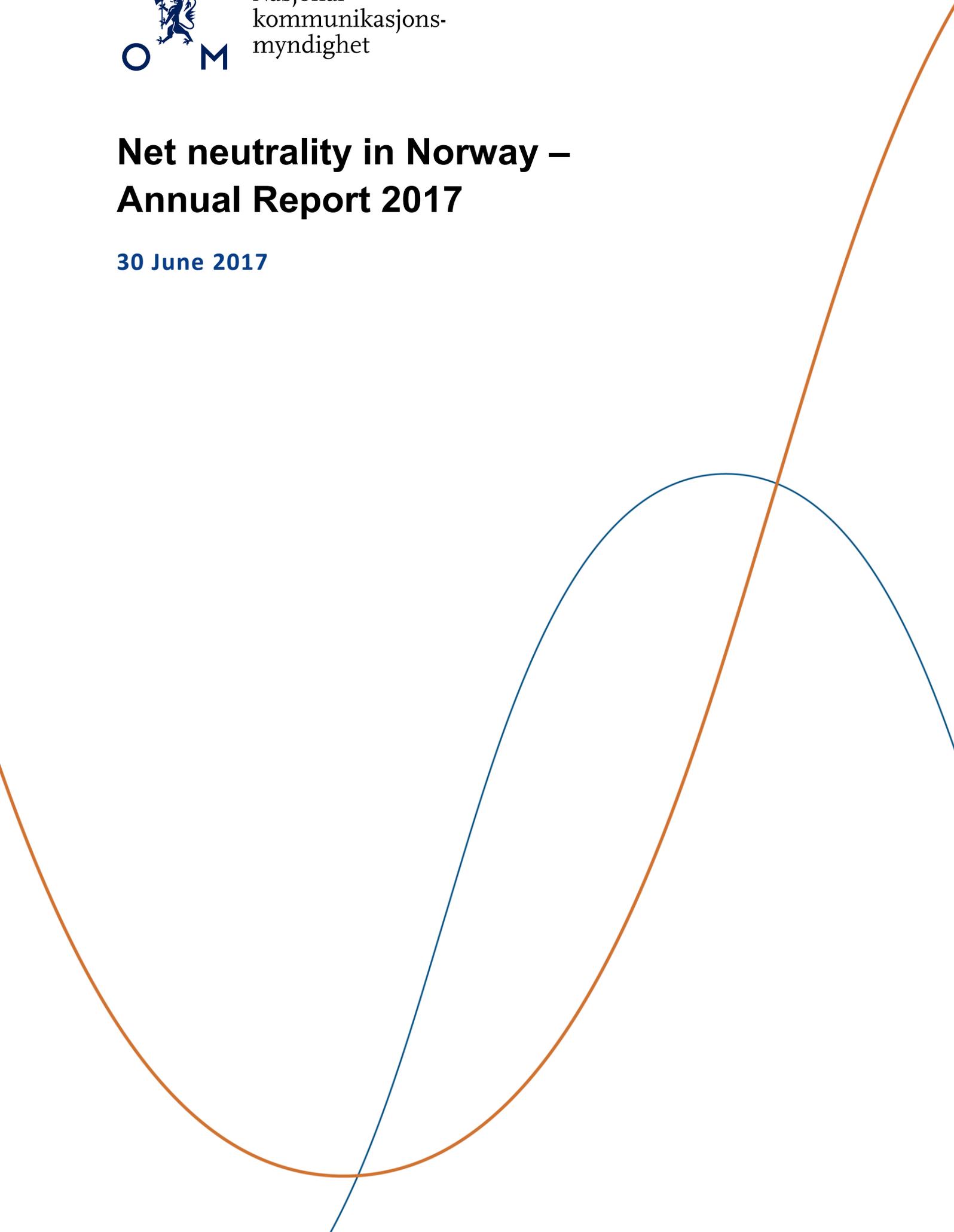




Nasjonal
kommunikasjons-
myndighet

Net neutrality in Norway – Annual Report 2017

30 June 2017



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1 Introduction and background

This is the first annual report on net neutrality in Norway. Net neutrality is the principle that all Internet traffic should be treated equally, regardless of sender, recipient, equipment, application, service or content. The report describes the status of net neutrality in the Norwegian market, based on work by the Norwegian Communications Authority (Nkom).

The report covers the status of Norwegian net neutrality legislation, an overview of Nkom's net neutrality activities, current net neutrality issues in Norway, data collection on the providers' traffic management, measurement of the quality of Norwegian internet access, and an overall assessment of the status of and developments in net neutrality in Norway.

Net neutrality was codified in law in Norway with effect from 20 March 2017 in connection with the introduction of European rules on net neutrality, in accordance with Regulation 2015/2120, which has been applicable in the EU since 30 April 2016. These rules replace national guidelines on net neutrality, which in Norway have been effective since 24 February 2009.

Pursuant to the Regulation, BEREC has published European guidelines on the implementation by national regulators of European net neutrality rules. The Regulation stipulates that the national regulatory authorities shall publish a report on an annual basis on net neutrality in the national market. BEREC's guidelines specify that the period for the annual report should be 1 May to 30 April of the following year.

As a result of the late introduction of the new legislation in Norway compared with other European countries, the Norwegian report will mainly describe the status on 30 April 2017, and to a lesser extent the status for the entire previous year. Insofar as the status for the entire reporting period is described, it should be noted that for most of the period it was the previous national guidelines that were in force, and that the Regulation has only been in force in Norway for a couple of months.

2 Status of the Norwegian legislation on net neutrality

2.1 Phasing out of the national guidelines

Norway was the first country in Europe to establish a regulatory regime for net neutrality, and the national net neutrality guidelines from 2009 have ensured that Norwegian users have had open access to content on the internet, while internet service providers and content providers have been able to develop business models and services based on fixed and mobile broadband. However, a major survey from 2012 found multiple breaches of net neutrality in other European countries.

The background for the change in the Norwegian regulatory approach is on the European level. As a consequence of variations in the regulation of net neutrality in different European countries, at the same time as a significant number of users experienced restrictions on their internet access, the Commission proposed introduction of new rules on net neutrality. After political negotiations in the European Parliament and Council, Regulation 2015/2120 was adopted at the end of 2015.

The preparations for the introduction of the European rules on net neutrality in Norway have taken place over time. The Norwegian Ministry of Transport and Communications conducted a consultation on the proposed amendments to the Electronic Communications Act and Regulation in February and March 2016, and a proposition was submitted to the Norwegian parliament, Stortinget in September 2016. The amendments were unanimously adopted on 7 March and entered into force on 20 March 2017.

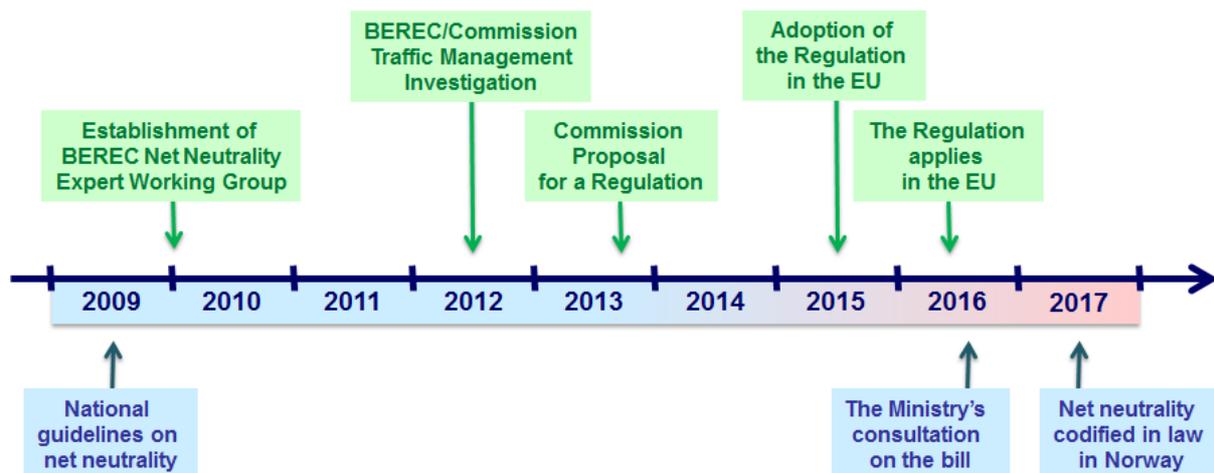


Figure 1 – Development of net neutrality rules in the period 2009–2017

2.2 Codification of net neutrality in Norway

Paragraph 2-16 of the Electronic Communications Act authorises introduction of regulations that provide rules on net neutrality, and contains the following definition: "net neutrality means that all Internet traffic should be treated equally, regardless of sender, recipient, equipment, application, service or content." Furthermore, paragraph 1-12 of the regulations states that Regulation 2015/2120 shall apply as a Norwegian regulation from 20 March 2017.

The bill (Proposition no. 157 (2015–2016)) states that the goal of the work on net neutrality is to ensure that the internet remains a well-functioning, open and non-discriminatory platform for all types of communication and distribution of content. This is an objective that has been continued from the previous Norwegian guidelines on net neutrality.

In the bill, the Ministry also writes that the new provision codifying net neutrality in law in Norway will lead to greater regulatory certainty by providing the operators with clear, binding rules on net neutrality. For Norwegian consumers and citizens, net neutrality is important to ensure access to communication services, freedom of speech and democracy.

2.3 Norwegian net neutrality policy

The codification of net neutrality thus entails that the national guidelines from 2009 shall no longer be used in the regulation of net neutrality in Norway. At the same time, it is stated in the bill that "The Ministry nevertheless wants, insofar as it is possible within the framework of the Regulation, to maintain the Norwegian net neutrality policy established through many years' experience."

There are clear similarities between the European rules on net neutrality and the previous Norwegian guidelines, which will facilitate such maintenance of the Norwegian net neutrality policy. Both sets of rules deal with transparency, reasonable traffic management and the opportunity to offer specialised services such as VoIP and IPTV, parallel to the access to the internet, under certain conditions.

By contrast, the Regulation is less clear in its provisions on zero-rating. While the Norwegian guidelines were in force, a market for internet access had been established that did not use zero-rating for Norwegian subscriptions. This means that the regulation of zero-rating will now become an area that may require close follow-up in the future.

3 Overview of Nkom's net neutrality activities

According to Article 5 (1) of the Regulation, Nkom's main task related to regulating net neutrality in the Norwegian market is to closely monitor and ensure compliance with the Regulation's provisions on net neutrality. Nkom has implemented various activities to follow up this obligation.

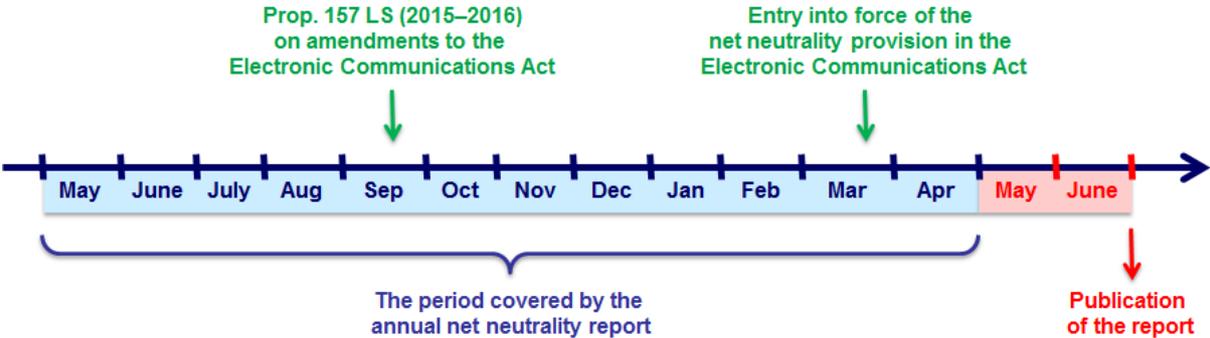


Figure 2 – Annual planning schedule for net neutrality reporting 2016–2017

This annual report on net neutrality in Norway is part of the Nkom's ongoing dialogue with the industry, but it also contributes to Nkom's contribution to the public debate on net neutrality. The report has been published in accordance with Article 5 (1) of the Regulation, which lays down that the national regulatory authorities shall publish reports on an annual basis regarding their monitoring and findings.

As part of Nkom's general supervision of the Norwegian ecom market, Nkom continuously monitors the development of new service offers for internet access in respect of net neutrality. This year Nkom has found it particularly necessary to follow up the introduction of mobile subscriptions with zero-rating, which is a new phenomenon in the Norwegian market (see chapter 4 below).

Nkom also attaches importance to dialogue with the operators in the electronic communications industry to ensure a common understanding of the rules, for example, through the Norwegian Net Neutrality Forum. This year's Forum was held in Oslo on 9 June, and the main topic was the introduction of the European rules on net neutrality in Norway.

BEREC's guidelines on net neutrality help ensure harmonised practice of the European net neutrality rules. Nkom is actively involved in BEREC's Net Neutrality Expert Working Group, which also acts as an arena for the exchange of views and experiences among national regulators in enforcing the Regulation.

This year, Nkom's regular data collection from the electronic communications industry has been expanded with a new section containing questions related to net neutrality (see chapter 5 below). In addition, Nkom's broadband speed measurement system, Nettfart.no, provides interesting measurement data on the performance of Norwegian end-users' internet access services (see chapter 6 below).

4 Net neutrality issues in Norway

Although the pan-European rules on net neutrality only came into force in Norway relatively recently, it had been known for a long time that the national guidelines were going to be replaced by a European regulatory framework. It is therefore reasonable to assume that Norwegian internet service providers had prepared for the transition prior to the codification in law in Norway.

Due to the high degree of overlap between the previous national rules and the new European rules, no major changes were expected in the internet service providers' product portfolio in general. However, the new rules are less clear in respect of zero-rating practices than has been the case in Nkom's enforcement of the national guidelines.

Based on the developments in European countries, but also in other parts of the world, it has been possible to observe a shift from technical to economic discrimination of application and content providers on the internet. It was therefore not an unexpected development when various different types of internet access services started to be offered with zero-rating components on the Norwegian market.

The first provider to introduce this kind of offer was Telia/OneCall, which launched the zero-rated offer "Fri nettradio" [free internet radio] to its customers in January 2017, in connection with the shut-down of the FM radio and introduction of DAB radio in Norway. Nkom started collecting information about this case, but when the offer was withdrawn from the market in May 2017, this work was discontinued.

In March 2017 Telenor introduced a mobile subscription called "Yng" [young], exclusively for people between the ages of 18 and 28. The zero-rated component "Music Freedom" is included in this product. Nkom has analysed this case and published a report assessing the offer on the basis of the European rules on net neutrality.

In the meantime, Telia has also launched a zero-rated offer called "Music Freedom" for all its mobile subscribers with data quotas over a certain size, and Nkom has started collecting information in this case too.

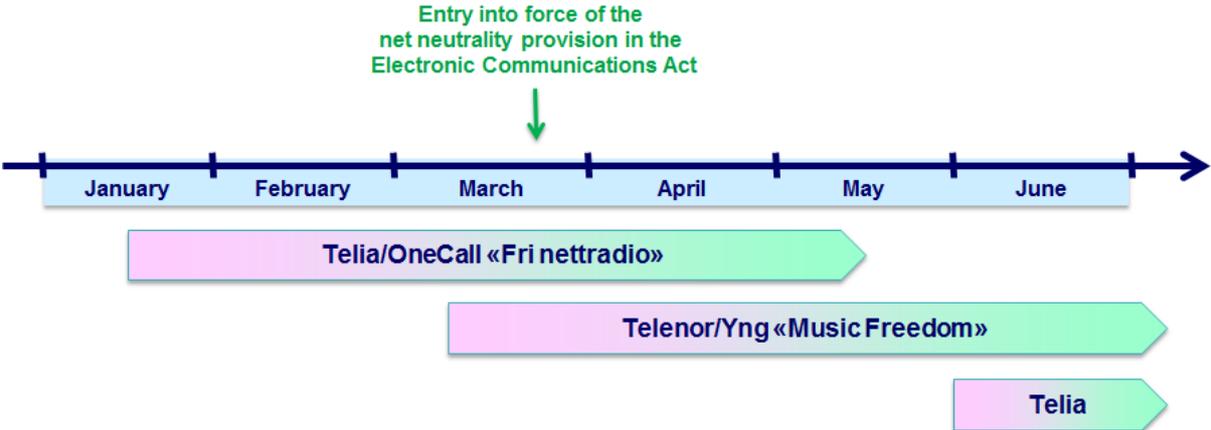


Figure 3 – Development in zero-rating offers in Norway in the first half of 2017

5 Data collection on traffic management

BEREC's net neutrality guidelines recommend data collection from internet service providers as a method that national regulatory authorities can use to monitor the providers' compliance with the net neutrality rules. Nkom has obtained data of this nature as part of its collection of data for use in the annual ecom statistics in the period March–April 2017.

5.1 Traffic management of internet access services

Traffic management of internet access services is especially relevant when assessing net neutrality. The internet access service is defined as a "public electronic communications service offering access to the Internet."

The internet access service is protected by the net neutrality rules, and the traffic management practices that the internet service providers use for the internet access service are governed by Article 3 (3) of the Regulation. As part of the supervision of net neutrality in the Norwegian market, Nkom has requested providers for information about the traffic management mechanisms they use in the production of their internet access services.

Examples of traffic management practices include blocking of domain names in DNS pursuant to a judicial order, Kripos Child Abuse Filter, and blocking of TCP / UDP ports in connection with specific security measures (for example, to prevent DDoS (Distributed Denial of Service) attacks and other types of cyber attacks) and anti-spam measures (based on Norwegian industry norms).

For mobile networks, there have also been reports of general bandwidth throttling pursuant to the subscription terms and conditions when the data quota has been used up, but not throttling of specific applications. Bandwidth throttling that treats all applications equally is, in principle, in compliance with the applicable net neutrality rules.

Nkom has not conducted a detailed assessment of the reported traffic management practices, and Nkom assumes, in principle, that these are offered in accordance with the Regulation. In the future, Nkom may undertake more thorough investigations of the providers' traffic management practices.

5.2 Specialised services

Specialised services are defined as "services other than internet access services which are optimised for specific content, applications or services, or a combination thereof, where the optimisation is necessary in order to meet requirements of the content, applications or services for a specific level of quality."

The net neutrality rules require that internet access providers must ensure sufficient network capacity to be able to provide specialised services in addition to the internet access services provided. As part of the supervision of specialised services in the Norwegian market, Nkom has asked providers for information about the specialised services they offer.

Frequently reported specialised services in the fixed network are VoIP and IPTV, and on mobile networks it is relatively common to offer VoLTE (Voice over LTE) parallel to the internet access service. This is in line with the typical examples of specialised services in BEREC's net neutrality guidelines.

When the providers were asked how they ensure that the capacity of the network is sufficient to ensure that the specialised services are not to the detriment of the general quality of the internet access services for end-users, the general response is that they continuously monitor traffic at the connections on the network and that capacity is increased as needed.

Nkom has not conducted a detailed assessment of the reported specialised services, and Nkom assumes, in principle, that these services are offered in accordance with the Regulation. In the future, Nkom may undertake more thorough investigations of the providers' specialised service offers.

6 Quality of Norwegian internet access

Pursuant to Article 5 (1) of the Regulation, the national regulatory authorities shall promote the continued availability of non-discriminatory internet access services at levels of quality that reflect advances in technology. As part of the monitoring of this, Nkom has investigated the development in the general quality of the end-users' internet access, based on speed test data collected using Nettfart.no.

6.1 Average performance of fixed internet access

Figure 4 shows the average fixed internet access speed in the period 2012 to 2017.

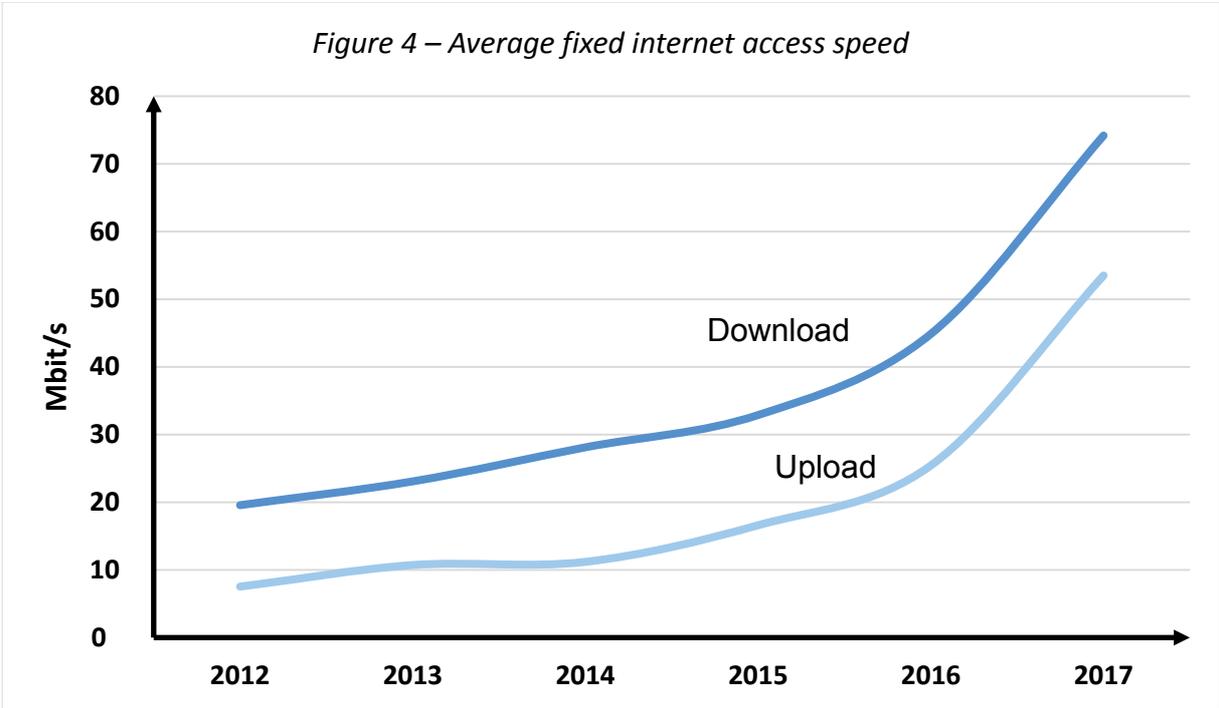


Figure 5 shows the average fixed internet access download speed in the period 2012 to 2017, broken down by technology.

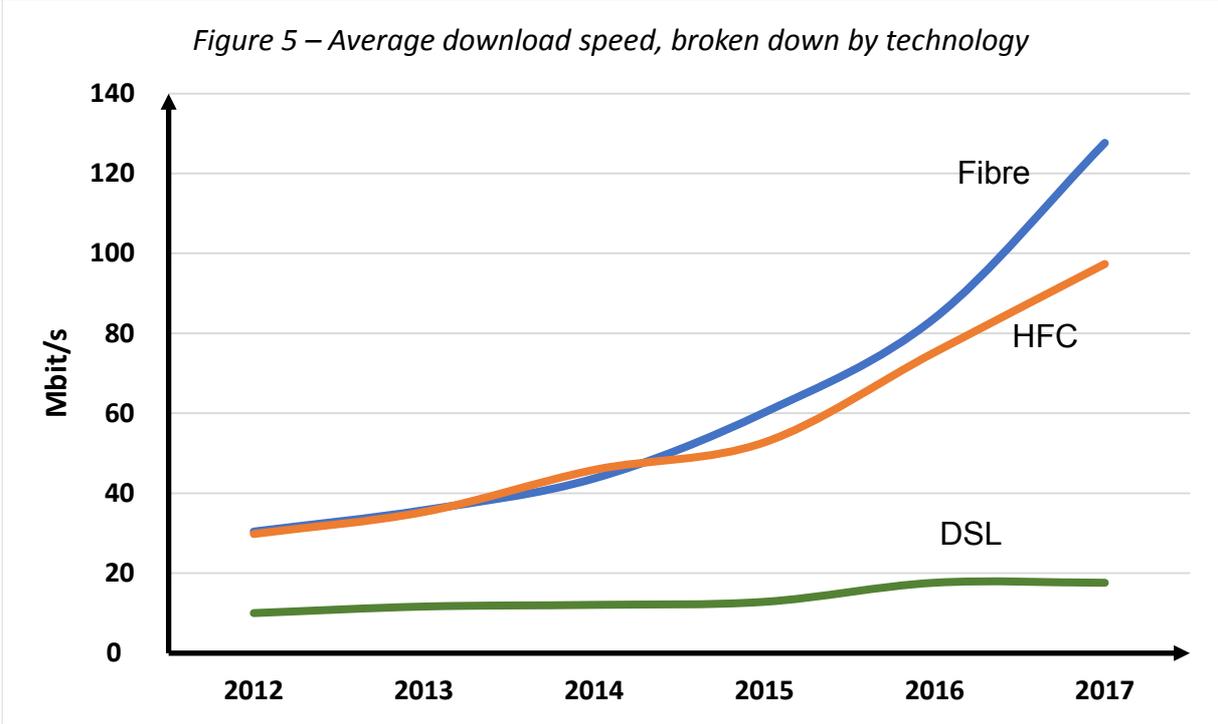


Figure 6 shows the average fixed internet access upload speed in the period 2012 to 2017, broken down by technology.

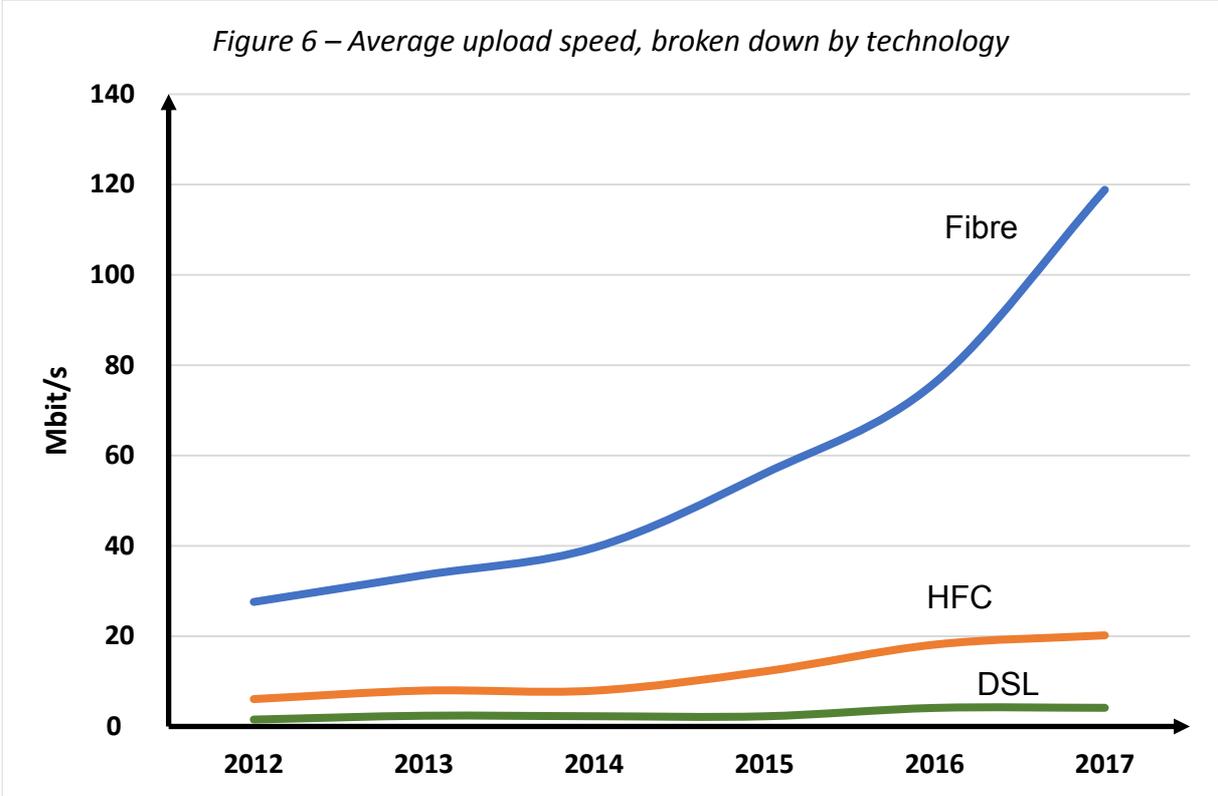
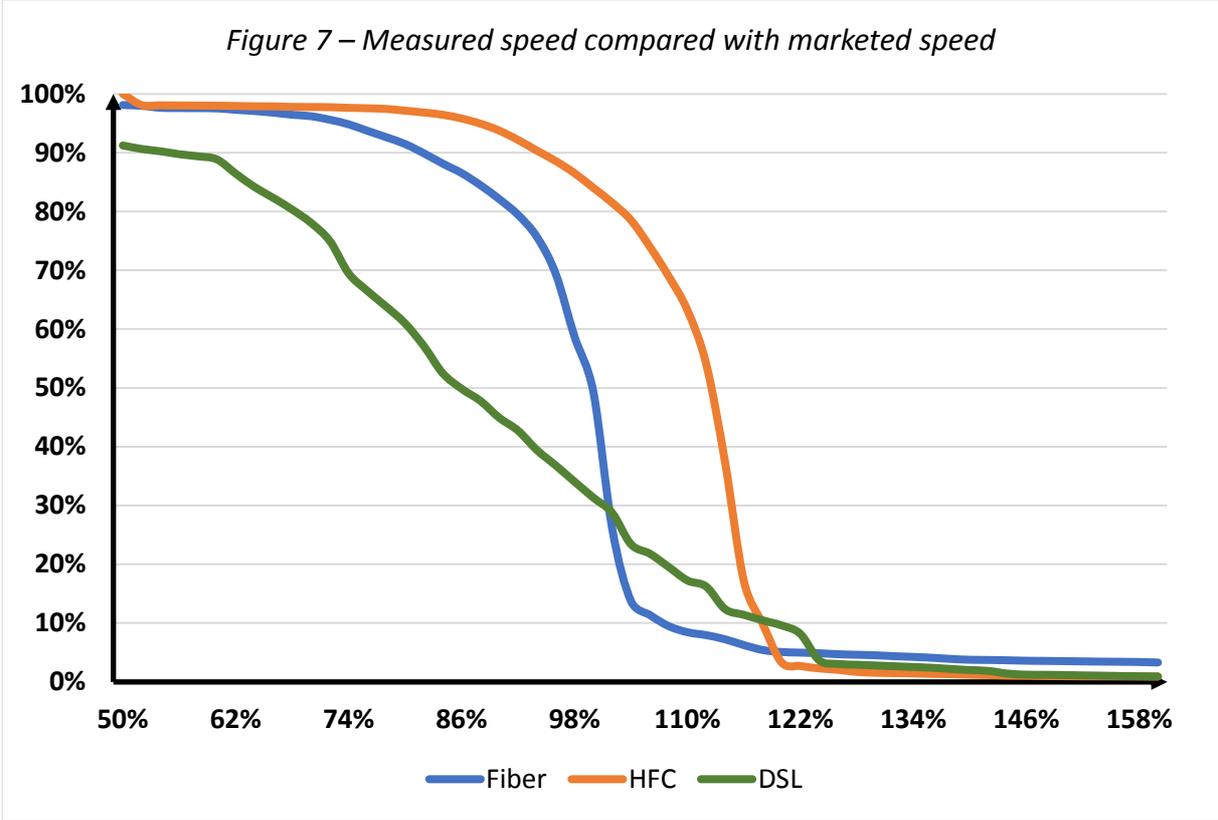


Figure 7 shows the relationship between measured speed and marketed speed for fixed internet access from 30 April 2016 to 30 April 2017, broken down by technology. The Y axis shows the proportion of the measured download speeds that achieve at least the corresponding percentage of the marketed speed indicated on the x-axis.

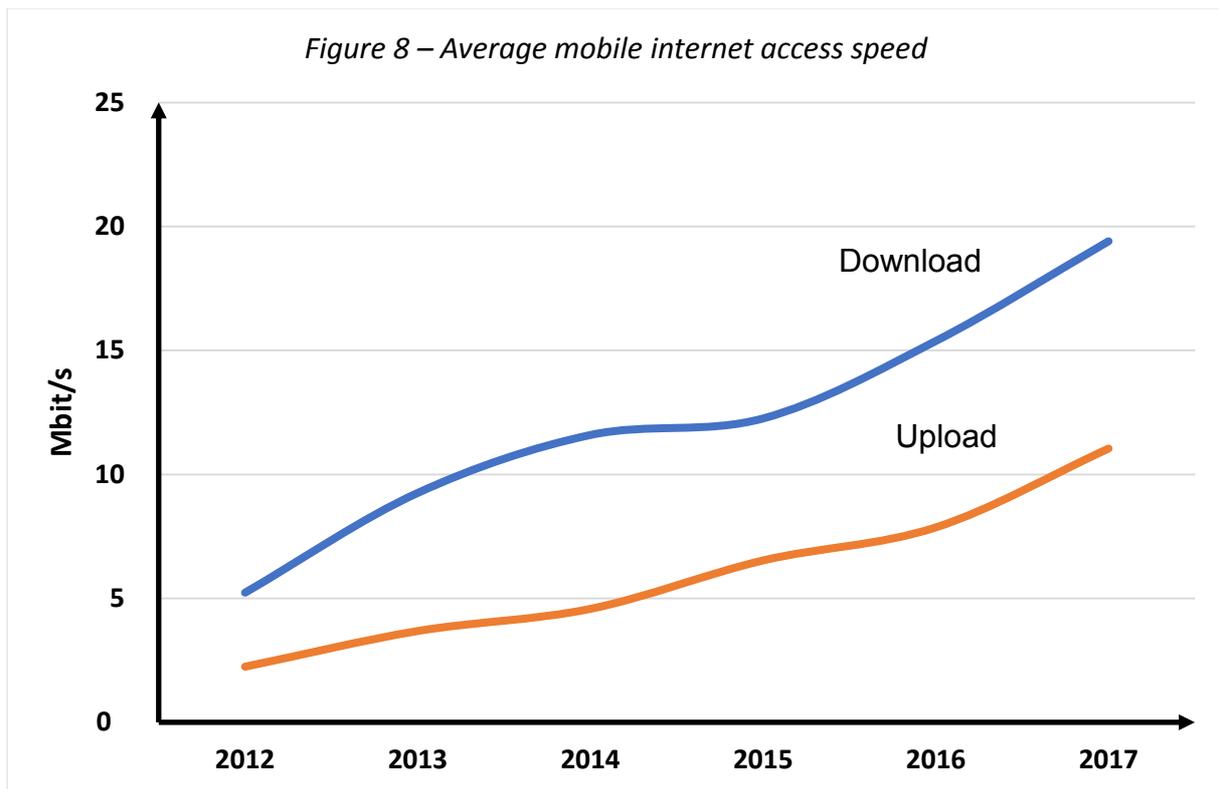


6.2 Average performance of mobile internet access

The measurement data below for mobile internet access are similar to the results described above for fixed internet access, based on Nettfart.no. Most of these measurements are from dedicated subscriptions for mobile broadband solutions.

However, Nkom has recently launched an app for measuring mobile internet speed. Starting from next year, the annual report on net neutrality will therefore be able to provide more detailed data on the quality of mobile internet access.

Figure 8 shows the average speed for mobile internet access in the period 2012 to 2017.



7 Overall assessment

At the transition from national guidelines to pan-European rules on net neutrality, it can be confirmed that the status of net neutrality in the Norwegian market seems to be relatively good. The national guidelines on net neutrality have functioned as intended from their introduction in February 2009 and up until the codification of net neutrality in Norway in March 2017.

The biggest challenge in terms of net neutrality in Norway today is the significant increase in internet subscriptions with zero-rating of preselected applications and content. Nkom is of the opinion that in general zero-rating has an unfortunate effect both on the end users' freedom of choice and in terms of competition between providers of applications and content.

By contrast, traffic management of internet access services and the provision of specialised services such as VoIP and IPTV do not appear to have changed in the short term in connection with the introduction of the European rules on net neutrality. It is also interesting to observe that the general performance of fixed and mobile internet access is continuing to develop positively.

In accordance with the policy signals in the bill, Nkom will work to maintain the Norwegian net neutrality policy in the years to come. The most prominent challenge in the coming year appears to be the increased use of zero-rated offerings compared with the situation under the Norwegian guidelines, and Nkom will monitor developments in this area closely.