more affordable services and

⁵ See Article 12 (4) of Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory Framework for Electronic Communications Networks and Services (Framework Directive) OJ L 108, 24.04.2002, p.33, as amended by Directive 2009/140/EC (Better Regulation Directive), OJ L 337, 18.12.2009, p. 37 and by Regulation (EC) No 544/2009, OJ L 167, 29.6.2009, p. 12.

⁶ Communication from the Commission on EU State aid Modernization (SAM). Brussels, 8.5.2012. COM(2012) 209 final.

⁷ The term 'digital divide' is most commonly used to define the gap between those individuals and communities that have access to the information technologies and those that do not. Although there are several reasons for this 'digital divide', the most important is the lack of an adequate broadband infrastructure. From the regional point of view, the degree of urbanisation is an important factor for access to and use of ICTs. Internet penetration remains thus much lower in thinly populated areas throughout the European Union.

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pro-competitive investments. The positive effects of the aid should outweigh the distortions of competition.

- (7) In response to the Commission's calling on them to do so in the DAE, most Member States developed national broadband strategies to achieve the DAE objectives in their respective territories. Most of these strategies envisage using public funds to extend broadband coverage in areas where there is no incentive for commercial operators to invest in and accelerate the deployment of very high speed, next generation access networks.
- (8) These guidelines summarise the principles of the Commission's policy in applying the State aid rules of the Treaty to measures that support the deployment of broadband networks in general (Section 2). They explain the application of these principles in the assessment of aid measures for the rapid roll-out of basic broadband and very high speed, next generation access (NGA) networks (in Section 3). The Commission will apply the guidelines in the assessment of State aid for broadband. This will increase the legal certainty and transparency of its decision-making.

2. THE MAIN PRINCIPLES OF THE COMMISSION'S POLICY ON STATE AID FOR BROADBAND

2.1. The application of the State aid rules

- (9) According to Article 107 (1) of the Treaty on the Functioning of the European Union ("TFEU"), "*any aid granted by a Member State or through State resources in any form whatsoever which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods shall, in so far as it affects trade between Member States, be incompatible with the common market*". It follows that in order for a measure to qualify as State aid, the following cumulative conditions have to be met: (a) the measure has to be granted out of State resources, (b) it has to confer an economic advantage to undertakings, (c) the advantage has to be selective and (d) distort or threaten to distort competition; (e) the measure has to affect trade between Member States.

2.2. Article 107(1) TFEU: Presence of aid

- (10) **The use of State resources:** The transfer of State resources may take many forms such as direct grants, tax rebates⁸, soft loans or other types of preferential financing conditions. State resources will also be involved if the State provides a benefit in kind, for instance investing in the construction of (part) of the broadband infrastructure. State resources can be used⁹ at the national, regional or local level. Funding from European funds such as the European Agricultural Fund for Rural Development (EAFRD) and the European Regional Development Fund (ERDF)¹⁰

⁸ See for instance Commission decision N398/2005 – Hungary, *Development Tax Benefit for Broadband*.

⁹ Resources of a public undertaking constitute State resources within the meaning of Article 107 of the Treaty because the public authorities control these resources. Case C-482/99 France v Commission, [2002] ECR I-4397. In line with this judgment, it will further have to be assessed whether financing via a public undertaking is imputable to the State.

¹⁰ Regulation 1698/2005 of 20 September 2005 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) OJ L 277, 21.10.2005, p.1, Regulation 1080/2006 of 5 July 2006 on

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will likewise constitute State resources, when these funds are allocated at a Member State's discretion¹¹.

- (11) **Undertaking:** State measures supporting broadband investments usually address the exercise of an economic activity, such as the construction, operation and granting of access to broadband infrastructure. Also the State itself can carry out an economic activity when it operates and exploits (parts of) a broadband infrastructure, for instance via an in-house company or as part of the State administration. The construction of a broadband network infrastructure with a view of its future commercial exploitation by the State or third party operators, to which it is intrinsically linked, will also constitute an economic activity¹². The roll-out of a broadband network for non-commercial purposes might not constitute State aid¹³, because the network construction does not favour any undertaking¹⁴. However, if such a network is subsequently opened for the use of broadband investors or operators, State aid is likely to be involved¹⁵.
- (12) **Advantage:** The aid is usually granted directly to investors of the network, which in most cases are chosen by means of a competitive tender process. When the State's contribution is not provided on normal market terms and consequently qualifies as State aid under the market economy investor principle (see paragraph (16) below), the use of a tender process ensures that any aid is limited to the minimum amount necessary for the particular project. However, it does not eliminate the aid, as the public authority will still provide a subsidy to the winning bidder (for instance in terms of "gap funding" or in-kind contribution) and the purpose of such procedure is precisely the selection of the aid beneficiary. The financial support received will enable the successful bidder to conduct this commercial activity on conditions which would not otherwise be available on the market. Besides the direct recipient of the aid, third party operators receiving wholesale access to the subsidised infrastructure may be indirect beneficiaries¹⁶.

the European Regional Development Fund and repealing Regulation (EC) No 1783/1999 OJ L 210 31.7.2006, p.1, Regulation 1083/2006, of 11 July 2006 laying down general provisions on the European Regional Development Fund, the European Social Fund and the Cohesion Fund and repealing Regulation (EC) No 1260/1999 OJ L 210, 31.7.2006, p.25.

¹¹ See for instance Commission Decision in Case N157/2006 - United Kingdom South Yorkshire *Digital Region Broadband Project*. The Court has confirmed that once financial means remain constantly under public control and are therefore available to the competent national authorities, this is sufficient for them to be categorised as State aid, see Case C-83/98 P France v Ladbroke Racing Ltd and Commission [2000] ECR I-3271, paragraph 50.

¹² Case T-443/08 and T-455/08 Freistaat Sachsen and Others v. Commission [Not yet published], paragraphs (93) to (95).

¹³ See for instance Commission decision in Case NN24/2007 - Czech Republic. *Prague Municipal Wireless Network*.

¹⁴ Similarly, if a network is constructed or broadband services are procured to satisfy the own needs of the public administration, under certain circumstances, such intervention might not confer advantage to economic undertakings. See Commission decision in case N46/2007– United Kingdom, *Welsh Public Sector Network Scheme*.

¹⁵ Commission Decision in Case SA.31687(N436/2010) - Italy *Broadband in Friuli Venezia Giulia (Project Ermes)* and in Case N 407/2009 – Spain, *Xarxa Oberta*.

¹⁶ It is likely that the benefit of the subsidy is at least partially passed on to third party operators even if they pay a remuneration for the wholesale access. Indeed wholesale prices are often regulated. Price regulation leads to a lower price than the one which the wholesaler could otherwise achieve on the market (which could be a monopoly price if there is no competition with other networks). Where prices are not regulated, the wholesaler will in any case be required to benchmark his prices on the average prices applied in other,

- (13) **Selectivity:** State measures supporting the deployment of broadband networks are selective in nature in that they target broadband investors and third party operators which are active only in certain segments of the overall electronic communications services market. As regards the business-end users of the subsidised network¹⁷, by contrast, the measure might not be selective as long as the access to the subsidized infrastructure is open to all sectors of the economy. Selectivity will exist if broadband deployment is specifically addressed to dedicated business users, for instance if the State support is geared toward the deployment of a broadband network in favour of pre-determined companies which are not chosen according to general criteria applicable in the entire area for which the granting authority is responsible¹⁸.
- (14) **Distortion of competition:** According to the case law of the Court of Justice of the European Union ("the Court"), financial support or support in kind distorts competition in so far as it strengthens the position of an undertaking compared with other undertakings¹⁹. Due to the State aid granted to a competitor, existing operators might reduce capacity or potential operators might decide not to enter into a new market or a geographic area. Distortions of competition are likely to be enhanced if the beneficiary of the aid has market power. Where the aid recipient is already dominant on a market, the aid measure may reinforce this dominance by further weakening the competitive constraint that competitors can exert.
- (15) **Effect on trade:** Finally, insofar as the State intervention is liable to affect service providers from other Member States, it also has an effect on trade since the markets for electronic communications services (wholesale and retail broadband markets) are open to competition between operators and service providers²⁰.

2.2.1. *Absence of aid: the application of the market economy investor principle*

- (16) Article 345 TFEU provides that '*[t]his Treaty shall in no way prejudice the rules in Member States governing the system of property ownership*'. According to the case-law of the Court, it follows from the principle of equal treatment that capital placed by the State, directly or indirectly, at the disposal of an undertaking in circumstances which correspond to normal market conditions cannot be regarded as State aid. When equity participation or capital injections by a public investor do not present sufficient prospects of profitability, even in the long term, such intervention must be regarded as aid within the meaning of Article 107 TFEU, and its compatibility with the common market must be assessed on the basis solely of the criteria laid down in that provision²¹.

more competitive areas (see paragraph (67) h) below) which is also likely to lead to a price lower than the one which the wholesaler could otherwise have achieved on the market.

¹⁷ Subsidies to residential users fall outside the scope of Article 107(1) TFEU.

¹⁸ An example would be aid to a business districts, see for instance Commission decision in Case N626/2009 – Italy, *NGA for industrial districts of Lucca*.

¹⁹ Case C-310/99, Italian Republic v Commission [2002] ECR-I-02289, paragraph 65.

²⁰ See Commission Decision in Case N237/2008 — Germany, *Broadband support in Niedersachsen*.

²¹ Case C-303/88, Italian Republic v Commission, [1991] ECR I-1433, at paragraphs 20-22.

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- (17) In its Amsterdam decision, the Commission has examined the application of the principle of the market economy private investor in the broadband field²². As underlined in this decision, the conformity of a public investment with market terms has to be demonstrated thoroughly and comprehensively, either by means of a significant participation of private investors or the existence of a sound business plan showing an adequate return on investment. 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. This also applies to other forms of State supports such as soft loans or guarantees²³.

2.2.2. State aid for broadband deployment as a service of general economic interest – Altmark and compatibility under Article 106 (2) TFEU

- (18) In some cases, Member States may consider that the provision of a broadband network should be regarded as a service of a general economic interest ('SGEI') within the meaning of Article 106(2) TFEU²⁴. As to the assessment of financing for services of general economic interests, reference is made to the Commission's communication on the application of the European Union State aid rules to compensation granted for the provision of services of general economic interest²⁵. These rules also apply to State aid for broadband deployment. What follows will only illustrate the application of these principles to the broadband sector.
- (19) According to the Court's case-law, provided that four main conditions (commonly referred to as the *Altmark* criteria) are met, State funding for the provision of an SGEI may fall outside the scope of Article 107(1) TFEU²⁶. The four conditions are: (a) the beneficiary of a State funding mechanism for an SGEI must be formally entrusted with the provision and discharge of an SGEI, the obligations of which must be clearly defined (b) the parameters for calculating the compensation must be established beforehand in an objective and transparent manner, to avoid it conferring an economic advantage which may favour the recipient undertaking over competing undertakings; (c) the compensation cannot exceed what is necessary to cover all or part of the costs incurred in the discharge of the SGEI, taking into account the relevant receipts and a reasonable profit for discharging

²² Commission Decision of 11 December 2007 in case C 53/2006 – The Netherlands, *Citynet Amsterdam - Investment by the city of Amsterdam in a fibre-to-the home (FttH) network*, OJ L 247, 16.9.2008, p.27.

²³ Commission Notice on the application of Articles 87 and 88 of the EC Treaty to State aid in the form of guarantees, OJ C 155, 20.6.2008, p. 10-22 and the Corrigendum to the Notice, OJ C 244, 25.9.2008, p.32.

²⁴ According to the case-law, undertakings entrusted with the operation of services of general economic interest must have been assigned that task by an act of a public authority. In this respect, a service of general economic interest may be entrusted to an operator through the grant of a public service concession; see Joined Cases T-204/97 and T-270/97 EPAC - Empresa para a Agroalimentação e Cereais, SA v Commission [2000] ECR II-2267, paragraph 126 and Case T-17/02 Fred Olsen, SA v Commission [2005] ECR II-2031, paragraphs 186, 188-189.

²⁵ Communication from the Commission on the application of the EU State aid rules to compensation granted for the provision of services of general economic interest, OJ C 8, 11.01.2012, p. 4-14.

²⁶ See Case C-280/00, *Altmark Trans GmbH and Regierungspräsidium Magdeburg v Nahverkehrsgesellschaft Altmark GmbH*, [2003] ECR I-7747 (“Altmark judgment”). It was considered that the four conditions had been met, for example, in Commission Decision N381/2004 - France, *Projet de réseau de télécommunications haut débit des Pyrénées-Atlantiques*, and Commission Decision N331/2008 - France – *Compensation de charges pour une Délégation de Service Public (DSP) pour l'établissement et l'exploitation d' un réseau de communications électroniques à très haut débit dans le Département des Hauts-de-Seine*.

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those obligations and (d) where the beneficiary is not chosen pursuant to a public procurement procedure, that allows for the provision of the service at the least cost to the community, the level of compensation granted must be determined on the basis of an analysis of the costs which a typical undertaking, well run, would have incurred in discharging those obligations, taking into account the relevant receipts and a reasonable profit.

Services of general economic interest and application of the Altmark criteria

The SGEI definition

- (20) Regarding whether the funding concerns the support for a service of general economic interest, the Commission considers that in areas where private investors have already invested in a broadband network infrastructure (or are further expanding the network) and are already providing competitive broadband services with an adequate broadband coverage, setting up a parallel competitive and publicly-funded broadband infrastructure cannot be considered as an SGEI within the meaning of Article 106 (2) TFEU²⁷. However, where it can be demonstrated that private investors are not in a position to provide in the near future²⁸ adequate broadband coverage to all citizens or users, thus leaving a significant part of the population unconnected, a public service compensation may be granted to an undertaking entrusted with the operation of an SGEI provided the conditions of the SGEI communication cited above are fulfilled. In this respect, the networks to be taken into consideration for assessing the need for an SGEI should always be of comparable architecture, namely either basic broadband or NGA networks.
- (21) Member States should ensure that the broadband infrastructure to be deployed should provide all users in a given area with universal connectivity, residential and business users alike. Support for connecting businesses only would not be sufficient²⁹.
- (22) Moreover, the compulsory nature of the SGEI mission implies that the provider of the network to be deployed will not be able to refuse wholesale access to the infrastructure on a discretionary and/or discriminatory basis (because for instance, it may not be commercially profitable to provide access services to a given area).
- (23) A publicly-funded network set up within the context of an SGEI should be available to all interested operators. Accordingly, the recognition of an SGEI mission for broadband deployment should be based on the provision of a passive³⁰, neutral³¹ and open infrastructure. Such a network should provide access seekers with all possible forms of network access and allow effective competition at the retail level, ensuring the provision of competitive and affordable services to end-

²⁷ In line with principles contained in paragraphs 48 and 49 of the SGEI Communication cited above,.

²⁸ The term in the "near future" should be understood as referring to a period of three years in line with paragraph (59) of these Guidelines.

²⁹ In line with the principle expressed in paragraph 50 of the SGEI Communication cited in footnote 25. See also Commission Decision N284/05 – Ireland, Regional broadband Programme: *Metropolitan Area Networks* ("MANs"), phases II and III and N890/06 – France, *Aide du Sicoval pour un réseau de très haut débit*.

³⁰ The passive infrastructure is basically the physical infrastructure of the networks. For a definition, see glossary.

³¹ A network should be technologically neutral and thus enable access seekers to use any of the available technologies to provide services to end users.

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users³². Therefore, the SGEI mission should only cover the deployment of a broadband network providing universal connectivity and the provision of the related wholesale access services, without including retail communication services. Where the provider of the SGEI mission is also a vertically integrated broadband operator, adequate safeguards should be put in place to avoid any conflict of interest, undue discrimination and any other hidden indirect advantages³³.

The entrustment act

- (24) Given that the market for electronic communications is fully liberalised, it follows that an SGEI mission for broadband deployment cannot be based on the award of an exclusive or special right to the provider of the SGEI within the meaning of Article 106(1) TFEU.

Calculation of the compensation

- (25) In complying with its universal coverage mission, an SGEI provider may need to deploy a network infrastructure not only in unprofitable areas but also in profitable areas in which other operators may have already deployed their own network infrastructure or may plan to do so in the near future. However, given the specificities of the broadband sector, in this case any compensation granted should only cover the costs of rolling out an infrastructure in the non-profitable areas, taking into account relevant revenue and a reasonable profit³⁴. Where an SGEI mission for the deployment of a broadband network is not based on the deployment of a publicly-owned infrastructure adequate review and claw back mechanisms should be put in place to prevent the SGEI provider from obtaining an undue advantage by retaining ownership of the network that was financed with public funds when the SGEI concession expires.

SGEI assessment outside the application of the Altmark criteria

- (26) Where the four criteria set out in the Altmark case law are not met, and if the general criteria for the applicability of Article 107(1) TFEU are fulfilled, public service compensation for the deployment of a broadband infrastructure will constitute State aid and will be subject to Articles 93, 106, 107 and 108 TFEU. In this case, State aid in the form of public service compensation granted to certain undertakings entrusted with the operation of services of general economic interest (in accordance with paragraphs (20) to (24) above) could still be regarded as compatible with the internal market, if the compatibility criteria developed for the application of Article 106 (2) TFEU are met.

³² In line with paragraph (67) g of these Guidelines.

³³ Such safeguards should include, in particular, an obligation of accounting separation, and may also include the setting up of a structurally and legally separate entity from the vertically integrated operator. Such entity should have sole responsibility for complying with and delivering the SGEI mission assigned to it.

³⁴ It is for Member States to devise, given the particularities of each case, the most appropriate methodology to ensure that the compensation granted will only cover the costs of discharging the SGEI mission in the non-profitable areas, taking into account the relevant revenue and a reasonable profit. For instance, the compensation granted could be based on a comparison between revenues accruing from the commercial exploitation of the infrastructure in the profitable areas and the revenues accruing from the commercial exploitation in the non profitable areas. Any profit in excess of a reasonable profit, i.e. profits beyond the average industry return on capital for deploying a given broadband infrastructure, could be assigned to the financing of the SGEI in the non profitable areas while the remaining profits could be part of the financial compensation granted.

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- (27) The compensation may be exempt from the requirement of notification laid down in Article 108(3) TFEU if the requirements set out in Commission Decision of 20 December 2011 on the application of Article 106(2) TFEU to State aid in the form of public service compensation granted to certain undertakings entrusted with the operation of services of general economic interest' are met³⁵. State aid not covered by that Decision can be declared compatible under Article 106 (2) TFEU, if the conditions of the European framework for State aid in the form of public service compensation are met³⁶. However, it should be noted for both compatibility assessments, the above considerations on the quality of the definition of the public service obligation for broadband deployment (see above paragraphs (20) to (24)) will apply, in line with the existing rules³⁷.

2.3. *Administrative and regulatory measures supporting broadband roll-out falling outside the scope of EU State aid rules*

- (28) As also explained in the Commission's Broadband Communication³⁸, Member States may choose several types of measures in order to accelerate the deployment of broadband and in particular NGA networks besides providing direct funding to companies. These measures do not necessarily need to involve State aid within the meaning of Article 107(1) TFEU.
- (29) Given that a large part of the cost of deploying fibre networks is in the civil engineering work (for instance digging, laying down cables, in-house wirings, etc.)³⁹, 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 (including new water, energy, transport or sewage networks) and/or buildings a fibre connection should be in place⁴⁰. A centralised inventory of the existing infrastructure (subsidised or otherwise), possibly also including planned works, could help the roll-out of commercial broadband⁴¹. Existing infrastructure does not

³⁵ OJ L7,11.1.2012, p.3-10.

³⁶ OJ C 8 of 11.1.2012, p.15 -22.

³⁷ See 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 of 11.1.2012, p.4-14, paragraph 48. See also Commission decision N196/2010 – Estonia, *Establishment of a Sustainable Infrastructure Permitting Estonia-wide Broadband Internet Connection (EstWin project)*.

³⁸ For reference, see footnote 2.

³⁹ In case of deploying fibre to the home networks, such costs could entail 70% of the total investment costs.

⁴⁰ However, public funding of such works may still fall within the notion of aid of Article 107(1) TFEU. See also N 383/2010 2009 – Germany – Amendment of N 150/23008 Broadband in the rural areas of Saxony. This case concerned one of the rare instances in which 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 at the occasion of the road maintenance – and at the costs of the operators - was announced publicly and not limited to or geared towards the broadband sector.

⁴¹ See for instance the German NRA's 'Infrastrukturatlas', where operators voluntarily share information on the available and potential reusable infrastructures.

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only concern telecommunication infrastructure, but also alternative infrastructures (sewers, manholes, etc.) of other industries (such as utilities)⁴².

2.4. The compatibility assessment under Article 107(3) TFEU

- (30) Where State intervention to support broadband deployment fulfills the conditions defined in Section 2.1, its compatibility will generally be assessed by the Commission under Article 107 (3) (c) TFEU⁴³. To date, regional and local authorities have adopted different models of intervention. A non-exhaustive list of these models is provided in the Annex. Apart from those described in the annex, public authorities may also develop other models of supporting broadband deployment.⁴⁴ For all types of intervention forms the principles set out in Sections 3.2 and 3.3 of these Guidelines must be applied⁴⁵.
- (31) Broadband State aid projects may be implemented in assisted areas within the meaning of Article 107(3) (a) and (c) TFEU, and the Regional Aid Guidelines (RAG)⁴⁶. In this case, aid for broadband may qualify as aid for an initial investment within the meaning of the RAG. Where a measure falls within the scope of the RAG⁴⁷, and where it is envisaged to grant individual ad hoc aid to a single firm, or aid confined to one area of activity, the Member State is responsible for demonstrating that the conditions of the RAG have been fulfilled. This includes in particular that the project in question contributes towards a coherent regional development strategy and that, having regard to the nature and size of the project, it will not result in unacceptable distortions of competition⁴⁸.

2.4.1. The balancing test and its application to aid for broadband network deployment

- (32) For an assessment under Article 107 (3) (c) TFEU the Commission balances the positive impact of the aid measure in reaching an objective of common interest

⁴² It should be recalled that the EU regulatory framework for e-communications gives the competent national authorities the possibility to require undertakings to provide the necessary information in order for these authorities to be able to establish, in conjunction with NRAs, a detailed inventory of the nature, availability and geographical location of network elements and facilities, and make it available to interested parties. See Article 12 (4) of Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory Framework for Electronic Communications Networks and services (Framework Directive) as amended by Directive 2009/140/EC of the European Parliament and of the Council of 25 November 2009.

⁴³ The list of all the Commission decisions taken under the State aid rules concerning broadband is available at http://ec.europa.eu/competition/sectors/telecommunications/broadband_decisions.pdf.

⁴⁴ For instance, loans (as opposed to grants) may be a useful tool to counteract the lack of credit for long term infrastructure investments.

⁴⁵ This is without prejudice to the possible application of the Regional Aid Guidelines as referred to above in paragraph (31).

⁴⁶ Guidelines on national regional aid for 2007-2013, OJ C 54, 04.03.2006, pages 13-44.

⁴⁷ However, in many cases examined so far by the Commission, the territory covered by a notified measure included assisted as well as other areas, and as a result the Commission's assessment could not be carried out under the RAG. In addition, often the aid intensity could exceed the ceiling allowed for regional aid in such areas.

⁴⁸ The State aid to broadband approved under the RAG shall in any event ensure that (i) aid is granted only to areas where no comparable infrastructures are available and (ii) the subsidized networks provide wholesale access to all third party operators on an open, non-discriminatory basis. See for instance Commission decision in case N405/2008 – Poland, *Regional aid scheme for investments in energy, telecommunications infrastructure, research and development infrastructure and spa therapeutics*.

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against its potential negative side effects, such as distortions of trade and competition.

- (33) In applying this balancing test, the Commission will assess the following questions:
- (a) Is the aid measure aimed at a well-defined objective of common interest, i.e. does the proposed aid address a market failure or other objective?
 - (b) Is the aid well designed to deliver the objective of common interest? In particular:
 - (i) is State aid an appropriate policy instrument, i.e. are there other, more appropriate instruments?
 - (ii) is there an incentive effect, i.e. does the aid change the behaviour of undertakings?
 - (iii) is the aid measure proportional, i.e. could the same change in behaviour be obtained with less aid?
 - (c) Are the distortions of competition and the effect on trade limited, so that the overall balance is positive?
- (34) The individual steps of the balancing test in the field of broadband are set out in further detail in what follows.
- (a) *Objective of the measure*
- (35) A "market failure" exists if markets without intervention fail to deliver an outcome that would yield the highest possible welfare for society. This may arise for instance in terms of socially profitable investments not being undertaken⁴⁹. In such cases, the granting of State aid may produce positive effects and overall efficiency can be improved by adjusting 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.
- (36) Due to economics of density, broadband networks are 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. As a result, broadband networks tend to profitably cover only part of the population. However, as acknowledged in the DAE, 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

⁴⁹ However, the fact that a specific company may not be capable of undertaking a project without aid does not mean that there is a market failure. For instance, the decision of a company not to invest in a project with low profitability or in a region with limited market demand and/or poor cost competitiveness may not be an indication of a market failure, but rather of a market that functions well.

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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.

- (37) A second possible objective of common interest is related to equity. Governments may choose to intervene to correct social or regional inequalities generated by a market outcome. In certain cases, State aid for broadband may also be used to achieve equity objectives, i.e. as a way of improving access to an essential means of communication and participation in society as well as freedom of expression for all members of society, thereby improving social and territorial cohesion.
- (38) As regards the common interest objective, the Commission will also assess to what extent the planned intervention will contribute to the achievement of the objectives of common interest explained above as further specified in the DAE. In pursuing the DAE objectives, a balance has to be carefully struck between the wish to provide very high speed infrastructure in urban areas to enhance their competitiveness and the need to avoid that a new digital divide emerges in rural areas, thus endangering the cohesion objectives.

(b) Design of the measure

- (39) Public intervention in support of broadband networks may take place at State, regional or municipal level⁵⁰. Therefore coordination of the various interventions is essential to avoid duplications and incoherence. To ensure consistency and coordination of the local interventions, it is necessary to ensure a high level of transparency of local initiatives.
- (40) Wherever possible and respecting competences and specificities, Member States are encouraged to design nationwide schemes containing the main principles underlying the public initiatives and to indicate the most relevant features of the planned networks⁵¹. National framework schemes for broadband development ensure coherency in the use of public funds, reduce administrative burden on smaller granting authorities and accelerate the implementation of the individual aid measures. Further, Member States are encouraged to give clear guidance at central level for the implementation of State aid-financed broadband projects.
- (41) The role of NRAs in designing a pro-competitive State aid measure in support of broadband is particularly important. The NRAs have gained technical knowledge and expertise due to the crucial role assigned to them by sectoral regulation⁵². They are best placed to support public authorities with regard to the State aid schemes and should be consulted when target areas are being identified. NRAs should also be consulted with regard to determining the wholesale access prices and conditions and solving disputes between access seekers and the subsidised infrastructure operator. Member States are encouraged to provide NRAs with the

⁵⁰ For municipal and regional funding see Commission Decisions in cases SA 33420 (2011/N) – Germany, *Breitband Lohr am Main*, N 699/2009 – Spain, *Desarrollo del programa de infraestructuras de telecomunicaciones en la Región de Murcia*.

⁵¹ Often Member States notify framework programmes which describe under which conditions municipal or regional funding can be granted to broadband deployment. See for instance N62/2010 – Finland, *High speed broadband construction aid in sparsely populated areas of Finland*, N53/2010 – Germany, *Federal framework programme on duct support*, or N30/2010 – Sweden, *State aid to Broadband within the framework of the rural development program*.

⁵² For reference, see above footnote 5.

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resources they need to give such support. Where necessary, Member States should provide an appropriate legal basis for such involvement of NRAs in State aid broadband projects. In keeping with best practice, NRAs should issue guidelines for local authorities which include recommendations on market analysis, wholesale access products and pricing⁵³.

- (42) In addition to the involvement of NRAs, National Competition Authorities may also provide useful advice in particular in relation to large framework schemes to help establishing a level playing field for the bidding operators and to avoid that a disproportionately high share of state funds is earmarked to one operator, thereby strengthening its (possibly already dominant) market position⁵⁴.
- (43) So that the measure is properly designed, the balancing test further requires that State aid is an *appropriate* policy instrument to address the problem. In this respect, whilst *ex ante* regulation has in many cases facilitated broadband deployment in urban and more densely populated areas, it may not be a sufficient instrument to enable the supply of broadband service, especially in underserved areas where the inherent profitability of investment is low⁵⁵. Likewise, although they can contribute positively to broadband penetration, demand-side measures in favour of broadband (such as vouchers for end users) cannot always solve the lack of broadband provision⁵⁶. Hence, in some situations there may be no alternative to granting public funding to overcome the lack of broadband connectivity.
- (44) Regarding the *incentive effect* of the measure, it needs to be examined whether the broadband network investment concerned would not have been undertaken within the same timeframe without any State aid. Where an operator is subject to certain obligations to cover the target area⁵⁷, it may not be eligible for State aid, as the latter is unlikely to have an incentive effect.
- (45) In assessing the *proportional* character of the notified measures, the Commission has highlighted a number of necessary conditions to minimise the State aid involved and the potential distortions of competition as explained more in detail in the following Sections (see in particular section 3.2.2.).
- (c) *Limiting the distortion of competition and the overall balancing exercise*
- (46) A carefully designed State aid scheme for broadband should ensure that the overall balance of the effects of the measure is positive.

⁵³ This would increase transparency, ease the administrative burden on local authorities and could mean that NRAs would not have to analyse each State aid case individually.

⁵⁴ See for instance Avis n° 12-A-02 du 17 janvier 2012 relatif à une demande d'avis de la commission de l'économie, du développement durable et de l'aménagement du territoire du Sénat concernant le cadre d'intervention des collectivités territoriales en matière de déploiement des réseaux à très haut débit (French Competition Authority's opinion in relation to the deployment of very high speed broadband networks)

⁵⁵ See for instance, Commission Decision N473/2007 – Italy, *Broadband connection for Alto Adige*, Decision N570/2007 – Germany, *Broadband in rural areas of Baden-Württemberg*.

⁵⁶ See for instance Commission Decision N222/2006 – Italy, *Aid to bridge the digital divide in Sardinia*.

⁵⁷ This may, for instance, apply to mobile LTE (long-term evolution) operators with coverage targets under their licence conditions. in the target area. Similarly, if an operator designated with an universal service obligation (USO) receives public service compensation, no additional State aid can be granted to finance the same network.

- (47) In this regard, the effect of the State aid measure can be described as a change of activity compared with what would have happened without the aid. The positive effects of the aid are directly linked to the change in the aid beneficiary's behaviour. This change should enable the achievement of the desired common interest goal. In the broadband sector, the aid leads to the rollout of a new infrastructure which would not have been there otherwise, thus delivering additional capacity and speed on the market as well as lower prices and better choice for consumers, higher quality and innovation.
- (48) In its assessment, the Commission will consider to what extent a subsidised network will be able to ensure a "step change" in terms of broadband availability. A "step change" can be demonstrated if as the result of the public intervention (1) the selected bidder makes significant new investments in the broadband network⁵⁸ and (2) the subsidised infrastructure brings significant new capabilities to the market in terms of broadband service availability and capacity⁵⁹.
- (49) The change in the beneficiary's behaviour because of the aid may also have negative effects on competition and trade, however. The significance of the distortion of competition can be assessed in terms of effects on competitors. If competitors see the profitability of their prior investment decreasing because of the aid, they may decide to reduce their own future investment or even withdraw from the market altogether⁶⁰. Additionally, where the aid beneficiary is already dominant on a market or may become dominant due to the State funded investment, the aid measure could weaken the competitive constraint that competitors can exert.
- (50) If the balancing test shows that the negative effects outweigh the benefits, the Commission may prohibit the aid, or ask for remedial action, either in the design of the aid, or in the harm it does to competition.

3. APPLICATION OF THE PRINCIPLES IN CASE OF STATE AID TO BASIC AND NGA NETWORKS

3.1. Types of broadband networks

- (51) For the purposes of State aid assessment, the present Guidelines distinguish between basic and NGA networks.

⁵⁸ For instance, marginal investments related only to the upgrade of the active components of the network should not be considered eligible for state aid. Similarly, although certain copper enhancing technologies (such as vectoring) could increase the capabilities of the existing networks, they may not require significant investments in new infrastructure hence should not be eligible for State aid.

⁵⁹ For instance an upgrade from a basic to an NGA broadband network, or from a fibre-to-the-cabinet (FTTC) network to an ultra-fast broadband network (under the strict conditions of Section 3.3.3) is likely to represent a step change. In areas where broadband networks are already present, the application of the step change should ensure that the use of State aid does not lead to a duplication of existing infrastructure. For instance, due to their similar technical and topology constraints, constructing a wireless network in an area where a mobile network is already present is unlikely to provide significant new capacities. Similarly, a small, gradual upgrade of existing infrastructures for instance from 6 Mbps to 12 Mbps is unlikely to bring additional service capabilities (and would likely disproportionately favour the existing operator).

⁶⁰ This type of effects can be referred to as "crowding out".

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- (52) Several different technology platforms can be considered as basic broadband networks including asymmetric digital subscriber line (ADSL), cable, mobile, wireless and satellite solutions.
- (53) At the current stage of market and technological development, NGA networks are wired access networks which consist wholly or partly of optical elements and which are capable of delivering broadband access services with enhanced characteristics (such as higher throughput) as compared to those provided over existing copper networks⁶¹. They are able to deliver services at very high speeds and support a multitude of advanced digital converged services. At the current stage of market and technological development, NGA networks are therefore wired fibre-based or advanced upgraded cable networks⁶².
- (54) Under the appropriate conditions, the gradual upgrade of existing infrastructures (for instance extending fibre connectivity until the nodes) may still greatly contribute to achieving of the "speeds" objectives of the DAE especially in areas where deployment of a completely new infrastructure would not be economically feasible. Such interim NGA networks could be cost-effective and provide a "step change" in terms of broadband availability for disadvantaged areas. However, while connection speed is one important characteristic of NGA networks, at the same time it is not the only one. Apart from a certain download speed, future-proof NGA networks – which are more adequate for urban areas - are understood to have at least also the following characteristics: (i) provide enhanced connectivity (ii) provide the possibility of symmetric speeds and (iii) represent a sustainable and non-temporary technological advancement by extending fibre until the customer premises (iv) supports infrastructure-based competition. Overall, NGA networks constitute a leap forward compared to current generation technological solutions and thereby facilitate the improvement of all aspects of broadband technology and broadband services⁶³.
- (55) It is important to bear in mind that in the longer term NGA networks are expected to supersede existing basic broadband networks and not just to upgrade them. To the extent that NGA networks require a different network architecture, offering significantly better quality broadband services than today as well as the provision of multiple services that could not be supported by today's broadband networks, it is likely that in the future there will be marked differences emerging between areas that will be covered and areas that will not be covered by NGA networks⁶⁴.

⁶¹ See also Commission Recommendation 2010/572/EU of 20 September 2010 on regulated access to Next Generation Access Networks (NGA), OJ L 251, 25.09.2010, p. 35 - 48 (NGA Recommendation). At this stage of technological and market development, neither satellite nor mobile or wireless network technologies (including LTE) appear to be capable of providing very high speed (symmetrical) broadband services, in particular since these technological solutions are "shared", thus the speeds will depend on the number of connected users in the area covered. However, given the rapid evolution of technology the Commission will closely follow the technology advancements and change the NGA definition and its interpretation accordingly, if technologies have changed.

⁶² Using at least 'DOCSIS 3.0' cable modem standard.

⁶³ NGA networks will have the speed and capacity to deliver in the future high definition content, support on-demand bandwidth hungry applications as well as bringing to business affordable symmetrical broadband connections.

⁶⁴ If today the differences between an area where only narrowband internet is available (dial-up) and an area where broadband exists means that the former is a "white" area, likewise an area that lacks a next generation

- (56) Member States can freely decide what form their intervention will take, provided it complies with State aid rules. In some cases, Member States might decide to finance so-called next generation networks, i.e. backhaul networks which do not reach the end-user. Backhaul networks are a necessary input for retail telecommunication operators to provide access services to the end users. These types of networks are able to sustain both basic and NGA types of networks: it is the (investment) choice of the telecommunication operators what type of 'last mile' infrastructure they wish to connect to the backhaul network⁶⁵. Public authorities may also decide to undertake just civil engineering works (such as digging on public land, construction of ducts) in order to enable and accelerate the deployment by the operators concerned of their own network elements.

3.2. *State aid for basic broadband networks*

3.2.1. *The distinction between white, grey and black areas for basic broadband networks*

- (57) In order to assess market failure and equity objectives, a distinction can be made between the types of areas that may be targeted. This distinction is explained in the following sections. In the identification of the targeted areas, whenever the public intervention is limited to the backhaul part of the network, the State aid assessment will take into account the situation on both the backhaul markets and the access markets⁶⁶.
- (58) The different standards to justify public interventions in these geographical areas will be described below

"White areas": promoting territorial cohesion and the economic development objective

- (59) "White areas" are those in which there is no broadband infrastructure and it is unlikely to be developed in the near future. The Commission targets for the DAE aim for a ubiquitous coverage of basic broadband services in the EU by 2013 and of at least 30 Mbps by 2020. It is therefore a priority to ensure timely investment in areas which are not yet sufficiently covered. The Commission acknowledges therefore that by providing financial support for the provision of broadband services in areas where broadband is currently not available, Member States pursue genuine cohesion and economic development objectives and thus, their intervention is likely to be in line with the common interest⁶⁷. However, in order to ensure that such intervention does not prevent private investment in the target area, the aid granting authority should verify that there are no private investors planning to roll out their own infrastructure in the near future by publishing a summary of the planned aid measure and by inviting interested parties to comment. The term in the "near future" should be understood as referring to a period of three years⁶⁸. Member States may decide to take a longer time horizon than three years, if this is

broadband infrastructure, but may still have one basic broadband infrastructure in place should also be considered a "white" NGA area.

⁶⁵ Commission decision in case N407/2009 – Spain – *Optical fibre Catalonia (Xarxa Oberta)*.

⁶⁶ Commission decisions in cases N407/2009 – Spain – *Optical fibre Catalonia (Xarxa Oberta)* and SA. 33438 – Poland, *Broadband network for Eastern Poland*.

⁶⁷ See for instance, Commission decisions in cases N607/2009 – Ireland, *Rural Broadband Reach*, or N172/2009 – Slovenia, *Broadband development in Slovenia*.

⁶⁸ The three year period would start from the moment of publication of the planned aid measure.

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indicated in their national broadband strategies⁶⁹ and is in line with the investment perspective of the granting authority for the development of the subsidised infrastructure⁷⁰.

- (60) There exists the risk that a mere "expression of interest" by a private investor could delay delivery of broadband services in the target area if subsequently such investment does not take place while at the same time public intervention has been stalled. The aid granting authority should therefore require certain commitments from the private investor before deferring the public intervention. These commitments should ensure that significant progress in terms of coverage will be made within the three year period or for the longer period foreseen for the supported investment. It may further request the respective operator to enter into a corresponding contract which outlines the deployment commitments. This contract could foresee a number of "milestones" which would have to be achieved during the three year period⁷¹ and reporting on the progress made. If a milestone is not achieved, the granting authority may then go ahead with its public intervention plans.

"Grey areas": need for a more detailed assessment

- (61) "Grey areas" are those in which one network operator is present and another network is unlikely to be developed in the near future⁷². The mere existence of one network operator⁷³ does not necessarily imply that no market failure or cohesion problem exists. If that operator has market power (monopoly) it may provide citizens with a suboptimal combination of service quality and prices. Certain categories of users may not be adequately served or, in the absence of regulated wholesale access tariffs, retail prices may be higher than those charged for the same services offered in more competitive but otherwise comparable areas or regions of the country. If, in addition, there are only limited prospects that alternative operators enter the market, the funding of an alternative infrastructure could be an appropriate measure⁷⁴.

⁶⁹ This choice should however take into adequate consideration the interests of underserved regions of the country not be left out and should foresee a periodic review of the classification of the affected areas.

⁷⁰ This means that the public authorities will have achieved an equivalent stage in the development of the infrastructure as requested from the commercial operators consulted.

⁷¹ In this regard, an operator should be able to demonstrate that within the three year period it will cover a substantial part of the territory and of the population concerned thereby. For instance, the aid granting authority may request any operator who declares an interest in building its own infrastructure in the target area to deliver a credible business plan, supporting documents like bank loan agreements and a detailed calendar deployment plan within two months. In addition, within twelve months the investment should be started and permission should be obtained for most of the rights of ways necessary for the project. Additional milestones on the progress of the measure can be agreed for every 6 month period.

⁷² The same company may operate separate fixed and mobile networks in the same area but this will not change the "colour" of such area.

⁷³ The competitive situation is assessed according to the number of existing infrastructure operators. In Commission Decision N330/2010 – France, *Programme national Très Haut Débit*, it was clarified that the existence of several retail providers on one network (including Local Loop Unbundling (LLU)) does not turn the area into a black area, but that the territory remains a grey area as only infrastructure is present. At the same time, the existence of competing operators (at the retail level) will be considered an indication that, albeit grey, the area in question may not be problematic in terms of presence of a market failure. Convincing proof of access problems or quality of service will have to be supplied.

⁷⁴ In its Decision N131/2005 – United Kingdom, *FibreSpeed Broadband Project Wales*, the Commission had to assess whether the financial support given by the Welsh authorities for the construction of an open, carrier-neutral, fibre-optic network linking 14 business parks could still be declared compatible even if the target locations were already served by the incumbent network operator, who provided price regulated

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- (62) On the other hand, in areas where there is already one broadband network operator, subsidies for the construction of an alternative network could distort market dynamics. Therefore state support for the deployment of broadband networks in 'grey' areas is only justified when it can be clearly demonstrated that a market failure persists. A more detailed analysis and a thorough compatibility assessment will be necessary.
- (63) Grey areas could be eligible for State support, provided the compatibility conditions of in Section 3.2.2 are met, if it is proved that (i) no affordable or adequate services are offered to satisfy the needs of citizens or business users, that (ii) there are no less distortive measures available (including ex ante regulation) to reach the same goals and (iii) that there are no other operators planning to start investing into the target area within a three-year period. Evidence of this, as described in paragraph (60), should be provided.
- (64) To establish (i) and (ii), the Commission will assess in particular whether:
- (a) the overall market conditions are not adequate, by looking, *inter alia*, into the level of current broadband prices, the type of services offered to end-users (residential and business users) and the conditions attached thereto;
 - (b) in the absence of ex ante regulation imposed by an NRA, effective network access is not offered to third parties or access conditions are not conducive to effective competition;
 - (c) overall entry barriers preclude the potential entry of other electronic communication operators⁷⁵, and
 - (d) any measures taken or remedies imposed by the competent national regulatory or competition authority with regard to the existing network provider have not been able to overcome such problems.
- (65) Only grey areas that meet the eligibility criteria listed above will undergo the compatibility test described in section 3.2.2 .

"Black areas": no need for State intervention

- (66) When in a given geographical zone at least two basic broadband network providers are present and broadband services are provided under competitive conditions (facilities-based competition), it can be assumed that there is no market failure. Accordingly, there is very little scope for State intervention to bring further benefits. On the contrary, state support for the funding of the construction of an additional broadband network with comparable capabilities will, in principle, lead to an unacceptable distortion of competition, and the crowding out of private investors. Accordingly, in the absence of a clearly demonstrated market failure, the

leased lines. The Commission found that the leased lines offer by the incumbent operator was very expensive, almost unaffordable for SMEs. See also Commission Decision N890/2006 – France, *Aide du Sicoval pour un réseau de très haut débit* and Commission Decision N284/2005 - Ireland, *'Regional Broadband Programme: Metropolitan Area Networks ("MANs"), phases II and III*.

⁷⁵ For instance, whether the broadband network already in place was built on the basis of a privileged use/access to ducts not accessible by or not shared with other network operators.

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Commission will take a negative view of measures to fund the roll-out of an additional broadband infrastructure in a "black area"⁷⁶.

3.2.2. Design of the measure and the need to limit distortions of competition

- (67) In addition to demonstration of the elements of the balancing test (*inter alia*, the objective, the existence of market failure, the appropriateness, the incentive effect of the measure, the limiting of the distortion of competition, as well as the demonstration how a "step change" is achieved as explained in Section 2.4), the following necessary conditions must be fulfilled to demonstrate the proportionality of the measure. Failure to meet any of these conditions would most likely require an in-depth assessment⁷⁷ which could result in a conclusion that the aid is incompatible with the internal market.
- a) Detailed *mapping and analysis of coverage*: Member States should clearly identify which geographic areas will be covered by the support measure in question⁷⁸, whenever possible in cooperation with the competent national bodies, such as the NRAs. Best practice examples suggest creation of a central database of the available infrastructure at a national level thereby increasing transparency and reducing the costs for the implementation of smaller, local projects. Member States have the freedom to define the target areas, however, they are encouraged to take into account economic conditions in the definition of relevant regions before launching the tender⁷⁹.
- b) *Public consultation*: Member States should give adequate publicity to the main characteristics of the measure and to the list of target areas by publishing the relevant information of the project and inviting to comment. A publication on a central webpage at national level would in principle ensure that such information is made available to all interested stakeholders. By also verifying the results of the mapping in a public consultation Member States minimise distortions of competition with existing providers and with those who already have investment plans for the near future and enable these investors to plan their activities⁸⁰. A detailed mapping exercise and a thorough consultation ensure not only a high

⁷⁶ See Commission Decision of 19 July 2006 on the measure No C 35/2005 (ex N 59/2005) – The Netherlands Broadband infrastructure in Appingedam, OJ L 86, 27.3.2007, p.1. In this decision, the Commission noted that the competitive forces of the specific market were not duly taken into account. In particular, that the Dutch broadband market was a fast-moving market in which providers of electronic communications services, including cable operators and Internet Service Providers, were in the process of introducing very high capacity broadband services without any State support.

⁷⁷ The detailed assessment could necessitate the opening of a procedure according to Article 108(2) TFEU.

⁷⁸ This mapping should be done on the basis of homes passed by a particular network infrastructure and not on the basis of the actual number of homes or customers connected as subscribers.

⁷⁹ For instance, target areas that are too small might not provide sufficient economic incentives for market players to bid for the aid, while areas that are too big might reduce the competitive outcome of the selection process. Several tender procedures also allow different potential undertakings to benefit from State aid thereby avoiding that one (already dominant) operators' market share is further strengthened by State aid measures by favouring large market players or discouraging technologies which would mainly be competitive in smaller target areas.

⁸⁰ In case where it can be demonstrated that existing operators did not provide any meaningful information to a public authority for the purposes of the required mapping exercise, such authorities would have to rely only on whatever information has been made available to them.

degree of transparency but serve also as an essential tool for defining the existence of “white”, “grey” and “black” areas⁸¹.

- c) *Competitive tender process*: Whenever the granting authorities select an operator to construct and/or to run the subsidised infrastructure⁸², a tender must be conducted. This tender must be in line with the principles of the EU Public Procurement Directives.⁸³ It ensures that there is transparency for all investors wishing to bid for the implementation and/or management of the subsidised project⁸⁴. Equal and non-discriminatory treatment of all bidders and objective evaluation criteria are indispensable conditions. The competitive tender is a method to reduce budgetary costs, to minimise the potential State aid involved and at the same time reduces the selective nature of the measure in so far as the choice of the beneficiary is not known in advance⁸⁵. Member States shall ensure a sufficiently transparent process⁸⁶ and a competitive outcome and shall use a dedicated central website at the national level to publish all on-going tender procedures on broadband State aid measures.
- d) *Most economically advantageous offer*: 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 coverage⁸⁷, sustainability of the technological approach or the impact of the proposed solution on competition⁸⁸. Such qualitative criteria have to be weighed against the requested aid amount. In order to 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

⁸¹ See for instance Commission decision in case N266/2008 – Germany, *Broadband in rural areas of Bayern*.

⁸² As opposed to operating it directly, such as in Commission decision in case N330/2010 - France *Programme national Très Haut Débit*. In this decision, to safeguard the results of competition that have been achieved since the liberalisation of the electronic communications sector in the Union, and in particular the competition that exists today on the retail broadband market, in case of a publicly managed subsidised networks (1) the publicly owned network operators shall limit their activity on the pre-defined target areas and shall not expand to other commercially attractive regions; (2) the public authority (or in-house entity) shall not aim to make profit, but expenses and income shall be balanced; (3) the public authority shall limit its activity to maintain the passive infrastructure and to grant access to it, but shall not engage in competition on the retail levels with commercial operators and (4) to have an accounting separation between the funds used for the operation of the networks and the other funds at the disposal of the public authority.

⁸³ Directive 2004/18/EC of the European Parliament and of the Council of 31 March 2004 on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts. OJ L 134, 30.4.2004, p. 114–240.

⁸⁴ When the granting authority selects an aid beneficiary, the selection process is not strictly speaking a tender procedure, however, the spirit and principles of the EU Public Procurement Directives should be respected.

⁸⁵ See for instance, Commission Decision N475/2007- Ireland, "*National Broadband Scheme (NBS)*", Commission Decision N157/2006 – United Kingdom, "*South Yorkshire Digital region Broadband Project*".

⁸⁶ When the object of such tender is a public contract covered by the EU public procurement directives 2004/17/EC or 2004/18/EC, the tender notice shall be published in OJEU in order to ensure European wide competition, in accordance with the requirements of these directives. In all other cases, tender information should be publicised at least nationwide.

⁸⁷ In terms of the geographic area as defined in the call for tender.

⁸⁸ For instance, network topologies allowing full and effective unbundling could receive more points. It should be noted that at this stage of market development, a point to point topology are more conducive for long term competition in comparison with point to multipoint topology, while the deployment costs are comparable especially in urban areas. Point to multipoint networks will be able to provide full and effective unbundling only once wavelength-division-multiplexed passive optical network (WDM-PON) access is standardised and requested under the applicable regulatory frameworks.

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shall always specify in advance the relative weighting which it will give to each of the (qualitative) criteria chosen.

- e) *Technological neutrality*: In principle, basic broadband services can be delivered on a host of network infrastructures based on wireline, wireless, satellite and mobile technologies, or combinations of those. As different technological solutions exist, the tender should not favour or exclude any particular technology or network platform. Bidders should be entitled to propose the provision of the required broadband services using or combining whatever technology they deem most suitable. On the basis of the objective tender criteria, the granting authority is then entitled to select the most suitable technological solution or mix of technology solutions.
- f) *Use of existing infrastructure*: Since the re-usability of existing infrastructure is one of the main determinants for the cost of broadband roll-out, Member States should encourage bidders to have recourse to any available existing infrastructure so as to avoid unnecessary and wasteful duplication of resources and to reduce the amount of public funding. Any operator which owns or controls infrastructure (irrespective of whether it is actually used) in the target area and which wishes to participate in the tender, should fulfil the following conditions: (i) to inform the aid granting authority and the NRA about that infrastructure during the public consultation; (ii) to provide access to such infrastructure to all other potential bidders at the same terms and conditions as the operator uses them for its own tender; (iii) to provide all relevant information and access to other bidders at a point in time which would allow the latter to include such infrastructure in their bid. Member States should setup a national database on the availability of existing infrastructures that could be re-used for broadband roll-out.
- g) *Wholesale access*: Third parties' effective wholesale access to a subsidised broadband infrastructure is an indispensable component of any State measure supporting broadband. In particular, wholesale access enables third party operators to compete with the selected bidder (when the latter is also present at the retail level), thereby strengthening choice and competition in the areas concerned by the measure while at the same time avoiding the creation of regional service monopolies. Applying only to State aid beneficiaries, this condition is not contingent on any prior market analysis within the meaning of Article 7 of the Framework Directive⁸⁹. The type of wholesale access obligations imposed on a subsidised network should be aligned with the portfolio of access obligations laid down under the sectoral regulation⁹⁰. In principle, subsidised companies should provide a wider range of wholesale access products than those mandated by NRAs

⁸⁹ Moreover, whenever Member States opt for a management model whereby the subsidised broadband infrastructure offers only wholesale access services to third parties, not retail services, the likely distortions of competition are further reduced as such a network management model helps to avoid potentially complex issues of margin squeeze and hidden forms of access discrimination. See for instance SA.30317 High-speed broadband in Portugal.

⁹⁰ Whenever the State aid measure covers the funding of new passive infrastructure elements such as ducts or poles, access to those should also be granted and be unlimited in time. See for instance Commission decisions in cases N53/3010 – Germany, *Federal framework programme on ducts support*, N596/2009 – Italy – *Bridging the digital divide in Lombardia*, N383/2009 – Germany – Amendment of N150/2008 *Broadband in the rural areas of Saxony*, N330/2010 – France, Programme national Très Haut Débit.

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under sectoral regulation to the operators who have significant market power⁹¹ since the aid beneficiary is using not just its own resources but taxpayers' money to deploy its own infrastructure⁹². Such wholesale access should be granted as early as possible before starting the network operation⁹³.

Effective wholesale access to the subsidised infrastructure⁹⁴ should be offered for at least a period of seven years. If at the end of the seven years period the operator of the infrastructure in question is designated by the NRA under the applicable regulatory framework as having significant market power (SMP) in the specific market concerned, the access obligation should be extended. NRAs or other competent national bodies are encouraged to publish guidance for granting authorities on the principles to set wholesale access conditions and tariffs. In the case that a State funded broadband network includes both new and existing infrastructure, any access obligations imposed by the aid granting authority should apply to the entire network and shall not be subject to any limitations⁹⁵. The access obligations shall be enforced irrespective of any change in ownership, management or operation of the subsidized infrastructure.

It may be the case that in rural areas with low population density, where there are limited broadband services, the imposition of all types of access products might disproportionately increase investment costs without delivering significant benefits in terms of increased competition. In such a situation, one may envisage that access products requiring costly interventions on the subsidised infrastructure not otherwise foreseen (e.g. co-location in intermediary distribution points) be offered only in case of a reasonable demand from a third party operator. The demand is considered reasonable if i) the access seeker provides a coherent business plan which justifies the development of the product on the subsidised network and ii) no comparable access product is already offered in the same geographic area by another operator at equivalent prices to those of more densely populated areas.⁹⁶

- h) *Wholesale access pricing:* Benchmarking is an important tool for ensuring that the aid granted will serve to replicate market conditions like those prevailing in other competitive broadband markets. Wholesale access prices should be based on the pricing principles set by the NRA and on benchmarks and should take into account the aid received by the network operator⁹⁷. For the benchmark, the average published wholesale prices that prevail in other comparable, more competitive areas of the country or the Union shall be taken or, in the absence of such published prices, prices already set or approved by the NRA for the markets and

⁹¹ For example, for NGA networks, the point of reference should be the list of access products included in the NGA recommendation.

⁹² If state aid is provided to fund ducts, the latter should be large enough to cater for several cable networks and to host point-to-multipoint as well as point-to-point solutions.

⁹³ Where the network operator also provides retail services, in line with the NGA recommendation, this would normally imply granting access at least 6 month before the launch of such retail services.

⁹⁴ Effective wholesale access to the subsidised infrastructure can be provided by means of the wholesale access products detailed in Annex II.

⁹⁵ For instance, the usage of wholesale access by third parties cannot be limited only to retail broadband services.

⁹⁶ In the case of conflict, the aid granting authority should ask the NRA or another competent national body for an advice.

⁹⁷ The benchmark would therefore be the upper limit of the wholesale price.

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services concerned⁹⁸. If there are no published or regulated prices available for certain wholesale access products to benchmark against, the pricing should follow the principle of cost orientation⁹⁹. Given the complexity of benchmarking wholesale access prices, Member States are encouraged to provide a mandate and the necessary staffing to the NRA to advise aid granting authorities on such matters. Where the NRA has obtained such competence, the aid granting authority should seek advice from the NRA in setting the wholesale access prices and conditions. The benchmarking criteria should be clearly indicated in the tender documents.

- i) *Monitoring and claw-back mechanism*: The granting authorities shall closely monitor the implementation of the broadband project during the entire duration of the project. To ensure that the selected bidder is not over-compensated if demand for broadband in the target area grows beyond anticipated levels, Member States should include a reverse payment mechanism into the contract with the successful bidder. The provision of such a mechanism can minimise *ex post* and retroactively the amount of aid deemed initially to have been necessary. In order not to put a disproportionately high burden on small, local projects, the claw-back mechanism should be implemented if the aid amount of the project is minimum EUR 10 million¹⁰⁰. Granting authorities can foresee that any extra profit reclaimed from the selected bidder could be spent for further broadband network expansion within the framework scheme and at the same conditions of the original aid measure. An accounting separation obligation for the winning bidder as regards the subsidy received will make it easier for the granting authorities to monitor the implementation of the scheme as well as any extra profit generated¹⁰¹.
- j) *Transparency*: The aid beneficiary is obliged to provide entitled third parties with comprehensive and non-discriminatory access to information on its infrastructure (including *inter alia* ducts, street cabinets and fibre) deployed under a State aid contract. This will enable other operators to easily ascertain the possibility to access such infrastructure and should provide all relevant information about the broadband network to a central register of broadband infrastructures, if such database exists within the Member State, and/or to the NRA.
- k) *Reporting*: Every two years, the State aid granting authority should report some key information on the aid project to the European Commission starting from the implementation of the measure¹⁰². In the case of national or regional framework schemes, the national or regional authorities should consolidate the information of

⁹⁸ Thus, where *ex ante* regulation is already in place (i.e., in a grey area) wholesale prices for access to a subsidised infrastructure should not be lower than the access price set by the NRA for the same area.

⁹⁹ So that operators do not artificially inflate their costs, Member States are encouraged to use contracts which incentivise firms to reduce their costs with time. For instance, in contrast to cost-plus contracts, a fixed-price contract would give the company the incentive to reduce costs over time.

¹⁰⁰ The claw back is not necessary in case of publicly owned, wholesale only infrastructures, managed by the public authority with the sole purpose to grant fair and non-discriminatory access to all operators if the conditions specified in footnote 82 are met.

¹⁰¹ Best practice examples suggest monitoring and clawback for a minimum of 7 years, and any extra profit (i.e. profit higher than in the original business plan or the industry average) to be shared between the beneficiary and the public authorities according to the aid intensity of the measure.

¹⁰² Such information should at least include: information on the selected bid(s), the aid amount and intensity of the measure, the date when the network is put into use, the technology chosen, the wholesale access products and prices, the number of access seekers and service providers on the network, the number of houses passed, take-up rates.

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the individual measures and report to the European Commission. When adopting a decision under these Guidelines the Commission may require additional reporting regarding the aid granted.

3.3. Supporting the rapid deployment of NGA networks

- (68) Any public intervention seeking to support the provision or acceleration of NGA network deployment must be compatible with the State aid rules. The sections below highlight the specificities of the treatment of NGA networks in the framework of State aid assessment.

3.3.1. The distinction between white, grey and black areas for NGA networks

- (69) The distinction made above in Section 3.2.1 between “white”, “grey” and “black” areas is relevant also for assessing whether State aid for NGA networks is compatible under Article 107(3)(c), but a more refined definition is needed to take account of the specificities of the NGA networks.

- (70) At present, by upgrading active equipment, certain advanced basic broadband networks can also support some broadband services which in the future are likely to be offered over NGA networks (such as triple play services) and thereby contribute to meeting the DAE targets. However, novel products or services which are not substitutable from the perspective of either demand or supply may emerge and will require capacity, reliability and symmetry beyond the upper physical limits of basic broadband infrastructure.

"White NGA areas": promoting territorial cohesion and economic development objectives

- (71) Accordingly, for the purposes of assessing State aid for NGA networks, an area where NGA networks do not at present exist and where they are not likely to be built within three years in line with paragraph (60) by private investors, should be considered to be a "white NGA" area. Such an area is eligible for State aid to NGA provided the compatibility conditions indicated in Section 3.3.2 are fulfilled.

"Grey NGA areas": the need for a more detailed assessment

- (72) An area should be considered a 'grey NGA' area where only one NGA network is in place or is being deployed in the coming three years and there are no plans by any operator to deploy a NGA network in the coming three years. In assessing whether other network investors could deploy additional NGA networks in a given area, account should be taken of any existing regulatory or legislative measures that may have lowered barriers for such network deployments (access to ducts, sharing of infrastructure, etc.). The Commission will need to carry out a more detailed analysis in order to verify whether state intervention is needed since State intervention in such areas carries a high risk of crowding out existing investors and distorting competition. In this respect, the Commission will carry out its assessment as defined in paragraphs (63) and (64). In addition, the compatibility of the measure will be assessed in line with Section 3.3.2 below.

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"Black NGA areas"

- (73) If more than one NGA network exists in a given area or will be deployed in the coming three years, such an area should be considered a 'black NGA' area. The Commission will consider that state support for an additional publicly-funded, competing equivalent NGA network in such areas is likely to seriously distort competition and is incompatible with the State aid rules.
- (74) To assess the compatibility of the measure, besides the identification of an area as white, grey or black from the NGA point of view, the competitive situation with regard to basic broadband needs to be verified, as different compatibility conditions may apply.

3.3.2. Design of the measure and the need to limit distortions of competition

- (75) Any measure to support NGA deployment must fulfil the compatibility conditions listed in Section 3.2.2 and in particular in paragraph (67) (*detailed mapping exercise and coverage analysis, public consultation, competitive tender process, most economic advantageous offer, technological neutrality, use of existing infrastructure, wholesale access, price benchmarking, monitoring and claw-back mechanism and transparency requirements*). In addition, the following conditions must be met, taking into account the specific situations in which the public investment in NGA networks will occur.
- (76) As with the policy followed with respect to basic broadband deployment, State aid in favour of NGA network deployment may constitute an appropriate and justified instrument, provided that a number of fundamental conditions are fulfilled. For areas that are "white" from both a basic broadband and NGA point of view, no additional compatibility criteria must be met besides the ones listed in Section 3.2.2. By contrast, to ensure the proportional character of a notified measure targeting 'white NGA' or 'grey NGA' areas, (that are grey or black in terms of basic broadband), apart from the conditions in section 3.2.2., in addition the following conditions have to be fulfilled:
- (a) *Passive and neutral infrastructure*: The State aid will be limited to a passive and neutral NGA infrastructures. Where the network operator is a vertically integrated broadband operator, adequate safeguards must be put in place to prevent any conflict of interest, undue discrimination and any other hidden indirect advantages. The subsidised infrastructure must enable the provision of competitive and affordable services to end-users by competing operators and ensure equal treatment of content providers.
- (b) *Wholesale access*: Due to the economics of NGAs, it is of utmost importance to ensure effective wholesale access for third party operators. The subsidised network must offer access under fair and non-discriminatory conditions to all operators who request it and will provide them with the possibility of effective and full unbundling¹⁰³. Third party operators must therefore have access to

¹⁰³ At this stage of market development, a point to point topology can be effectively unbundled. If the selected bidder rolls out a point-to-multipoint topology network, it shall have a clear obligation to provide effective unbundling via wavelength division multiplexing (WDM) as soon as the access is standardized and commercially available.

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passive and not only active infrastructure¹⁰⁴. Apart from bitstream access¹⁰⁵ and unbundled access to the local loop, the access obligation should therefore also include the right to use ducts and poles, dark fibre or street cabinets.¹⁰⁶ Effective wholesale access should be granted for at least seven years and the right of access to ducts or poles should not be limited in time. This is without prejudice to any similar regulatory obligations that may be imposed by the NRA in the specific market concerned in order to foster effective competition or measures adopted after the expiry of that period¹⁰⁷.

- (c) Open topology: Given high fixed cost of NGA network deployment, only in very densely populated areas one may expect infrastructure competition. It is therefore important to ensure that publicly financed NGA networks allow an open topology network architecture that is able to support different topologies¹⁰⁸.

3.3.3. Aid to ultra-fast broadband networks

- (77) In light of the Digital Agenda objectives, in particular achieving 50% penetration to internet connections above 100 Mbps, public intervention would still be possible in areas where existing or planned¹⁰⁹ NGA networks do not reach the end user premises with fibre networks¹¹⁰.
- (78) Besides fulfilling the conditions in paragraphs (67) and (76), any new subsidized network must also demonstrate a clear 'step change' compared to existing networks infrastructure. The investment plans of commercial operators for the near future must also be taken into account. An aid granting authority must be able to demonstrate that
- (a) the new infrastructure would have significant enhanced technological characteristics compared to existing networks (for instance through symmetric speeds), thereby making it future-proof¹¹¹
- (b) there is expected demand for such qualitative improvements and

¹⁰⁴ Such as Customer premise equipment (CPEs) or other equipment needed to operate the network.

¹⁰⁵ If they are indirect beneficiaries, when they obtain access at the wholesale level, third party operators may have to give bitstream access themselves. In spite of the fact that aid was only granted for passive infrastructure, also active access was requested for instance in Commission decision in case N330/2010 – France, *Programme national Très Haut Débit*.

¹⁰⁶ A strong access obligation is all the more crucial in order to deal with the temporary substitution between the services offered by existing ADSL operators and those offered by future NGA network operators. The access obligation will ensure that competing ADSL operators can migrate their customers to a NGA network as soon as a subsidised network is in place and thus start planning their own future investments without suffering a competitive handicap. See for instance N461/2009 - United Kingdom, *Cornwall & Isles of Scilly Next Generation Broadband*.

¹⁰⁷ In this regard, the possible persistence of the specific market conditions that justified the granting of an aid for the infrastructure in question should be taken into consideration.

¹⁰⁸ For instance, it shall be able to support both point-to-point as well as point-to-multipoint topologies depending on the choice of the (third party) operators.

¹⁰⁹ Based on credible investment plans for the near future of three years in accordance with paragraphs (59) and (60).

¹¹⁰ For instance, NGA networks do not reach end user premises with fibre in case of FTTN networks, where fibre is installed only until the nodes (cabinets). Similarly, some cable networks are also using fibre until the cabinets and connect end-users with coaxial cables.

¹¹¹ See paragraph (54) above.

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- (c) the subsidized network will be operated as a wholesale only network.
- (79) Only if these additional conditions are fulfilled, public funding of such networks might be considered compatible under the balancing test. In other words, such funding would have to lead to a significant, sustainable, pro-competitive and non-temporary technological advancement. In its assessment, the Commission will take into account whether major commercial investments in NGA have been undertaken in recent times.

4. FINAL PROVISIONS

- (80) These Guidelines will be applied from the first day following its publication in the *Official Journal of the European Union*.
- (81) The Commission will apply these Guidelines to all notified aid measures in respect of which it is called upon to take a decision after the Guidelines are published in the Official Journal, even where the projects were notified prior to that date.
- (82) In accordance with the Commission notice on the determination of the applicable rules for the assessment of unlawful State aid¹¹², the Commission will apply to unlawful aid the rules in force at the time when the aid was granted. Accordingly, it will apply these Guidelines in the case of unlawful aid granted after its publication.
- (83) The Commission herewith proposes to Member States, on the basis of Article 108(1) TFEU, the following appropriate measures concerning their respective existing aid schemes for broadband deployment. In order to comply with the provisions of these Guidelines, Member States should amend, where necessary, such framework schemes in order to bring them into line with the provisions on transparency (paragraph (67)) and wholesale access provisions (paragraphs (67) and (76)) of these Guidelines within twelve months after its publication in the Official Journal of the European Union.
- (84) The Member States are invited to give their explicit unconditional agreement to these proposed appropriate measures within two months from the date of publication of the Guidelines in the *Official Journal of the European Union*. In the absence of any reply, the Commission will assume that the Member State in question does not agree with the proposed measures.
- (85) The Commission may review the present Guidelines on the basis of future important market, technological and regulatory developments.

¹¹² OJ C 119, 22.05.2002, p. 22

5. ANNEX I - TYPICAL INTERVENTIONS FOR BROADBAND SUPPORT

In its case practice, the Commission has observed certain most recurrent funding mechanisms used by Member States to foster broadband deployment, assessed under Article 107(1) TFEU. The following list is illustrative and not exhaustive, as public authorities might develop different ways of supporting broadband deployment or deviate from the models described. The constellations typically involve State aid, unless the investment is carried out in line with the market economy investor principle (see Section 2.2.1).

1. **Monetary allocation** ("gap funding"¹¹³): In the majority of cases examined by the Commission, the Member State¹¹⁴ awards direct monetary grants to broadband investors¹¹⁵ to build, manage and commercially exploit a broadband network¹¹⁶. Such grants normally involves State aid within the meaning of Article 107(1) TFEU, as the grant is financed by State resources and gives an advantage to the investor to conduct a commercial activity under conditions which would not have been available on the market. In such case, both the network operators receiving the grant and the electronic communication providers seeking wholesale access to the subsidised network are beneficiaries of the aid.
2. **Support in kind**: In other cases, Member States support broadband deployment by financing the rollout of a full broadband network (or parts thereof) which is subsequently put at the disposal of electronic communication investors which will use these network elements for their own broadband deployment project. This support can take many forms, with the most recurring being Member States providing broadband passive infrastructure by carrying out civil engineering work (for instance by digging up a road) or by placing ducts or dark fibre¹¹⁷. Such form of support creates an advantage for the broadband investors who save the respective investment costs¹¹⁸ as well as for electronic communication providers which seek wholesale access to the subsidised network.
3. **State operated broadband network or parts thereof**: State aid can also be involved if the State, instead of providing support to a broadband investor, constructs (parts of) a broadband network and operates it directly through a branch of the public administration or via an in-house company¹¹⁹. This model of intervention typically consists of the construction of a publicly owned passive network infrastructure, with a view of making it available to broadband operators by granting wholesale access to the network on non-

¹¹³ "Gap funding" refers to the difference between investment costs and expected profits for private investors.

¹¹⁴ Or any other public authority granting the aid.

¹¹⁵ The term "investors" denotes undertakings or electronic communications network operators that invest in the construction and deployment of broadband infrastructures.

¹¹⁶ Examples for gap funding are Commission decisions in cases SA.33438 a.o – Poland - *Broadband network project in Eastern Poland*, SA 32866 – Greece –*Broadband development in Greek rural areas*, SA.31851 – Italy – *Broadband Marche*, N 368/2009 – Germany – Amendment of State aid broadband scheme N115/2008- *Broadband in the rural areas of Germany*.

¹¹⁷ Commission decisions in cases N 53/3010 – Germany, *Federal framework programme on ducts support*, N596/2009 – Italy – *Bridging the digital divide in Lombardia*, See also N383/2009 – Germany – Amendment of N 150/2008 *Broadband in the rural areas of Saxony* mentioned above in footnote 40 for general road maintenance works,

¹¹⁸ Civil engineering costs and other investment in passive infrastructure can constitute up to 70% of the total cost of a broadband project.

¹¹⁹ Commission decision in case N330/2010 – France – *Programme national Très Haut Débit*, which covered various intervention modalities, *inter alia* one in which the collectivités territoriales can operate own broadband networks as a 'regie' operation.

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discriminatory terms. Granting of wholesale access is an economic activity within the meaning of Article 107(1) TFEU. The construction of a broadband network with a view to its commercial exploitation constitutes an economic activity according to case-law i.e. State aid within the meaning of Article 107(1) TFEU can already be present at the moment of the construction of the broadband network¹²⁰. Electronic communication providers seeking wholesale access to the publicly operated network will also be considered aid beneficiaries.

4. **Broadband network, managed by a concessionary:** Member States may also fund the rollout of a broadband network, that remains in public ownership, but whose operation will be offered through a competitive tender procedure to a commercial operator to manage and exploit it at the wholesale level¹²¹. Also in this case, as the network is constructed with a view to its exploitation, the measure may constitute State aid. The operator managing and exploiting the network as well as third party electronic communication providers seeking wholesale access to the network will also be considered aid beneficiaries.

¹²⁰ Case T-443/08 and T-455/08 *Freistaat Sachsen v. Commission* [Not yet published].

¹²¹ Commission decisions in cases N 497/2010 –United Kingdom, *SHEFA – 2 Interconnect.*, N 330/2010 – France – *Programme national Très Haut Débit*, N 183/2009 – Lithuania, *RAIN project*.

6. ANNEX II : GLOSSARY OF TECHNICAL TERMS

For the purpose of these Guidelines, the following definitions should apply. The definitions are without prejudice to further market, technological and regulatory changes.

Access segment: "last mile" segment connection the backhaul network with the end user premises.

Backhaul network: The part of the broadband network, which constitutes the intermediate link between the backbone network and the access network.

Bitstream access: Wholesale access provider installs a high speed access link to the customer premises and makes this access link available to third parties.

Dark fibre: Unlit fibre without transmission systems connected.

Duct: Underground pipe or conduit used to house (fibre, copper or coax) cables of a broadband network.

Full unbundling: Physical unbundling grants access to the end-consumer access line and allows the competitor's own transmission systems to directly transmit over it.

FTTH: Fibre to the home network, which reaches the end user premises with fibre, i.e. an access network consisting of optical fibres lines in both the feeder and the drop segments of the access network (including in-house wiring).

FTTB: Fibre to the building, which reaches the end user premises with fibre, i.e. fibre is rolled out to the building, but copper, coax or LAN is used within the building.

FTTN: Fibre to the Nodes. The fiber is terminated in a street cabinet up to several kilometers away from the customer premises, with the final connection being copper (in fibre to the cabinet/VDSL networks) or coax (in the cable/DOCSIS 3 network). Fiber-to-the-node is often seen as a temporary, interim step towards full FTTH.

Neutral networks: networks which can sustain any type of network topologies. In case of FTTH networks, the infrastructure shall be able to support both point to point and point to multipoint topologies.

Next Generation Access Network: Wired access network which consist wholly or in part of optical elements and which are capable of delivering broadband access services with enhanced characteristics as compared to those provided over existing copper networks.

Passive network: Broadband network without any active component. Typically comprises ducts and dark fibre and street cabinets.

Passive wholesale access: Access to a transmission medium without any electronic component.

Point-to-multipoint: A network topology that has dedicated individual customer lines to an intermediate passive node (e.g. street cabinet) where these lines are aggregated onto a shared

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line. Aggregation could be either passive (with splitters such as in a PON architecture) or active (such as FTTC).

Point-to-Point: Network topology whereby the customer lines remain dedicated all the way from the customer to the Metropolitan Point of Presence.

Wholesale access products: Access enables an operator to utilise the facilities of another operator. The wholesale access products that can be provided over the subsidised network are the following:

- **FTTH/FTTB network:** ducts access, access to dark fibre, unbundled access to the local loop (WDM-PON or optical distribution frame (ODF) unbundling), and bitstream access.
- **Cable networks:** duct access and bitstream access.
- **FTTC networks:** duct access, sub-loop unbundling and bitstream access.
- **Passive network infrastructure:** duct access, access to dark fibre and/or unbundled access to the local loop. In case of an integrated operator: the access obligations (differing from the passive infrastructure access) shall be imposed in accordance with the provisions of the NGA Recommendation.
- **ADSL-based broadband networks:** unbundled access to the local loop, bitstream access.
- **Mobile or wireless networks:** bitstream, sharing of physical masts and access to the backhaul networks.
- **Satellite networks:** bitstream access.