



Post- og teletilsynet  
Norwegian Post and Telecommunications Authority

# **Analysis of the wholesale market for leased lines above 8Mbit/s and decision for the withdrawal of special obligations (former Market 14)**

*Case 1000199*

20 April 2012

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**Annex 1** – Summary of the consultation on NPT’s notification of the decision for the wholesale market for leased lines above 8 Mbit/s.

## Summary

In the Norwegian Post and Telecommunications Authority's (NPT) decision of 3 May 2007, Telenor ASA (Telenor) was designated a provider with significant market power and directed to meet special obligations in the wholesale markets for leased lines (former Markets 13 and 14). The basis for the Authority's market definitions in market analyses and the decision from 2007 was the two wholesale markets for leased lines which comprised Markets 13 and 14 in the EFTA Surveillance Authority's (ESA) Recommendation on relevant product markets for *ex ante* regulation from 2004. In the Recommendation, the markets were defined as leased lines for access (Market 13) and leased lines for transport (Market 14). Following an assessment of national conditions, Markets 13 and 14 in NPT's decision were defined more precisely as leased lines up to and including 8 Mbit/s and above 8 Mbit/s respectively.

The basis for NPT's revision of the market regulation of the wholesale markets for leased lines is the ESA's current Recommendation on relevant product markets of 5 November 2008. In the revised Recommendation, the wholesale market for leased lines for transport, which comprised Market 14 in the previous Recommendation, has been removed. This market is therefore no longer considered to qualify for sector-specific *ex ante* regulation. The wholesale market for leased lines for access (former Market 13) is continued as Market 6.

This document presents NPT's assessment of whether former Market 14 still qualifies for sector-specific *ex ante* regulation on the basis of national conditions.

In order for national supervisory authorities to identify markets that deviate from the pre-defined markets in the Recommendation, the following three cumulative criteria (the three-criteria test) must be met:

1. High and non-transitory structural or regulatory entry barriers exist in the relevant market.
2. The market has characteristics such that it will not sufficiently tend towards sustainable competition.
3. General competition law does not sufficiently address the objectives behind sector-specific regulation.

Chapter 1 contains a description of the background and legal frameworks. Chapter 2 contains a short description of the main development trends in the wholesale markets for leased lines. Chapter 3 contains NPT's definition of the relevant market. The market definition is based on NPT's previous definition. The Authority maintains the market definition in the analysis from 2007, with regard to both product market and geographic market. Former Market 14 is thereby defined as the wholesale market for leased lines above 8 Mbit/s, including dark fibre and optical channels. The market is national.

Chapter 4 contains a three-criteria test of this wholesale market. In NPT's assessment, there are limited high and non-transitory entry barriers in the markets. The main reason why the Authority considers the entry barriers to be low is that it is not necessary for an operator to have their own physical infrastructure in order to compete in the market. Potential operators can also base their operations on existing alternative infrastructure, in addition to Telenor's

infrastructure, in order to offer transmission capacity. In addition, developments in recent years have shown that it is both possible to enter the market and build up substantial market shares based on the development of company-owned infrastructure.

All three criteria must be met for a market to qualify for sector-specific ex ante regulation, cf. Article 2 of the Recommendation. NPT has concluded that it is doubtful whether the first criterion is met and that the second criterion is not met for this wholesale market. The Authority has therefore not seen the need to assess the final criterion. On this basis, NPT concludes that former Market 14 does not meet the three-criteria test.

Chapter 5 presents NPT's decision. As the conditions for applying sector-specific ex ante regulation are no longer met, NPT withdraws the designation of Telenor as a provider with significant market power in this wholesale market for leased lines. The Authority is also withdrawing the current obligations on Telenor's offering in this market. NPT has considered whether the Authority should delay the phasing out of the current regulation during a transitional period to enable the operators concerned to adapt to markets without sector-specific ex ante regulation. NPT has decided that there is a need for such a transitional period, and section 5.4 stipulates that existing obligations will be withdrawn with effect from six months after the decision date. The right to appeal is covered in Chapter 6.

# 1 Background

## 1.1 Introduction

1. Under Sections 3-2 and 3-3 of Act No. 83 of 4 July 2003 relating to electronic communications (Electronic Communications Act), NPT is obliged to analyse the various markets for electronic communications and identify undertakings with significant market power. If one or more undertakings are designated as having significant market power, at least one obligation shall be imposed over and above the general obligations pursuant to the Electronic Communications Act and associated regulations.
2. In NPT's decision of 3 May 2007, Telenor was designated a provider with significant market power and directed to meet specific obligations in the wholesale market for leased lines above 8 Mbit/s (former Market 14).
3. On 22 September 2011, NPT announced that the Authority would withdraw the designation of Telenor as a provider with significant market power in the wholesale market for leased lines above 8 Mbit/s (former Market 14). NPT received responses to the consultation from the Norwegian Competition Authority, Mobile Norway AS, TDC AS, Telenor Norge AS and Ventelo AS. NPT's assessment of the consultation input concerning former Market 14 is presented in Annex 1.
4. On the basis of the notification and consultation responses, NPT prepared a draft decision on the withdrawal of special obligations in the wholesale market for leased lines above 8 Mbit/s. The draft was translated into English, and the ESA notified on 14 March 2012; cf. Section 9-3 of the Electronic Communications Act, Article 7 of the Framework Directive and Article 7 of ESA's Recommendation.<sup>1</sup>
5. Operators with a legal interest in appealing will be able to appeal the final decision in the ordinary manner, in accordance with the provisions of Sections 28 and 29 of the Public Administration Act and Section 11-6 of the Electronic Communications Act.

## 1.2 Current regulation

6. The regulatory framework for electronic communications is based on five directives adopted by the European Union (EU).<sup>2</sup> These directives have been implemented in Norwegian law through the Act relating to electronic communications (Electronic Communications Act) and associated regulations, including the Regulations of 16 February 2004 on electronic communications networks and services (Ecom Regulations).
7. The framework will provide a basis for harmonisation of the regulation in the EU/EEA area, limit entry barriers and facilitate sustainable competition for the benefit of the users.

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<sup>1</sup> EFTA Surveillance Authority Recommendation of 2 December 2009 on notifications, time limits and consultations provided for in Article 7 of Directive 2002/21/EC on a common regulatory framework for electronic communications networks and services

<sup>2</sup> Directive 2002/21/EC on a common regulatory framework for electronic communications networks and services (Framework Directive); Directive 2002/20/EC on the authorisation of electronic communications networks and services (Authorisation Directive); Directive 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities (Access Directive); Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services (Universal Service Directive); Directive 2002/58/EC concerning the processing of personal data and the protection of privacy in the electronic communications sector (Directive on privacy and electronic communications).

8. NPT shall perform market analyses based on the pre-defined markets contained in ESA's Recommendation on relevant markets (the Recommendation).<sup>3</sup> Such market analyses provide the basis for assessing whether service providers with significant market power in the relevant market exist. If the Authority finds a basis for designating a service provider(s) with significant market power in a relevant market, the Authority will impose one or more specific obligations pursuant to the Electronic Communications Act, chapter 4.

9. In the wholesale market for leased lines for transport (former Market 14), Telenor was designated as a provider with significant market power, and NPT imposed on Telenor special obligations in the market; cf. NPT's decision of 3 May 2007 and market analysis of the same date which comprised Annex 1 to the decision. NPT's definition of Market 14 was based on the ESA's definition of Market 14 in the Recommendation of 14 July 2004. Based on assessments linked to the competition situation and other circumstances specific to the Norwegian market for leased lines, Market 14 was defined in the decision as leased lines above 8 Mbit/s, as well as dark fibre and optical channels.

10. Pursuant to Sections 4-1, 4-4 and 4-6 to 4-9 of the Electronic Communications Act, the following obligations were imposed on Telenor in the market:

- Obligation to meet reasonable requests for access to all communication which falls within Market 14. Such access also includes access to co-location and any other necessary additional services. Refusals to grant such access must be justified and documented.
- Obligation to cost-orient the prices for access to co-location and any other necessary additional services requested as part of the establishment of leased lines in Market 14.
- Obligation of non-discrimination both between external providers and between internal and external providers.
- Obligation to prepare an accounting separation system in Market 14 by which the accounts of the network business that produces and supplies leased lines over 8 Mbit/s in the wholesale market must be separated from Telenor's retail business that supplies leased lines with corresponding capacities in the retail markets.
- Obligation to prepare a reference offer, including prices, price calculation methodologies and any discounts and discount criteria for wholesale leased lines with capacities above 8 Mbit/s. The reference offer shall be published. Obligation to submit to NPT all wholesale agreements on leased lines above 8 Mbit/s where the prices deviate from standard prices, including all agreements based on contract prices.

### **1.3 New Recommendation**

11. The ESA Recommendation on relevant markets entered into force on 5 November 2008. The ESA Recommendation corresponds to the European Commission's Recommendation<sup>4</sup> of 17 December 2007. In the current Recommendation, the number of

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<sup>3</sup> EFTA Surveillance Authority Recommendation of 5 November 2008 on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with the Act referred to at point 5cl of Annex XI to the EEA Agreement (Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services), as adopted by Protocol 1 thereto and by the sectoral adaptations contained in Annex XI to that Agreement.

<sup>4</sup> Commission Recommendation of 17 December 2007 on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of

relevant markets for ex ante regulation is reduced from 18 to 17. The former Market 14 was one of the markets that were removed from the Recommendation.

12. The aim of the Recommendation is to identify the product and service markets in which ex ante regulation may be justified.<sup>5</sup> In order for a market that deviates from the Recommendation<sup>6</sup> to qualify for sector-specific *ex ante* regulation, three cumulative criteria (three-criteria test) stipulated in article 2 et seq. of the Recommendation must be met. The three criteria are:

1. High and non-transitory structural or regulatory entry barriers exist in the relevant market.
2. The market has characteristics that prevent it from moving towards sustainable competition to a sufficient degree.<sup>7</sup>
3. General competition law does not sufficiently address the objectives behind sector-specific regulation.

13. This means that, with regard to national markets not covered by the Recommendation and that do not pass the three-criteria test, national authorities are prevented from applying sector-specific *ex ante* regulation. The Commission's Explanatory Note<sup>8</sup> states:

*"It will only be possible for NRAs to regulate markets which differ from those identified in this Recommendation where this is justified by national circumstances in the sense that the three cumulative criteria referred to in Article 2 of this Recommendation are met,..."*

14. Chapter 4 contains a three-criteria test for the wholesale market for leased lines above 8 Mbit/s (former Market 14). NPT has carried out the said three-criteria test in order to determine whether the current obligations in this market should be withdrawn or whether there is a basis to conduct a new market analysis of the market pursuant to the current regulations on electronic communication.

## 2 History and developments in the market

15. The market for leased lines was liberalised in two stages. Starting 1 November 1996, the use of existing alternative infrastructure (such as cable TV systems) for competitive services was permitted. On 1 January 1998, the remainder of the telecommunications market was liberalised, a move that meant full liberalisation of the market for leased lines.

16. Total revenues in the wholesale market have been stable in recent years, but revenues from low-capacity leased lines have declined. New services such as IP-VPN have taken over

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the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services.

<sup>5</sup> Recital 3 of the Recommendation and Article 15 of the Framework Directive.

<sup>6</sup> Cf. the annex to the Recommendation.

<sup>7</sup> The Recommendation uses the term "effective competition". The ESA Guidelines of 14 July 2004 define this as a market in which operators with significant market power are absent, cf. point 19. This cannot be interpreted in an unethical manner, i.e. the presence of a provider with significant market power will prevent the market from becoming more competitive. Odelsting Proposition No. 58 (2002-2003) p. 99 states "If none of the providers has significant market power then there is assumed to be sustainable competition in the market" NPT therefore assumes that the terms will coincide for this purpose.

<sup>8</sup> Page 4 of the Commission's Explanatory Note SEC(2007)1483. Recital 26 of the ESA's Recommendation includes the Explanatory Note as relevant to the interpretation of the ESA Recommendation.

much of the market for traditional leased lines within data communications. At the same time, demand for fibre capacity is increasing, partly as a result of broadband development in both fixed and mobile networks.

17. The biggest operators on the supply side in the retail market for leased lines are Telenor and Ventelo. In addition, a number of smaller operators offer geographically limited services. The operators utilise their own and/or leased infrastructure.

18. Leased lines in the associated retail market are purchased by companies, institutions and public agencies to establish communication between two or more geographically separated points. Examples of major customers in this market are large companies that wish to link geographically separated locations for internal telephony and/or data networks. Other customers are public institutions such as local governments and state institutions.

19. Through its ownership of a nationwide access and transport network, Telenor is by far the biggest supplier of leased lines at wholesale level.

20. Telenor's network largely consists of fibre optic cables in the trunk network and copper in the access network, although many business customers have a direct fibre optic connection. In recent years the copper accesses in many places in the country have become increasingly shorter as the result of increased fibre roll-out. Transmission systems for both copper and fibre cables are used for deliveries of leased lines to internal and external wholesale customers.

21. Telenor's service and node structure is based on the fibre network being used as a carrier of both SDH (Synchronous Digital Hierarchy) and WDM (Wavelength Division Multiplexing), in addition to deliveries of dark fibre. WDM systems offer substantial capacity and are used as the carrier of the SDH network, in addition to direct sales of wavelength (optical channel), while the SDH network is in turn the carrier of the DXX network (digital leased lines up to and including  $n \times 2$  Mbit/s), as well as being used to supply high-capacity leased lines directly.

22. The major challenger to Telenor at wholesale level in the market for leased lines is Ventelo (formerly BaneTele). Amongst other things, Ventelo has fibre cables along the railway network, and fibre spun along high-voltage power lines (taken over from Enitel). Ventelo uses WDM and SDH equipment to offer leased lines and has rolled out a WDM network. On top of this network an SDH network has been built to cover regional and local capacity needs.

23. Ventelo's fibre infrastructure links together most cities in Norway, and covers the biggest Telenor exchanges in these cities. Ventelo's infrastructure does not cover Telenor's smaller local and regional centres. This means that in many cases Ventelo is dependent on purchasing leased lines in Telenor's network in order to be able to offer end-to-end communication.

24. Another major provider of leased lines at wholesale level is Infiber (formerly Hafslund Fibernet). The company is primarily targeting the leasing of dark fibre. Since Hafslund began its dark fibre initiative in 2004, the company has achieved an important position in the market.

25. Infiber is rolling out its own infrastructure from Larvik around the Oslofjord to Halden. Infiber's customer groups for dark fibre are primarily electronic communications providers and companies that require high transmission capacity.

26. In 2009, a collaboration was started between fibre owners which connects regional fibre routes to a network with national coverage. This joint venture is now called Fibre

Norge. It exclusively offers optical channels (wavelength multiplexing) to the business and wholesale markets. The partners in this joint venture include Hafslund Telekom, which is also responsible for operating and supporting the entire network and the optical equipment.

27. Limited alternative physical infrastructure has been established by other, smaller challengers which is used to offer transmission capacity at wholesale level. TDC offers leased lines based on its proprietary fibre network in the business market in many of the largest towns in Southern Norway. However, TDC does not offer leased lines in the wholesale market, only in the retail market. In addition there are some operators with geographically limited fibre networks. The largest of these is Altibox (formerly Lyse Tele) and its regional partners, which in recent years have begun to roll out fibre infrastructure to deliver electronic communications services to the private market. This infrastructure has so far not been used to offer traditional leased lines to any extent in either the wholesale or the retail market. However, it represents potential competition in the leased lines markets.

28. Telenor's prices for leased lines are basically the same in the wholesale and retail markets, although in practice many wholesale customers will enjoy lower prices than most customers in the retail market because they purchase larger volumes, thus providing a basis for higher discounts. Telenor's price structure for leased lines is bifurcated, with one price element for length of leased line and one for each connection. The price of the leased line length element is measured by air line between the line's termination addresses. Connection prices depend on the municipality (connection zone) in which the line terminates. The minimum lease period for lines with capacities of up to and including 2 Mbit/s is in principle three months. For lines with higher capacities, and dark fibre, the minimum lease period is in principle one year. Offers for shorter lease periods can be provided for analogue leased lines and dark fibre upon request.

29. None of the other providers of leased lines operate with publicly available price lists.

30. Purchasers of leased lines at wholesale level consist of providers of electronic communications networks or services that use leased lines as an input in the supply of services to end users or to other providers. Examples of major purchasers of leased lines on the wholesale level are mobile network operators, providers of fixed telephony and data networks and providers of leased lines.

31. During the period 2005 to 2010, total revenues in the wholesale market for leased lines above 8 Mbit/s, based on external sales, increased by around 100%. It is reasonable to assume that a contributory factor behind the increase in revenues in this market is that more customers are replacing their "low-capacity lines" with "high-capacity lines".

### **3 Market definition**

#### **3.1 General - Market definition**

32. As stated above, NPT must consider whether ESA's pre-defined markets are suitable for Norwegian conditions, including considering whether markets that are already regulated but no longer in the Recommendation still qualify for *ex ante* regulation based on national conditions.

33. A description of the product market will be given and the geographic market defined. The definition of relevant markets must use the same procedure as the market definition within competition law. However, in some cases, markets defined by competition authorities

may deviate from markets defined in ESA's Recommendation or by national supervisory authorities in accordance with Article 15 (3) of the Framework Directive<sup>9</sup>.

34. A relevant product market is made up of products or services for which adequate substitutes can be found. The starting point for the definition of a relevant product market is an assessment of demand-side substitutability. However, substitutability may also exist on the supply side, and may then be relevant in the definition of the relevant market.

35. Once the relevant product markets are determined, the geographic market is defined. The geographic market may be defined as the area in which the relevant product is offered on approximately similar and sufficiently homogeneous competitive terms.<sup>10</sup> Geographic markets within electronic communication have traditionally been defined based on the relevant network's propagation, and the jurisdiction of the legal regulation of the market.<sup>11</sup>

36. In accordance with Section 1-3 of the Electronic Communications Act, cf. Regulation No 882 of 4 July 2003, the Electronic Communications Act applies to Svalbard, Jan Mayen, the dependencies and Antarctica. However in regard to Svalbard, exceptions have been made for Chapter 3 (significant market power), Chapter 4 (access) and Section 9-3 (consultation procedure). Electronic communications on Jan Mayen, the dependencies and Antarctica are, however, assumed to have very little significance for the market analyses NPT carries out in accordance with the Electronic Communications Act. Further reference to Norway as a local jurisdiction refers to mainland Norway/Norwegian territory.

### **3.2 Market definition in previous analysis**

37. The previous analysis conducted on 3 May 2007 was based on the ESA's Recommendation on relevant markets from 2004. In the Recommendation from 2004, the market was characterised as Market 14 and was defined as the wholesale market for leased lines for trunk segments.

38. On the basis of assessments of the competitive situation and other specific national circumstances related to the Norwegian market for leased lines, NPT has concluded that the relevant wholesale market for leased lines in Norway shall be defined as follows:

Market 14: Leased lines with a capacity above 8 Mbit/s.

Dark fibre and optical channels form part of the market.

39. The relevant geographic market was defined as Norway.

### **3.3 Definition of the market**

40. The Commission's and the ESA's justification for omitting former Market 14 from the Recommendation on relevant product and service markets is given in recital 26 to the Recommendation of 2008, with reference to the Explanatory Note, section 4.2.3:

*"... in all member states parallel network infrastructures are being constructed in particular on major routes. This suggests that entry barriers are low. There is also a tendency towards effective competition where alternative operators have made*

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<sup>9</sup> ESA's Guidelines of 14 July 2004, paragraph 26.

<sup>10</sup> Paragraph 57 of the Guidelines.

<sup>11</sup> Paragraph 60 of the Guidelines.

*sufficient investments in alternative infrastructures and are in competition with the incumbent on the merchant market. ...*

*Therefore the market for wholesale trunk segments of leased lines is withdrawn from the recommended list on the basis that there are no longer high and non-transitory entry barriers and that there is a clear trend towards effective competition based on parallel infrastructures."*

41. A possible exception at national level is also specified:

*"Nevertheless a significant number of routes may continue to be served only by a single operator in particular where the route is thin, i.e. where the volume and value of traffic is lower."*

42. Market 6 (former Market 13) is maintained in the ESA's new Recommendation of 5 November 2008. The definition of the market is as follows:

*"Wholesale terminating segments of leased lines, irrespective of the technology used to provide leased or dedicated capacity"*.

43. In the previous Recommendation, former Market 13 was defined as: "*Wholesale terminating segments of leased lines*". In other words, in the new Recommendation, the technology neutrality is clarified.

44. According to the Explanatory Note to the Recommendation<sup>12</sup>, what constitutes the market for leased lines for transport (former Market 14) and the demarcation between the access part and the transport part will depend on network topology in the country concerned and be determined by the relevant country's regulatory authority.

45. In the previous market analysis of 3 May 2007, NPT concluded with a slightly different definition of Market 14 than the Recommendation from 2004. This was linked to the competitive situation in Norway and the fact that the product structure in the Norwegian market is such that a subdivision between access and transport in the traditional sense was not natural. Against this background, NPT decided in 2007 that Market 14 should be defined as leased lines above 8 Mbit/s, including dark fibre and optical channels.

46. In the analysis of Market 6, NPT concluded that the current demarcation between Market 6 and the old Market 14 should be maintained. Reference is made to the assessment in the analysis for Market 6 dated 20 April 2012. The market is therefore defined as the wholesale market for leased lines above 8 Mbit/s.

47. In the previous market analysis of the wholesale market for leased lines above 8 Mbit/s from 3 May 2007, NPT concluded that the geographic market should be defined nationally.

48. Based on the criteria in the ERG's "Common Position on Geographic Aspects of Market Analysis" (see section 3.1.2 of the analysis of the wholesale market for leased lines up to and including 8 Mbit/s), NPT has assessed whether there is a need for a detailed geographic analysis. As discussed here, an assessment of the relevant geographic market will vary somewhat depending on whether the assessment is carried out *ex post* or *ex ante*. A definition of geographic markets *ex ante* must inevitably have a wider basis and a more general approach than is taken with a definition *ex post*. An *ex post* definition is based on an actual event for which the extent of the effects can be charted, whilst the forward-looking assessment must be based on somewhat different circumstances. This will therefore also characterise the scope of the assessment of the relevant geographic market.

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<sup>12</sup> Explanatory note, page 38

49. The geographic market can be defined as the area in which the relevant product is offered on approximately similar and sufficiently homogeneous competitive terms. As mentioned, geographic markets within electronic communications have traditionally been defined based on the relevant network's propagation, and the jurisdiction of the legal regulation of the market.

50. In the wholesale market for leased lines above 8 Mbit/s, it is in the opinion of NPT unlikely that wholesale customers would change geographic area as a result of a 5-10 percent price increase in the area in which they operate. NPT furthermore believes that it is unlikely that operators from a neighbouring area would start the deployment of a separate network for leased lines with capacities above 8 Mbit/s as a result of such a price increase. A pure SSNIP test could therefore result in a very large number of geographic markets and would not be very practical. It will therefore be necessary to assess whether competitive conditions are sufficiently homogeneous throughout the country.

51. There is little doubt that in theory it is possible to define several separate geographic markets for high capacity leased lines in Norway. The outcome of such an approach however might be that each line is defined as a separate relevant market. A customer that, for instance, requests transmission to a specific address in Oslo will not be able to substitute this with a line to a different address. Clearly, such an approach would result in a complex situation with an infinite number of relevant markets.

52. Telenor's product and price structure for leased lines in the wholesale market applies to the entire country. Insofar as deliveries are based on contract agreements, NPT has not been able to uncover evidence that Telenor is operating with different price structures in different geographic areas. NPT thus has no reason to believe that Telenor to a large degree is differentiating the price on the basis of geographic criteria or the local market situation.

53. Telenor has to date been subject to an obligation to offer leased lines to end users of up to and including 2 Mbit/s on a nationwide basis. This has also made it easier for Telenor to supply leased lines with higher capacity, as the company already has a nationwide presence. In practice, Telenor is therefore able to offer all types of leased lines across the country, included transmission capacity above 8 Mbit/s. Information that NPT has obtained from the market operators shows that Telenor is facing relatively more competition for leased lines with capacities above 8 Mbit/s at wholesale level than for lower capacities. For capacities above 8 Mbit/s NPT also considers that it may be attractive for competitors to Telenor to expand their coverage areas to meet the increasing demand for fibre connections, among other things for backhaul use in mobile networks.

54. Ventelo largely has a nationwide offer, in the same way as Telenor. Ventelo's price structure also largely corresponds to Telenor's product structure.

55. Fiber Norge links regional fibre routes to a network with national coverage. Fiber Norge exclusively offers optical channels (wavelength multiplexing).

56. Also, there are several operators in the Norwegian market which regularly expand their coverage areas and appear to have clear ambitions to continue expanding. Examples of such operators are Ventelo, Fiber Norge, Fiberselskapet and InFiber.

57. Furthermore, regional operators in several parts of the country have to a greater extent rolled out fibre than was the case at the time of the previous analysis. This applies to both central and less densely populated areas of the country. These operators can potentially offer transmission capacity in their networks, even if this happens to a lesser extent today. It is natural to assume that their presence and their ability to offer this type of product have a disciplining effect on pricing.

58. On the basis of the above, NPT has concluded that the most appropriate approach will still be to define one national market for leased lines above 8 Mbit/s at wholesale level, i.e. the whole of Norway.

## 4 Three-criteria test

59. In the following, NPT will assess whether the wholesale market for leased lines above 8 Mbit/s (former Market 14) is entitled to sector-specific *ex-ante* regulation. As mentioned in section 1.2, three cumulative conditions must be met for the markets to still qualify for such *ex ante* regulation.

60. The starting point in assessing whether the three conditions have been met shall be a “Modified Greenfield Approach”. This means that the conditions shall be assessed under the precondition that the relevant markets concerned are not subject to *ex-ante* regulation. Regulation in adjacent markets is, nevertheless, taken into account.

### 4.1 First criterion: high and non-transitory entry barriers

61. Entry barriers may have different characteristics and arise for different reasons. Entry barriers restrict competition by reducing new providers’ opportunities to establish themselves in the market. This section gives an assessment of structural and regulatory entry barriers.

#### 4.1.1 Structural entry barriers

62. The Recommendation refers to structural entry barriers as follows:

*“Structural barriers to entry result from original cost or demand conditions that create asymmetric conditions between incumbents and new entrants impeding or preventing market entry of the latter. For instance, high structural barriers may be found to exist when the market is characterised by absolute cost advantages, substantial economies of scale and/or scope, capacity constraints and high sunk cost.”*

63. In assessing the first criterion NPT analysed the following structural entry barriers:

- Control of infrastructure that is difficult to duplicate
- Sunk costs
- Economies of scale and benefits of joint production
- Access to financial resources
- Access to distribution and sales channels

##### 4.1.1.1 Control of infrastructure that is difficult to duplicate

64. If an operator controls infrastructure that is difficult to duplicate, and this infrastructure represents an important input factor in the relevant market, this could represent a substantial entry barrier for potential competitors.

65. Without taking a position on whether the relevant infrastructure in the affected market could be seen as an “essential facility” in terms of competition law, NPT has assessed whether control of infrastructure not easily duplicated can be seen as an entry barrier in this relevant market.

66. Potential operators are not forced to build their own complete physical network with their own conveyance routes in order to compete with Telenor in this market. Reference is made to the account in section 10.2.2 of the analysis of 3 May 2007. The operators can choose to base their services on dark fibre, optical channels or leased lines with extremely high capacity from the owner of the fibre-based network. Line equipment and/or multiplex equipment is largely standard "off the shelf" equipment and is thus not difficult to duplicate (in a technical sense). Alternatively, they can lease space in existing conveyance routes from Telenor, i.e. space in ducts and cable paths.

67. There are also opportunities to offer leased lines above 8 Mbit/s based on existing infrastructure from alternative providers. For example, there are alternative conveyance routes in the form of power lines or railway lines between most cities and towns. There will not, however, necessarily be alternative existing conveyance routes between two specific locations within a town or city which can be used to offer leased lines.

68. The dynamic development in the roll-out of regional fibre networks in Norway represents potential competition in many geographic areas where only a few years ago Telenor was the only provider to offer short wholesale leased lines above 8 Mbit/s. Developments in the regional fibre roll-out have resulted in significant changes in Telenor's market shares for high-capacity leased lines in the wholesale market in recent years. In many cases, there are therefore alternatives for operators who wish to establish themselves in these markets.

69. As a result of responses to the national consultation on the draft decision in this market, NPT has assessed more specifically whether significant entry barriers exist with regard to leased lines to base stations in mobile networks.

70. Former market 14 includes dark fibre as this is used inter alia as part of the underlying infrastructure (backhaul) in both fixed and mobile networks. However, backhaul in a fixed network and in a mobile network differ with regard to the technical solutions and the alternative forms of transmission that are used, particularly radio link systems. This may imply that the barriers to entry are to some degree different for the delivery of backhaul solutions in the fixed access network compared to the radio access network.

71. Base stations in a mobile network are constructed with the aim of handling radio communication. The base stations are consequently placed in locations and buildings so as to achieve the best possible area and population coverage. The situation is different in the fixed network where aggregation points and local centres are not primarily constructed to transmit and receive wireless signals. Radio links require careful positioning on masts and the like in order to ensure unrestricted point-to-point visibility. Radio links therefore seem to represent a much more cost-effective transmission solution for backhaul purposes in a mobile network than in a fixed network. In the fixed access network, masts and antenna must generally be established separately, and this requires additional investment and technical adaptations at the locations.

72. Access to suitable frequencies may constitute a barrier to establish radio link communication to base stations. As regards the frequency situation for radio links, NPT believes that it is relevant to take into consideration the fact that a second-hand market exists for such frequency resources. Potential operators can either negotiate with undertakings that hold frequency licences to lease capacity or take over a frequency licence entirely and take responsibility for the turnkey delivery themselves. If operators that already possess frequency resources do not utilise these resources to realise their own services, they could have a commercial interest in entering into agreements with other operators concerning the use of the resources for inter alia radio lines. Many operators in addition to Telenor have

frequencies at their disposal that can be used to offer radio link communication, including Nera Networks, Broadnet Norge and NetCom.

73. Another alternative would be to apply to NPT for transmission licences to establish radio links to cover specific sections in the mobile operators' networks. NPT has many years of experience of allocating frequencies that are used for radio links, and frequencies are still available which can be used for short and long radio link stretches. Award procedure is also an important aspect when considering frequency limitations as a barrier to establish leased line services via radio link. Spectrum licences that can be used for radio link purposes are not allocated until NPT has completed an announcement where other operators are given the opportunity to declare their interest. If there are a number of stakeholders, the allocation is determined by auction. There is nothing about the frequency situation in itself, therefore, which implies that using radio links will not be a viable alternative to fiber as transmission to base stations also in the coming years.

74. The mobile operators that request fiber connections to their base stations may lease these from other local and regional fiber companies than Telenor. In addition they may use alternative forms of backhaul capacity. Usually this will be a combination of digital leased lines (64 kbit/s, 2 Mbit/s and  $n \times 2$  Mbit/s) and radio links (particularly 8 Mbit/s and E1 links).

75. Control of infrastructure not easily duplicated thus does not represent an entry barrier of importance in the wholesale market for leased lines above 8 Mbit/s. This also applies to dark fibre for backhaul use in mobile networks since NPT considers alternative forms of transmission exist which the operators can use for this purpose.

#### 4.1.1.2 Sunk costs

76. Unrecoverable fixed costs ("sunk costs") are fixed costs attributable to an irreversible investment, i.e. a provider cannot expect to recover the investment once it has been made, e.g. through the sale of the investment item, if the provider wishes to exit the market. Unrecoverable fixed costs mean that a potential newcomer faces higher decision-relevant costs than the (or those) operator(s) already established. This cost difference can constitute an entry barrier to a potential entrant.

77. In this market, a potential entrant will, in the absence of regulation, have to base their operations on existing conveyance routes and network elements (e.g. Ventelo) or construct them themselves (e.g. Infiber in the Oslo area). Reference is made to the account in section 10.2.2 of the analysis of 3 May 2007. Insofar as it is possible to base operations on existing infrastructure, this will make the new entrant less dependent on making sunk investments. In such a case, this could help to limit the entry barrier.

78. Investments in intangible rights may also be unrecoverable and represent an entry barrier. Investment in brandbuilding (for example through advertising and other marketing) is an example of such investments. Another example is costs relating to research and development (R&D).

79. In NPT's view, investment in brandbuilding in the wholesale leased lines markets does not represent an entry barrier. The wholesale market consists of far fewer operators than the retail market. Potential customers in the wholesale market are also professional operators and are therefore considered to have a good overview of the various providers and their products. A potential competitor in the wholesale markets for leased lines will therefore probably expend far fewer resources on advertising and marketing than a corresponding competitor in the retail market.

80. With respect to R&D-related costs, NPT is of the opinion that development of new services in this relevant market does not constitute any appreciable entry barrier because the products in this market are largely standardised and relatively homogeneous.

81. After an overall assessment of the above factors, NPT finds that sunk costs related to the establishment of infrastructure constitute a certain entry barrier in the market for leased lines above 8 Mbit/s.

#### 4.1.1.3 Economies of scale and scope

82. Economies of scale exist when an increase in production brings a fall in average unit cost. This is characteristic of production based on technology with relatively high fixed costs and low variable costs.

83. Economies of scope are reductions in average unit cost when more than one service is produced using common means of production, for example common infrastructure or common administrative systems.

84. Economies of scale and scope can work both as entry barriers for new potential operators and as a competitive advantage for established competitors in the market.

85. There are undoubtedly significant economies of scale associated with establishing leased line services. The unit costs (the cost per Mbit/s) will for example fall sharply as the network capacity of a provider increases. Furthermore, unit costs will also fall sharply as more connections are established. For example, in a terrestrial network, it is possible to utilise conveyance routes far more efficiently if many users are connected to the network in a given geographic area.

86. Telenor has to date been subject to an obligation to offer leased lines to end users of up to and including 2 Mbit/s on a nationwide basis. This has also made it easier for Telenor to supply leased lines with capacities higher than 2 Mbit/s, as the company already has a presence. None of the potential newcomers in this market is expected to achieve sufficient "critical mass" to exploit economies of scale in a comparable manner.

87. Furthermore, it is assumed that given its broad portfolio of products, Telenor enjoys greater economies of scope than its competitors. For example, there is reason to believe that Telenor enjoys certain economies of scope related to its nationwide telephony and leased line services.

88. In the light of this, NPT concludes that Telenor's economies of scale and scope represent a certain entry barrier for new entrants in the wholesale market for leased lines above 8 Mbit/s.

#### 4.1.1.4 Access to financial resources

89. Access to financial resources is important to an operator's opportunity to enter markets requiring major initial investment. Differences between operators relating to access to financial resources may constitute an entry barrier. In addition, everything else being equal, it will be expected that an operator with market power and good financial standing will be less exposed to competition than an operator with market power without good access to financial resources. Besides, an operator with market power and good access to financial resources will be better able to defend his market share if new competitors enter the market than an operator with market power without good access to financial resources.

90. Establishing a competitive alternative to Telenor's provision of leased lines above 8 Mbit/s will be associated with relatively high entry costs. Telenor has a strong financial

position. On the other hand, highly capitalised potential challengers to Telenor do exist. There are no grounds for claiming that Telenor has better access to financial resources than potential competitors.

91. Therefore, access to financial resources cannot be said to constitute an entry barrier in this relevant market.

#### **4.1.1.5 Access to distribution and sales channels**

92. In markets in which the established operators have a well-developed distribution and sales network this may function as an entry barrier for potential new operators. This applies in particular in markets in which there are major costs associated with establishing distribution and sales channels, or where the established operators have concluded exclusive agreements with the largest/most important distribution channels in the market.

93. It is NPT's assessment that a lack of access to distribution and sales channels will predominantly be a problem in markets in which the demand side consists of households (the private market). In the private market, it may in some cases be difficult to gain access to key sales channels such as major nationwide retail chains. The customers in this relevant market consist of operators who are themselves providers of electronic communications networks and services. Such operators usually have a good overview of the market and will make choices based on their knowledge of it. It is therefore unlikely that potential new entrants in this relevant market will not enter the market because they consider it difficult to establish sales channels.

94. Based on the above, NPT concludes that access to distribution and sales channels does not represent an entry barrier in this relevant market.

#### **4.1.2 Regulatory entry barriers**

95. Regulatory entry barriers exist when market access is limited by regulatory conditions. Examples are requirements concerning licences, resource restrictions or restrictions relating to health, safety and the environment (direct regulatory restrictions). Furthermore, various forms of price control may also have entry-hindering effects, cf. Recital 11 of the Recommendation.

96. The most important regulatory entry barrier in this market, namely Telenor's exclusive right to offer leased lines, was removed as part of the liberalisation of the telecoms market.

97. There is currently no price control in the market for leased lines above 8 Mbit/s. There is also not considered to be any uncertainty concerning future regulation in this market, as Telenor's existing obligations are now being withdrawn.

98. In NPT's opinion, no regulatory barriers to entry therefore exist in the market today.

#### **4.1.3 Conclusion – first criterion**

99. In NPT's opinion, the high and non-transitory entry barriers to the market that now exist are more limited than at the time of the previous analysis. Nor are any major new entry barriers expected to arise in the years to come. An important reason why the Authority considers the entry barriers to be relatively low is that developments have shown that it is possible to build alternative infrastructure for high-capacity leased lines. It is also not directly necessary for operators to have their own physical infrastructure. Potential players can also base their operations on existing alternative infrastructure in addition to Telenor's infrastructure, in order to offer leased lines above 8 Mbit/s.

100. As NPT believes that there could still be certain arguments to indicate that the first criterion is not met, we will also assess whether the second criterion is met.

## **4.2 Second criterion: The market is not tending towards effective competition**

101. In recital 13 of the ESA Recommendation it is argued that even though a market is characterised by high entry barriers, other structural factors can mean that the market tends towards effective competition within the relevant time horizon.

102. In the assessment of whether the market is tending towards effective competition, NPT has analysed the following criteria:

- Development of market share
- Prices and price developments
- Product differentiation
- Barriers to expansion
- Potential competition and innovation

### **4.2.1 Development of market share**

103. The development of market share can provide information on whether the market is tending towards competition. High and stable market shares over time could indicate that there are providers with significant market power and that competition in the market is thus ineffective.<sup>13</sup> Drops in the market shares of the largest providers can conversely be a factor in supporting a conclusion that the market tends toward effective competition.

104. Market shares in this market can be measured using various criteria, such as revenue, volume (number of lines/line length) or total capacity. The Authority has considered it appropriate to calculate market shares in the relevant market based on both revenue and volume/number of lines. NPT considers revenue to be the most appropriate criterion, *inter alia* because neither volume nor total capacity takes into account the different types of leased lines, including the length of the lines. NPT has, however, also assessed market shares based on the volume/number of leased lines. The Authority believes that the calculation of market shares based on the volume/number of leased lines reinforces the overall assessment linked to market shares.

105. NPT has furthermore estimated market shares based on revenue and volume/number of lines using two different calculation methods. In the first calculation, a calculation method corresponding to that used in the previous analysis was used, i.e. Telenor's intra-group sales between group companies are included. This calculation method is, however, only relevant up until 2009 inclusive. At the 2009 year-end, Telenor carried out a merger of four of its legal companies. Telenor Mobil AS, Telenor Telecom Solutions AS, Telenor Bedrift AS and Telenor Privat AS were merged to form a single company called Telenor Norge AS. This resulted in what previously consisted of intra-group sales of leased lines between the companies from 2010 being considered as the internal use of leased lines within the same company. In the second calculation of market shares, only external sales were included. Reference is made to the analysis of Market 6 for further justification of why both of these

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<sup>13</sup> Paragraph 76 of the Guidelines.

calculation methods were used. The operators' market shares based on revenue determined using these two calculation methods are summarised in Table 1 below.

	Including Telenor's intra-group sales		Excluding Telenor's intra-group sales		
	2005	2009	2005	2009	2010
Telenor	66 %	53 %	48 %	41 %	38 %
Ventelo	29 %	26 %	44 %	32 %	30 %
Infiber	0 %	16 %	0 %	20 %	22 %
Other	5 %	5 %	8 %	6 %	10 %

Table 1. Market shares above 8 Mbit/s based on revenue<sup>14</sup>

106. From the start of 2005 through to the end of 2009, Telenor's market share in the wholesale market for leased lines above 8 Mbit/s declined. Depending on the calculation method used, Telenor's market share fell by 13 or 7 percentage points. Telenor's market share, excluding intra-group sales, also decreased by 3 percentage points from 2009 to 2010. From 2005 to 2009, Ventelo's market share fell by 3 or 12 percentage points respectively, and by 2 percentage points from 2009 to 2010. At the end of 2009, Infiber (formerly Hafslund Fibernet), which was not a major provider of leased lines above 8 Mbit/s in 2005, had built up a market share of 16 or 20%. At the end of 2010, their market share had increased by a further 2 percentage points. The total market share of other providers, which consist of operators with less than a 3% market share, increased slightly from around 5-8% to around 5-10%.

107. Below is a table showing the different operators' market shares based on volume/number of lines given the two different calculation methods.

	Including Telenor's intra-group sales		Excluding Telenor's intra-group sales		
	2005	2009	2005	2009	2010
Telenor	77 %	48 %	61 %	39 %	29 %
Ventelo	18 %	16 %	30 %	19 %	16 %
Infiber	0 %	30 %	0 %	36 %	47 %
Øvrige	5 %	5 %	9 %	6 %	8 %

<sup>14</sup> 21<sup>st</sup> December 2011 a press release announced that EQT had entered into an agreement to buy Ventelo Holding AS (Ventelo). A standardized notification regarding the acquisition was sent the Norwegian Competition Authority 9<sup>th</sup> January. EQT already owns Infiber. The Competition Authority has not found reasons for intervention, and the companies owned by EQT will therefore have a combined market share of 52 % in the relevant market based on revenue in 2010.

Table 2. Market shares above 8 Mbit/s based on volume/number of lines

108. There have been significant changes in the market shares of the different operators based on volume/number of lines from 2005 to 2010. Telenor's market share has fallen significantly during this period. Ventelo's market share has also fallen, while Infiber has gained a significant share of the market.

109. Telenor's fall in market share from 2005 to 2010 and the fact that a new operator in the market has gained a substantial share of the market testify to a changing market. NPT believes that developments in market shares in recent years indicate a market which is exposed to competition. Even though the competition may not necessarily be functioning fully, the Authority believes it is difficult to argue that unique Norwegian conditions exist which mean that the market is not tending towards competition based on the developments in market shares.

110. The Hirschman-Herfindahl index (HHI) is frequently used to assess structural market factors. HHI is the total of the square of each provider's market share. The value of the index is 1 if there is only one provider in the market. If there are many providers with a small market share, the index will approach 0.

111. Calculated on the basis of market shares in terms of revenue HHI has been falling in recent years in the wholesale market for leased lines above 8 Mbit/s. If Telenor's intra-group sales between its own companies are included in the calculation, during the period 2005 to 2009 the index fell from 0.52<sup>15</sup> to 0.37<sup>16</sup>. If market shares based only on external sales are used, during the period 2005 to 2010 the index fell from 0.42<sup>17</sup> to 0.28<sup>18</sup>. An HHI of just under 0.3 is still high however, indicating that the market concentration in this market remains high.<sup>19</sup> However, the trend from 2005 to 2010 has been positive. The primary reason why the index has fallen is that Telenor and Ventelo have lost market shares to Infiber. Telenor now has a less dominant position in the market than it had at the end of 2005.

#### 4.2.2 Prices and price developments

112. The development of prices at both the retail and wholesale levels can give indications of whether the market tends toward competition.

113. Telenor's standard list prices in the wholesale market for leased lines above 8 Mbit/s have not changed significantly since the previous analysis. The monthly rental price remained constant during the period, while the standard set-up fee has fallen slightly. Standard list prices are rarely used in the relevant market, so developments in standard list prices therefore say little about the actual price developments in the market. Deliveries in the wholesale market for leased lines above 8 Mbit/s are primarily based on what are known as "contract agreements". Because of many project-specific assessments, it is difficult to carry out direct price comparisons over a given period of time.

114. The Authority does not have information on how the wholesale prices of Ventelo and Hafslund (now Infiber) have developed since the previous analysis of the relevant market.

<sup>15</sup>  $(0.66^2 + 0.29^2 + 5 * 0.01^2 = 0.52)$

<sup>16</sup>  $(0.53^2 + 0.26^2 + 0.16^2 + 5 * 0.01^2 = 0.37)$

<sup>17</sup>  $(0.48^2 + 0.44^2 + 8 * 0.01^2 = 0.42)$

<sup>18</sup>  $(0.38^2 + 0.30^2 + 0.22^2 + 5 * 0.02^2 = 0.28)$

<sup>19</sup> If EQT's acquisition of Ventelo (see footnote 14) is taken into account when calculating the HHI, the index for 2010 based on revenue from external sales is 0,42  $(0,38^2 + 0,52^2 + 5 * 0,02^2)$ . In other words at the same level as in 2005.

115. NPT does not have sufficient information concerning price developments in the market for leased lines above 8 Mbit/s to be able to emphasise this aspect in the assessment of whether or not the market is tending towards competition.

### **4.2.3 Product differentiation**

116. "Product differentiation" means a strategy that aims to give a provider's own products characteristics that distinguish it from the products of competing providers. Product differentiation can take place both in the wholesale and retail market. A high degree of product differentiation by a provider may provide a basis for strong customer loyalty and reduce competition in the market. Strong brands can have similar effects.

117. Telenor offers nationwide leased line services in most forms of interfaces, different capacity classes, multi-access, etc. This means that Telenor has a broader product spectrum than its competitors and potential competitors, and has the opportunity to be a total supplier in the wholesale markets for leased lines in the same way as in the retail leased lines market. In NPT's view, this can serve to strengthen Telenor's market power to a certain extent in this relevant market. Over the years since the previous analysis, we can however see that more and more operators have rolled out high-capacity infrastructure. Telenor's differentiation is therefore not as decisive as it was at the time of the previous analysis of the market.

118. Bundling of products is a variation of product differentiation. An operator with market power in a relevant market can link (tie together) services or products in this market with services or products in another market, so that the operator can provide a bundle of services/products that are differentiated from the competitors' offering and that the competitors have a limited opportunity to copy. In this way, the bundling of services/products can contribute to market power in one market creating competitive advantage in another market. Such competitive advantages may be relevant to the assessment of significant market power in the latter market.

119. To NPT's knowledge, little other product bundling is taking place between Telenor's offer of leased lines above 8 Mbit/s and products in other markets that is serving to strengthen Telenor's market power in this market.

120. Different forms of switching costs when changing provider can reduce the competition at both the retail and wholesale levels. Restrictions or costs associated with the end user switching providers increase the opportunity for a provider with market power to behave independently in the market. Such restrictions may be of a practical, technical or financial nature, or may be a result of the end user having greater confidence in existing and well-established operators in preference to new operators and being unwilling to take the risk that a switch could involve.

121. Telenor offers many discounts in its various agreements. Many of the discounts are linked to the lock-in period. The lock-in periods and discount conditions mean that it is possible that a certain lock-in effect may exist which could hinder competition. Telenor's market shares have however decreased in recent years. This indicates that competition in the market has increased.

122. Based on the above, it is NPT's assessment that Telenor's product differentiation, lock-in periods, switching costs and discount schemes for leased lines have a limited lock-in effect, and therefore serve to hinder competition in this relevant market to a very limited extent.

#### 4.2.4 Barriers to expansion

123. A market with large growth potential is generally more attractive to potential new operators than a market in which the total units sold and/or the number of customers has stagnated or is decreasing (known as a 'mature' market). Operators considering entry into mature markets must largely aim to capture customers from the established operators. Barriers to expansion in a market can therefore constitute a possible barrier to entry.

124. During the period 2005 to 2010, total revenues in the market for leased lines above 8 Mbit/s, based on external sales, increased by almost 100%. The growth rate from 2009 to 2010 was nearly 19 per cent. NPT also expects to see growth in revenues in this market in the years to come. Among other factors, there is reason to believe that the growth of broadband services requiring greater bandwidth will drive demand for high-capacity leased lines. Developments within the mobile market, with the ever-increasing roll-out of 3G and LTE, will probably also contribute to an increase in demand for high-capacity leased lines.

125. Mobile Norway which is in the process of rolling out a third mobile network in Norway, states that they purchase various transmission solutions from Telenor, InFiber, Ventelo and Fiberselskapet. In addition, it is stated that local fibre companies are contacted in areas where they are present. This development show that the market for high-capacity leased lines has a potential for growth and that alternative operators can expand and compete to offer inter alia dark fiber connections to base stations.

126. Barriers to expansion are therefore not considered to constitute a significant entry barrier due to anticipated future growth in the market for leased lines above 8 Mbit/s.

#### 4.2.5 Potential competition and innovation

127. Potential competition relates to whether the operators not in the current market can help to create market dynamics within the forthcoming regulatory period. Potential competition will also, among other things, be able to discipline pricing in the retail market, because high prices make entering the market more attractive.

128. As a rule, in markets with a high degree of innovation the opportunity to exercise market power will be more limited than in markets with little innovation. Technological development may therefore be of significance for potential competition in the market. Innovation resulting from technological development can therefore contribute to weakening an operator's position in the market in relation to potential competitors.

129. There is reason to believe that innovation resulting from technological and product development can serve to weaken Telenor's position in this relevant market. For example, in the future new products based on xDSL technology will still be a potential competitor to digital leased lines for connection to the Internet and realisation of VPN solutions. The same applies to the development of products based on radio solutions, for example WLAN or wireless radio connections.

130. However, there is one fundamental and important input that probably will not be subject to any significant degree of innovation, namely activities relating to the establishment of the physical infrastructure, such as the construction of conveyance routes. For the foreseeable future, the construction of alternative physical networks will, with the exception of radio solutions, entail physical trenching of fibre and ducts, building of cable paths, etc.

131. Based on the above, NPT finds that innovation and technological development will contribute only a limited amount of potential competition in this relevant market.

#### **4.2.6 Conclusion - second criterion**

132. Under the second criterion, NPT assessed whether the market has characteristics that do not make it tend towards effective competition. In the assessment NPT analysed factors in the period since the previous market analysis and market dynamics in the period, and the indications that provides for the market going forward.

133. In NPT's view, the competitive situation in this market has changed considerably since the previous analysis. NPT believes that the changes show that the market is moving in the direction of sustainable competition and that the second criterion is therefore not met. Telenor's falling market shares and the increasing number of operators in the market are serving to reinforce this conclusion.

#### **4.3 Conclusion of the three-criteria test**

134. On the basis of factors such as control over infrastructure, sunk investments and economies of scale, NPT concluded in section 4.1.3 that there are certain structural barriers to entry to the market for leased lines above 8 Mbit/s. However, these entry barriers are not considered to be so high that new entrants will decide not to establish themselves as a provider in this relevant market. In contrast to Market 6, it appears to be possible in this market to both establish oneself as a provider and also to build up substantial market shares in a relatively short period of time (as Infiber has done). Developments in market shares during the period 2005 - 2010 in themselves indicate that the second criterion is not met. Furthermore, this market has expanded during the same period and is expected to continue growing. This supports the conclusion that the second criterion is not met. In the view of the Authority, the conclusion that the second criterion is not met will also be a strong indication that the first criterion has not been met either.

135. Article 2 of the Recommendation explicitly states that the three-criteria test is cumulative. For markets not included in the list of relevant markets in the Annex to the Recommendation, it is thus a requirement that all three aforementioned terms are met. The Authority believes there is some uncertainty as to whether criterion 1 is met, but has concluded that criterion 2 is not met in this market. On this basis, the Authority finds no reason to assess the final criterion. The three-criteria test is therefore not met as regards this market. Thus, the market does not qualify for sector-specific *ex ante* regulation. The consequences of this are presented in Chapter 5 below.

## **5 Decision**

### **5.1 Withdrawal of obligations**

136. As mentioned in section 1.2, the aim of the Recommendation is to identify the product and service markets in which *ex ante* regulation may be justified. National authorities are prevented from applying sector-specific *ex ante* regulation to markets that are not identified in the Recommendation and do not meet the three-criteria test, cf. Articles 1 and 2 of the Recommendation.

137. In NPT's opinion, this market does not meet the three-criteria test, cf. section 4.3. As the market no longer qualifies for the use of sector-specific *ex ante* regulation, there is no reason to carry out a new market analysis of the market with a view to determining whether

any provider has significant market power. Nor by the same token is there reason to continue with the conclusion in Chapter 2, point 16 of NPT's decision of 3 May 2007, in which Telenor was designated a provider with significant market power in this market.

138. NPT has considered whether the Authority should delay the phasing out of the current regulation for a transitional period to give the operators the opportunity to adapt to non-regulated markets. NPT has decided that there is a need for such a transitional period, and section 5.4 stipulates that existing obligations will be withdrawn with effect from 6 months after the decision date.

139. On this basis, NPT withdraws the designation of Telenor as a provider with significant market power in this market and also withdraws Telenor's current obligations for wholesale provision in the market for leased lines above 8 Mbit/s.

140. The current obligations imposed on Telenor which will be withdrawn are presented in Chapter 10 of the decision of 3 May 2007 and predominantly comprise:

- Obligation to meet reasonable requests for access to all communications which fall within Market 14. Such access also includes access to co-location and any other necessary additional services. Refusals to grant such access must be justified and documented.
- Obligation to cost-orient the prices for access to co-location and any other necessary additional services requested as part of the establishment of leased lines in Market 14.
- Obligation of non-discrimination both between external providers and between internal and external providers.
- Obligation to prepare a reference offer, including prices, price calculation methodologies and any discounts and discount criteria for wholesale leased lines with capacities above 8 Mbit/s. The reference offer shall be published. Obligation to submit to NPT all wholesale agreements on leased lines above 8 Mbit/s where the prices deviate from standard prices, including all agreements based on contract prices.
- Obligation to prepare an accounting separation system in Market 14 by which the accounts of the network business that produces and supplies leased lines over 8 Mbit/s in the wholesale market must be separated from Telenor's retail business that supplies leased lines with corresponding capacities in the retail markets.

## **5.2 Entry into force of the decision**

141. The decision enters into force immediately after the determination is made.

## **5.3 Consequences of withdrawing obligations**

142. The current obligations imposed on Telenor in the wholesale market for leased lines above 8 Mbit/s are designed to avert competition problems associated with various forms of discriminatory behaviour. In NPT's view, the importance of the competition problem in this market has decreased compared with the previous situation, see Chapter 4. In NPT's view, the deregulation of Telenor's services in this market will have limited consequences. The Authority cannot see that competition in the market will be adversely affected to any particular degree, given that the competition problems that the current regulation is intended to counteract have been considerably reduced since the previous decision.

143. As the competition problems in the market have decreased in importance, NPT also believes that general competition law will be more effective in counteracting any competition problems relating to any discriminatory behaviour that still arise in the market. In connection with this, it should also be noted that dark fibre for backhaul use is in the future regulated as an associated service in Market 4. In view of this, NPT believes that the absence of sector-specific *ex ante* regulation will not have any significant adverse consequences as regards the competition in the market even if competition problems could potentially still arise.

## 5.4 Need for transition period

144. With regard to the withdrawal of imposed obligations, Article 16 of the Framework Directive imposes a requirement for the parties concerned to be notified in order that they are given a reasonable ("appropriate") transitional period, cf. ESA Guidelines, paragraph 114. ERG's guidelines on remedies<sup>20</sup> place emphasis on the need for a transitional period to be based on an assessment of potential consequences, particularly in the retail market. The ERG report on the transition from sector-specific regulation to ordinary competition regulation<sup>21</sup> gives further guidelines and emphasises the degree to which removal of the existing regulation affects other providers. The purpose and duration of a transitional period will, in this respect, give alternative providers adequate opportunity to adapt to a new market situation without *ex ante* regulation. With regard to what constitutes an adequate transitional period, ERG and others are of the opinion that it should not normally be as long as a normal decision implementation period (i.e. two to three years).

145. NPT assumes that the withdrawal of the current regulation of the market will have limited consequences, cf. section 5.3. The standard prices are identical in the retail and wholesale markets. Telenor's competitors use Telenor's leased lines above 8 Mbit/s to varying degrees in order to offer their services in the retail market. NPT believes it is important to take account of the providers that use Telenor's offer in this market to the greatest extent possible. In NPT's view, it will therefore be reasonable to give these providers a certain period of time to adapt, e.g. by entering into agreements with alternative suppliers or establishing their own infrastructure if the providers fear or find that the deregulation of Telenor's services will lead to significantly inferior terms for them.

146. NPT considers a period of six months from the date of implementation of the decision to be an adequate transitional period. In addition, the consultation period that follows the notification of the decision and the time that NPT took to prepare a final decision, including notifying the ESA, will give the operators concerned more time to adapt to a wholesale market for leased lines above 8 Mbit/s without sector-specific *ex ante* regulation. NPT therefore determines that the currently imposed obligations resulting from NPT's decision of 3 May 2007 will be withdrawn as of six months from the date of this decision.

## 6 Appeal

147. The decision may be appealed within three weeks of the date on which it has been received, cf. Section 11-6 of the Electronic Communications Act and Section 29 of the Public Administration Act. Appeals must be addressed to the Ministry of Transport and

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<sup>20</sup> ERG (06) 33, Revised ERG Common Position on the approach to Appropriate remedies in the ECNS regulatory framework.

<sup>21</sup> ERG (09) 40 ERG Report on Transition from sector-specific regulation to competition law.

Communications but sent to the Norwegian Post and Telecommunications Authority. The resolution on deferred implementation of the decision can only be adopted by the Ministry of Transport and Communications, cf. Section 11-6, fourth paragraph of the Electronic Communications Act and Section 42 of the Public Administration Act. If during any appeal, implementation of the decision is postponed, the removal of existing obligations is postponed until a final decision on the appeal.