

# **BEREC Annual Reports – 2012 –**

**June 2013**

## Foreword from the BEREC Chair 2012

### **Inspiration – Realisation**

This report is based on the Work Programme 2012 and continued the multi-annual approach already started in 2011, based on a strategic outlook for the coming years. 2012 was a challenging and successful year for BEREC. It was the first full year with BEREC Office being autonomous and fully operational. Also the evaluation of BEREC and BEREC Office by an independent consulting company led to a very positive result, despite the relative young age of BEREC.

### **Some core topics**

At the beginning of the year BEREC contributed its regulatory expertise to the legislators currently negotiating the text of the third Roaming Regulation. Following a request from the European Commission, the European regulators have issued an assessment of wholesale roaming costs to inform the debate in both the European Parliament and Council on the levels of wholesale caps for voice and data roaming. In the course of the year 2012 BEREC continued its work on international roaming with the adoption of guidelines on mobile operators' wholesale roaming access obligations under Article 3 of the Roaming Regulation. BEREC also adopted an opinion on the Commission's upcoming Implementing Acts, which set the detailed rules on operators' information obligations and the decoupling of retail roaming services.

Furthermore BEREC dealt with the very important issue of net neutrality since the beginning of 2012 (and following the work of 2011). In Spring BEREC published its findings on the extent and nature of traffic management practices and adopted a report on its investigation of traffic management practices, as well as three documents for public consultation, on the topics of net neutrality and competition, quality of service and IP interconnection. These three topics represent the core of all discussions around net neutrality.

At the end of the year BEREC adopted three broadband common positions on wholesale local access, wholesale broadband access and wholesale leased lines, originally adopted in 2006 and 2007, which were updated to reflect both technological developments (the roll-out of NGA networks) and regulatory developments (the revisions to the European regulatory framework in 2009, and the EU Commission's NGA Recommendation). This in close relation to the on-going work on the European Commission's drafts Recommendation on issues of non-discrimination and costing methodologies.

### **BERECs medium-term strategy**

Already after the first plenary meeting in February 2012 BEREC published its first medium-term strategy outline, which sets out its intention to focus its efforts on promoting both high-speed broadband rollout and consumer empowerment and protection, while continuing its commitment to boosting the single market in electronic communications services. In this respect, the BEREC Board of Regulators approved the final report on Broadband Promotion for publication. The report identifies a reasonable mix of demand-side measures that can be implemented to promote broadband and encourage the adoption by end-users.

Later this year BEREC held a closed brainstorming session to initiate the process of reviewing its Medium-Term Strategy, during which regulators considered and debated about changes to the sector since the adoption of the revised regulatory framework in 2009, and its future development.

In 2012 BEREC introduced a structured “Stakeholder Dialogue” to engage with key European telecom operators and other stakeholder groups (consumers, finance, vendors) to complement its intrinsic knowledge with sector inputs. This was very well received by the stakeholders taking part in this initiative. In 2013 BEREC will further develop this initiative.

### **Art 7/7a procedure**

In 2012 BEREC successfully took the challenge of a significant number of phase-II cases under Art 7/7a of the Framework Directive. These cases were faced by BEREC in a very efficient manner: opinions were delivered in time, which was highly appreciated by the European Commission and taken into utmost account by the NRAs.

As BEREC Chair 2012, I would like to thank the colleagues from the EC and all NRAs who participated in the work of BEREC on all levels. Especially the various Expert Working Groups are the basis for the successful work in BEREC and the fulfilment of the work program.

It is my honour to present the Annual Report on BEREC activities for the year 2012. I would also like to wish my successor, Mr Leonidas Kanellos, every success in chairing BEREC and overseeing its further development during 2013.

**Georg Serentschy**  
**BEREC Chair 2012**

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# Report on BEREC activities in 2012

## 1 Introduction

This report gives an overview of the activities of BEREC during 2012 in accordance with Article 5(5) of the BEREC Regulation. BEREC has the obligation to adopt both an annual report on the developments in the electronic communications sector (as set out in Article 3(1)(n) of the BEREC Regulation) and an annual report on the activities of BEREC.

BEREC has already published annual reports in the past. The new legal requirement to publish two different reports reflects the idea that the annual report on the activities should cover activities carried out by BEREC during the past year, whereas the report about developments in the sector should monitor market changes and also be forward looking.

The activity report is based on the Work Programme 2012 and it continues the multi-annual approach started in 2011 which was based on a strategic outlook for the future. Further discussions followed drafting of the strategic outlook, leading to a BEREC medium-term strategy (which will be detailed in the following sections on strategic developments and cooperation with stakeholders). The multi-annual approach continued during 2012 and, along with the BEREC medium-term strategy, is the basis for work in 2013 and beyond. BEREC and the BEREC Office were also subject to an evaluation by an independent consulting company which yielded very positive results, despite BEREC being a relatively new body and the BEREC Office only being operational since October 2011. The significant number of Phase II cases under Article 7/7a of the Framework Directive (Directive 2002/21/EC as amended by Directive 2009/140/EC, (FD)) were dealt with by BEREC in an efficient manner, by delivering opinions in good time, which were welcomed by the European Commission and taken account of by the national regulatory authorities (NRAs).

The structure of this report is as follows: Sections 2-8 look back on the targets of the Work Programme 2012, developments during the past, very busy, year and the results achieved; Section 3 describes strategic developments; Section 9 lists a number of organisational issues; and Section 10 describes cooperation initiatives with stakeholders.

## 2 Work Programme 2012

The main targets of the Work Programme 2012 were to continue the work of previous years and focus on the development and better functioning of the internal market for electronic communications networks and services by ensuring there is consistent application of the EU regulatory framework for electronic communications.

The work programme had three strands:

- Core topics, such as international roaming, net neutrality, consumer empowerment, next generation networks – access, review and update of BEREC Common Positions, etc.
- Further topics, such as consistency of remedies, recommendation on termination rates, promotion of broadband, regulatory accounting, etc.
- Art 7/7a FD procedures

The following themes will also be covered in this annual activity report:

- international cooperation;
- workshops held;
- organisational issues.

As a result of BEREC's work in 2012, significant progress was made in all of these areas and in many others. The BEREC Board of Regulators published a total of 96 final documents, of which 11 went into public consultation, where an impressive number of 221 contributions from stakeholders were received and taken into account as far as possible. The BEREC Management Committee adopted a total of 27 documents. As already mentioned, the Work Programme 2012 is part of a multi-annual work programme, thus some work begun in 2012 will be completed in 2013.

### **3 Medium-term strategy**

BEREC's task is to promote the consistent application of the European regulatory framework and thereby contribute to the development of the internal market for electronic communications. In so doing, BEREC plays its part in the promotion of growth and innovation in the EU. BEREC can also provide considerable expertise and professional advice to the European institutions on policy initiatives and related debates in the electronic communications sector. BEREC recognises that the development and implementation of medium-term strategic goals will help to further enhance its effectiveness in this respect, providing the activities with overall strategic context and clear direction. Following public consultation, BEREC agreed on a strategic outlook for the next three to five years, which will be subject to regular review.

First, communication services are increasingly reliant on wireless and IP technologies, and are rapidly converging with media services. Second, it is important, therefore, for BEREC to maintain a strong focus on the protection and empowerment of users and we welcome the strengthening of consumer rights in the 2009 regulatory framework. Third, Europe is not isolated. BEREC recognises the global nature of these developments and the need for a global approach to promote the interests of EU citizens. Against the background of the developments in infrastructure, services and consumer trends mentioned above, BEREC's strategic focus will be on the following main themes:

- infrastructure: boosting the roll-out of next generation networks;
  - consumers: boosting empowerment and protection;
  - services: boosting the internal market;
  - quality: the level of ambition;
  - efficiency.
- Documents: BoR (12) 09, BEREC Medium Term Strategy Outlook, delivered at Plenary 1/2012
  - BoR (12) 08, BEREC report on the public consultation on the draft BEREC Medium Term Strategy Outlook

### **4 Core topics**

The regulatory framework for electronic communications, also specifically through the BEREC Regulation, recognises BEREC's important role in developing consistent regulatory practice. This means that end-users and market players can rely on a consistent and



harmonised application of the regulatory framework for protection of the end-users, and fair competition for the market players in the fields discussed below.

## **4.1 International roaming**

As the Roaming Regulation came to an end in June 2012, the European Commission started to plan in good time for a successor regulation for roaming within the European Union. BEREC gave advice to the European Institutions in December 2010 by analysing the different forms such a regulation could take, its advantages and disadvantages for consumers, the effects on the competitive landscape and the spill-over effects into national markets.

To help determine the benchmarks for the new Roaming Regulation, BEREC gave advice to the European Council, the European Parliament and the European Commission by estimating the wholesale roaming costs. It was understood that if retail price caps were reduced, there needed to be a suitable reduction of wholesale caps to maintain an adequate margin, although the wholesale caps should certainly not be below the cost of the provision of an efficient mobile network operator. The wholesale costs for outgoing calls, SMS and data were calculated to set new price caps.

- Document: BoR (12) 14, Analysis of wholesale roaming costs, 23.02.2012, delivered at Plenary 1/2012

### **4.1.1 Guidelines on wholesale roaming access**

Furthermore, the new Roaming Regulation obliges mobile network operators to meet all reasonable requests for wholesale roaming access, comprising direct access (for example, an arrangement with a foreign network, along the lines of classical wholesale roaming agreements) and resale access, requiring mobile network operators to publish a reference offer for such access by 1 January 2013.

Since the legislation is drafted in very general terms, BEREC set up guidelines to support the market significantly and make the legislation work well in practice. These guidelines solved some major problems in the implementation timescale as well as about limitations on the access. After including the comments and modifications from the public consultation, the guidelines were published following the Plenary 3/2012.

- Documents: BoR (12) 67, Consultation on the BEREC Guidelines on the application of Article 3 of the Roaming Regulation - Wholesale Roaming Access, 09.07.2012, Electronic voting - comments round
- BoR (12) 106, International Roaming - consultation on Article 3 Guidelines: Summary of responses received during the public consultation and BEREC view on issues raised by stakeholders, 27.09.2012, delivered at Plenary 3/2012
- BoR (12) 107, BEREC Guidelines on the application of Article 3 of the Roaming Regulation - Wholesale Roaming Access, 27.09.2012, delivered at Plenary 3/2012

### **4.1.2 Technical solution decoupling**

Since the Roaming Regulation provides a right to all end-users to choose (from 1 July 2014) a provider of international roaming services different from the provider of domestic services and its contracting partners while abroad within the EU (decoupling), a technical solution to make this work was needed. BEREC analysed four possible technical solutions and the possible obligations to be imposed for each of them. After public consultation, BEREC then came to the conclusion that the so-called local break out and single IMSI solutions are those

most technically feasible, taking into account reasonable costs and matching the timescale given.

- Documents: BoR (12) 68, Roaming Regulation - Choice of decoupling method: a consultation to assist BEREC in preparing advice to the Commission on its forthcoming Implementing Act, 09.07.2012, Electronic voting
- BoR (12) 108, Roaming Regulation - Choice of the Decoupling Method: Summary of responses received during the public consultation and BEREC view on issues raised by stakeholders, 27.09.2012, delivered at Plenary 3/2012
- BoR (12) 109, Roaming Regulation - Choice of Decoupling Method - BEREC Opinion on Article 5 implementing act, 27.09.2012, delivered at Plenary 3/2012

### **4.1.3 Roaming data reports**

BEREC also continued monitoring changes in wholesale and retail prices for voice, SMS and data roaming services. The reports delivered were intended to provide a sound basis for the legislative process for the Commission's proposal towards a new Regulation, and as it is an on-going exercise, the reports also ensure there is constant monitoring of the roaming market.

- Documents: BoR (12) 24, International Roaming BEREC Benchmark Data Report (July 2011-December 2011), 01.05.2012
- Delivered in May 2012
- BoR (13) 05, International Roaming BEREC Benchmark Data Report (January 2012-June 2012), delivered in January 2013

## **4.2 Net neutrality**

The meaning of net neutrality is based on the principle that all electronic communication passing through a network is treated equally, independent of content, application, service, device, sender address and receiver address. To assess whether deviations from this principle may be justified and be in the interest of the end-user whilst other forms may be of concern for competition and society, BEREC redoubled its efforts to find a set of principles and regulatory objectives. These efforts in the field of net neutrality were carried out in different fields:

- Documents: BoR (12) 140, Overview of BEREC's approach to net neutrality, 27.11.2012, delivered at Plenary 4/2012
- BoR (12) 139, Report on the BEREC public consultations on net neutrality, 27.11.2012, delivered at Plenary 4/2012

### **4.2.1 Transparency guidelines**

Transparency is a necessary condition for end-users to exercise freedom of choice, since it enables them to compare offers and hence strengthen the demand side of the market. It is therefore an important tool to address concerns related to net neutrality. BEREC produced guidelines in 2011 on how transparency obligations would work in practice. Using these guidelines, BEREC continued to monitor developments on the markets, evaluated the situations in the Member States and also consulted with stakeholders to broaden its view on net neutrality transparency issues from a practical point of view.

- Documents: BoR (12) 145 rev.1, BEREC response to EC questionnaire on specific aspects of transparency, traffic management and switching in an open internet, 19.12.2012, delivered at Plenary 4/2012
- BoR (12) 146, Summary of BEREC positions on net neutrality, 30.11.2012, delivered at Plenary 4/2012

#### **4.2.2 Quality of service guidelines**

BEREC started the work on this topic in 2010 and published two reports and guidelines in 2011. It was decided that these guidelines would benefit from further operational analysis to develop a more specific and detailed guidance especially on the field of detection of relevant situations which would justify regulatory intervention and about the determination of specific minimum quality requirements.

The work in this stream also elaborated further on methods and tools for measuring and assessing network and application performance in relation to detection of degradation, but also in relation to verification of transparency (Universal Service Directive (USD) Articles 20 and 21). The possibility of achieving and promoting appropriate methods for NRAs or end-users to evaluate quality of service was also explored.

- Document: BoR (12) 131, Guidelines for quality of service in the scope of net neutrality, delivered after public consultation in Plenary 4/2012

#### **4.2.3 Traffic management investigation**

Following the investigation started in 2011 regarding switching issues and traffic management practices implemented by operators, BEREC followed up in 2012 with a thorough investigation collecting inputs from stakeholders to find out about the different types of traffic management in the markets, and how they affect end-users. The impressive results included input from more than 400 internet service providers (ISPs) throughout Europe, serving some 430 million subscribers and revealed much about the practices used. This investigation was carried out in cooperation with the European Commission.

- Documents: BoR (12) 302, A view of traffic management and other practices resulting in restrictions to the open internet in Europe, delivered in Plenary 2/2013
- BoR (12) 312, BEREC draft report for public consultation 'Differentiation practices and related competition issues in the scope of net neutrality', 09.05.2012, delivered in Plenary 2/2013
- BoR (12) 342, Explanatory paper in relation to the BEREC public consultations on net neutrality, 09.05.2012, delivered in Plenary 2/2013

#### **4.2.4 Competition issues related to net neutrality**

BEREC also investigated on differentiation practices and related competition issues in the context of net neutrality for analysing the effects of differentiation practices, such as blocking or prioritisation of traffic, on competition and innovation.

The efforts lead to a report, which examines various differentiation practices applied to internet access services and considers how these might, in principle, harm the interests of end-users and have a negative impact both on electronic communications markets and on content application and services markets. A public consultation gave further stakeholder input to the report

- Document: BoR (12) 132 Differentiation practices and related competition issues in the scope of net neutrality, delivered in Plenary 4/2012

#### **4.2.5 IP interconnection in the context of net neutrality**

The focus in that stream is put on the wholesale level of interconnection between ISPs and other intermediaries in the internet value chain and analysed how deviations from net neutrality may or may not be reflected at the interconnection level governing transmission of packets across the internet as a collection of different networks.

This project on IP-interconnection is part of larger work-stream on the group of net neutrality themes, also analysing other aspects of net neutrality such as transparency, quality of service and competition issues.

- Document: BoR (12) 130 An assessment of IP interconnection in the context of net neutrality, delivered in Plenary 4/2012

### **4.3 Universal service provisions**

The universal service acts as a kind of safety net to ensure social inclusion where the normal market forces only may not safeguard the basic electronic communication services for all consumers. Article 15 USD require the Commission to review the scope of the Universal Service on a regular basis and if necessary, to revise it. This happened 2010 and in November 2011 the Commission again issued a communication on the scope of the universal service. In the context of this communication and with regard to the Commission's consideration of preparing a recommendation on universal service, BEREC delivered its views on this topic.

- Document: BoR (12) 25, BEREC Input and Opinion on Universal Service, 25.04.2012

### **4.4 Consumer empowerment**

During the past few years, there have been an increasing number of offers in the market for electronic communications, especially with tariff-schemes bundling different products and virtually replacing the per-minute tariffs by flat rate packages. Users find it more and more difficult to compare the various offers available and the performance of the services provided. Special measurement tools can help users to understand the offers available, check what they pay for and compare this with what is actually delivered. For service providers, these tools can help to underline the diversity of their products and clearly distinguish them from each other. This can be measured by actual upload and download speeds, and specific measurement tools are available in some Member States. BEREC has analysed these options further and supports the transparency of these tools which enable users to enjoy a variety of packages, thus contributing to consumer choice.

### **4.5 Next generation networks – access**

BEREC continued to keep track in 2012 of the NGA roll-out and implementation in various Member States. The aim is to develop recommendations of best practices or guidelines for access procedures and models. A detailed study was therefore conducted on co-investments as an important concept for rolling out NGA networks, taking into account that it may be the only economically viable means by which multiple players could obtain full, long-term access to a physical access network in some areas or countries. The deployment of NGA networks brought along new issues related to market definition and the designation of operators with

significant market power and regulatory obligations, as some Member States, taking into account the NGA recommendation published on September 2010, proposed, in their recent round of market analyses, to exempt fibre-based networks from specific obligations due to their early stages of development. The elements to be examined and specific sets of conditions and criteria considered as suitable indicators of effective competition should be pointed out by BEREC to national regulatory authorities facing NGA co-investment agreements in their national market and conducting the next round of market analyses of markets 4 and 5.

- Documents: BoR (12) 40, BEREC report of the consultation on the draft BEREC report on co-investment and significant market power (SMP) in next generation access networks (NGA), 31.05.2012, delivered at Plenary 4/2012
- BoR (12) 41, BEREC report on co-investment and SMP in NGA, delivered at Plenary 2/2012

#### **4.6 Review and update of BEREC Common Positions**

The review and update of the three BEREC Common Positions (wholesale broadband access, wholesale local access and wholesale leased lines, are closely linked as the review has also taken into account recent developments such as NGA deployment and regulatory developments (the revisions to the European regulatory framework in 2009, and the EU Commission's NGA Recommendation). To this end, BEREC ensured that the Common Positions are clearer and more focused to best practices identified. Where appropriate and to the extent relevant the same best practices were used across all three revised and updated Common Positions (non-discrimination, migration and pricing). Furthermore, BEREC built upon its previous work in NGA, remedies and non-discrimination and identified best practices from the regulatory approaches of its members.

- Documents: BoR (12) 105, introductory document to BEREC's review and update of the Common Positions on wholesale local access, wholesale broadband access and wholesale leased lines, 27.09.2012, delivered at Plenary 3/2012
- BoR (12) 127, BEREC Common Position on best practice in remedies on the market for wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location imposed as a consequence of a position of significant market power in the relevant market
- BoR (12) 128, BEREC Common Position on best practice in remedies on the market for wholesale broadband access (including bitstream access) imposed as a consequence of a position of significant market power in the relevant market
- BoR (12) 126, BEREC Common Position on best practice in remedies imposed as a consequence of a position of significant market power in the relevant market for wholesale leased lines
- BoR (12) 129, Glossary of Terms in relation to the BEREC draft Common Positions on WLA, WBA and WLL, 26.11.2012, delivered at Plenary 4/2012.

These three revised and updated Common Positions were subject to a public consultation of which the results were taken into account as far as possible.

- Documents: BoR (12) 125, BEREC's Review of the Common Positions on wholesale local access, wholesale broadband access and wholesale leased lines - BEREC report on the results from the public consultation
- BoR (12) 125a, BEREC's review and update of the Common Positions on wholesale local access, wholesale broadband access and wholesale leased lines – Cover Note, 07.12.2012, delivered at Plenary 4/2012

The work in this area will continue; after adoption of the revised Common Positions at the end of 2012, the next important step in this process will be for BEREC to monitor how NRAs have implemented the best practices recommended therein.

#### **4.7 Study on the evaluation of BEREC and the BEREC Office**

The BEREC Regulation states in Article 25 (Evaluation and review) that ‘within three years of the effective start of operations of BEREC and the Office, the Commission shall publish an evaluation report’. Since BEREC became operational on 28 January 2010 after the first meeting of the Board of Regulators (BoR) and of the Management Committee (MC), the first Commission evaluation report was due by January 2013. Price Waterhouse Coopers (PWC) was selected by public tender to conduct this study. It evaluated in particular the governance of BEREC and of the BEREC Office, their organisational structure and management, as well as the achievements and value-added aspects of BEREC. The evaluation also took into account of changes between the European Regulators Group (ERG) and BEREC as well as challenges from the first year of effective operational existence of the BEREC Office. Aside from some points for discussion, the results of the study were rather positive.

PWC drew some very important general conclusions for BEREC: it was found that when comparing BEREC with ERG and a theoretically more centralised EU-wide regulatory authority, BEREC is the most suitable and balanced organisational structure to regulate electronic communications in the EU. It was also found that BEREC has been a success since it is effective in achieving its mission and objectives. Furthermore, the study stated that the resource and time management during the Article 7/7a procedure is challenging and the study recommends an improvement to the expert database. However, the problem is not the database itself, but the fact that the NRAs are often not able to provide experts, when the request is made by BEREC Office, because of staff constraints. Nevertheless, all Article 7/7a cases till now have still been handled within the timeframe foreseen. BEREC and the BEREC Office have delivered; stakeholders are generally positive and the work is relevant and highly regarded.

Documents: BoR (12) 118, BEREC input to the European Commission on the BEREC and BEREC Office Evaluation Exercise, 13.11.2012, delivered at Plenary 4/2012  
European Commission, DG CONNECT – Communications Networks, Content and Technology, Study on the Evaluation of BEREC and the BEREC Office, Final Study Report by Price Waterhouse Coopers EU Services

## **5 Article 7/7a Framework Directive procedures**

Pursuant to Article 7/7a of the Framework Directive (FD) BEREC is entrusted with a specific advisory role. In cases where the European Commission expresses its serious doubts about either the market definition or the assessment of significant market power (Article 7) or the intention of a NRA to impose an obligation on an operator with significant market power (Article 7a), BEREC has to issue an opinion on such serious doubts and cooperates with the Commission and the NRA involved. To ensure consistent regulatory practice, BEREC delivers its views on these cases. BEREC has set up a specific procedure for providing an opinion on any serious doubts expressed by the European Commission.

During 2012 BEREC fulfilled its newly entrusted powers to contribute to consistent regulatory practice by issuing opinions in the following cases (if not indicated otherwise the cases were opened under Article 7a FD). :

- In November and December 2011, the European Commission opened three Phase II cases by sending serious doubts letters to the Polish NRA UKE. All Phase II cases opened referred to remedies on market 7 of the 2007 relevant market recommendation (Voice call termination on individual mobile networks). Combined Polish cases (PL/2011/1255-1256-1257-1258) were opened on 4 November 2011.  
Polish case PL/2011/1260 was opened on 17 November 2011.  
BEREC opinions for the two Phase II cases above were approved by the Board of Regulators and published on 15 December 2011. BEREC was of the opinion that the Commission's serious doubts were justified.  
Polish case PL/2011/1273 was opened on 15 December 2011.  
After a tripartite meeting between BEREC, the Commission and UKE on 11 January 2012, the Polish NRA decided to withdraw these cases. In return, BEREC and the Commission committed themselves to sign a common statement, in which the three institutions require the addressees of regulatory decisions issued following market analyses to comply with such decisions immediately and in the entirety. By a letter of 12 January 2012, UKE withdrew all previous notifications on the abovementioned market for which Phase II cases have been opened. The third case, which was similar to the other two cases, was withdrawn, before the BEREC Article 7a EWG could finalise its opinion. These cases started during 2011, however they were finalised during 2012 and the cases were strongly interlinked.
- The Danish case DK/2011/1283 referring to the market for wholesale SMS termination on individual mobile networks was opened on 13 February 2012. This market is not listed in the 2007 relevant market recommendation. On 23 March 2012, the BEREC opinion was approved by the Board of Regulators and it was published on 26 March 2012. BEREC took the view that the Commission's serious doubts were justified and that the draft measure should be amended so as not exclude international SMS from the scope of the price control obligation. On 28 March, the Danish regulator DBA announced that it has decided to adjust its draft decision as recommended by the Commission and BEREC. A scheduled tripartite meeting between OPTA, the Commission and BEREC Phase II EWG therefore was cancelled and no further action has been taken.
- Document: BoR (12) 22, BEREC Opinion on Phase II investigation pursuant to Article 7a of Directive 2002/21/EC as amended by Directive 2009/140/EC  
Case: DK/2012/1283: Wholesale SMS termination on individual mobile networks – new entrant
- The combined Dutch cases (NL/2012/1284-1285) were opened on 13 February 2012. Case 1284 referred to market 3 (Call termination on individual public telephone networks provided at a fixed location), case 1285 to market 7 (Voice call termination on individual mobile networks). On 23 March 2012, the BEREC opinion was approved by the Board of Regulators and it was published on 26 March 2012. The Commission's serious doubts were justified in the substance.. However giving a previous ruling of a national court, BEREC did not consider it appropriate to make specific proposals to withdraw or amend the draft decision. A tripartite meeting between OPTA, the Commission and BEREC Phase II EWG has taken place on 18 April, but the three parties could not agree on a common statement. On 13 June 2012 the Commission adopted a Recommendation under Article 7a FD.
- Document: BoR (12) 23, BEREC Opinion on Phase II investigation pursuant to Article 7a of Directive 2002/21/EC as amended by Directive 2009/140/EC, Case NL/2012/1284 – Call termination on individual public telephone networks provided at a fixed location in the Netherlands and Case NL/2012/1285 – Voice call termination on individual mobile networks in the Netherlands

- The Spanish case ES/2012/1291 referring to market 7 (Voice call termination on individual mobile networks) was opened on 5 March 2012. On 30 March 2012, CMT withdrew its notification before the BEREC opinion was finalised. Therefore the case was closed.
- Latvian case LV/2012/1296 referring to market 7 (Voice call termination on individual mobile networks) was opened on 13 March 2012. The BEREC opinion was adopted on 24 April 2012. BEREC was of the opinion that the Commission's serious doubts were justified. On 27 April, SPRK withdrew its notification before a tripartite meeting could take place.
- Document: BoR (12) 28, BEREC Opinion on Phase II investigation pursuant to Article 7a of Directive 2002/21/EC as amended by Directive 2009/140/EC Case: LV/2012/1296: Voice call termination on individual mobile networks
  
- The Dutch case NL/2012/1298 referring to the market of unbundled access to corporate fibre-optic network – a submarket to market 4 - was opened on 21 March 2012 under Article 7 FD. A BEREC opinion was adopted on 24 April 2012. BEREC did not share the Commission's doubts on market definition, but considered the Commission's serious doubts on SMP identification as justified. After a tripartite meeting between OPTA, the Commission and BEREC Phase II EWG on 27 April, OPTA decided to withdraw its notification on 4 May.
- Document: BoR (12) 27, BEREC Opinion on Phase II investigation pursuant to Article 7 of Directive 2002/21/EC as amended by Directive 2009/140/EC: Case NL/2012/1298 Market Analysis on Unbundled Access to Corporate Fibre-Optic Network (ODF Access FTTO) – submarket to market 4 in the Netherlands
  
- The Dutch case NL/2012/1299 referring to the markets for wholesale broadband access (market 5) and for wholesale terminating segments of leased lines (market 6) was opened on 21 March 2012. The BEREC Opinion was adopted on 27 April 2012. BEREC considered that the Commission's serious doubts were mostly justified. Furthermore, BEREC believed that the limitation on the scope of the access obligation created a potential barrier to the single market. On 4 May, OPTA withdrew its notification; a planned tripartite meeting was cancelled.
- Document: BoR (12) 26, BEREC Opinion on Phase II investigation pursuant to Article 7a of Directive 2002/21/EC as amended by Directive 2009/140/EC: Case NL/2012/1299 Wholesale broadband access (market 5) and wholesale terminating segments of leased lines (market 6) in the Netherlands
  
- The French case FR/2012/1304 Phase II referring to market 7 (Voice call termination on individual mobile networks) was opened on 13 April 2012. The BEREC Opinion was adopted on 23 May 2012. BEREC considered Commission's serious doubt about higher roaming price as justified (circularity effect and no scale-sensitive). Based on this conclusion BEREC proposed that ARCEP amends its notified decision by removing the asymmetry based on national roaming cost. But BEREC did not support the serious doubt on the fact that traffic imbalance could imply higher cost. The three parties involved, ARCEP, the Commission and BEREC, could reach a compromise during the tripartite meeting on 18 June 2012. ARCEP amended its notification, and in return the Commission lifted its reservations on 20 July 2012.



- Document: BoR (12) 61, BEREC Opinion on Phase II investigation pursuant to Article 7a of Directive 2002/21/EC as amended by Directive 2009/140/EC Case: FR/2012/1304: Wholesale market for voice call termination on individual mobile networks (market 7) – new entrants
- The Polish Case PL/2012/1311 concerning wholesale broadband access (market 5) was opened on 26 April 2012. The BEREC Opinion was adopted on 7 June 2012. BEREC considered that the Commission's serious doubts were justified. A tripartite meeting between UKE, the Commission and BEREC Phase II EWG took place on 26 June and as a follow-up a conference call was arranged on 23 July, but they did not lead to any immediate measures. On 27 August 2012, the Commission issued a recommendation that UKE should either withdraw or amend its measure. As a result, UKE withdrew its notification on 12 September 2012.
- Document: BoR (12) 66, BEREC Opinion on Phase II investigation pursuant to Article 7a of Directive 2002/21/EC as amended by Directive 2009/140/EC: Case PL/2012/1311 Wholesale broadband access (market 5) in Poland
- In the Estonian case EE/2012/1305 concerning market 7 (Voice call termination on individual mobile networks) Phase II was opened on 16 April 2012. ECA withdrew its notification one day later. No EWG was established.
- The German case DE/2012/1321 concerning wholesale leased lines (market 6) Phase II was opened on 04 June 2012. BNetzA withdrew its notification two days later. No EWG was established.
- In the Czech case CZ/2012/1322 concerning wholesale broadband access (market 5) the Phase II was opened simultaneously under Article 7 and Article 7a on 11 June 2012. The BEREC Opinions were adopted on 10 July 2012 under Article 7 and on 23 July 2012 under Article 7a and published on 16 July 2012 (Article 7) and 24 July 2012 (Article 7a). In the case under Article 7a, BEREC was of the opinion that Commission's serious doubts were justified. In the case under Article 7 however, BEREC supported CTU on the definition of the relevant market and was of the opinion that the serious doubts were not justified, but the Commission gave a veto decision. As a result, CTU withdrew its notification on 14 August 2012.
- Documents: BoR (12) 69, BEREC Opinion on Phase II investigation pursuant to Article 7 of Directive 2002/21/EC as amended by Directive 2009/140/EC Case CZ/2012/1322: Wholesale broadband access (market 5) in the Czech Republic.
- BoR (12) 71, BEREC Opinion on Phase II investigation pursuant to Article 7a of Directive 2002/21/EC as amended by Directive 2009/140/EC Case CZ/2012/1322: Wholesale broadband access (market 5) in the Czech Republic.
- In the Finnish cases FI/2012/1328 and FI/2012/1329 concerning wholesale physical network infrastructure access (market 4) and wholesale broadband access (market 5) a combined Phase II case was opened on 19 June 2012. On 27 July 2012, the BEREC Opinion was approved by the Board of Regulators and it was published on the same day. BEREC shared most of the Commission's serious doubts regarding the lack of price control for copper based local loop unbundling services for 19 SMP operators; the remedies decisions for these operators have not been registered for notification by FICORA. The information at BEREC's disposal was not sufficient to understand FICORA's motives for not imposing a price control obligation on the operators in question. Hence, BEREC couldn't express an opinion on this issue. A tripartite meeting between FICORA, Commission and BEREC Phase II EWG was held on 5 September 2012, but the three parties could not agree on a common statement. Therefore, on 18 October 2012, the Commission adopted a

Recommendation under Article 7a FD. As a consequence, FICORA amended its final decisions accordingly and notified them on 4 December 2012.

- Document: BoR (12) 72, BEREC Opinion on Phase II investigation pursuant to Article 7a of Directive 2002/21/EC as amended by Directive 2009/140/EC: Case FI/2012/1328-1329: Wholesale physical network infrastructure access at a fixed location (market 4) and wholesale broadband access (market 5) in Finland.
- Latvian case LV/2012/1355 concerning call termination provided at a fixed location (market 3) Phase II was opened on 13 August 2012. SPRK withdrew its notification on 17 August 2012. No EWG was established.
- In the Czech case CZ/2012/1392 concerning call termination provided at a fixed location (market 3), the Phase II was opened under Article 7a on 10 December 2012. The BEREC Opinion was adopted on 21 January 2013 and published on 24 January 2013. BEREC was of the opinion that the Commission's serious doubts were not justified. The resulting price levels, as notified by ČTÚ, cannot be in itself a reason to have serious doubts. Nevertheless BEREC recommended that some elements of the methodology need to be examined more closely by ČTÚ and the Commission before the final decision. In a tripartite meeting on 13 February, BEREC's recommendations were discussed and as a result of this meeting CTU withdrew its measure on 4 March 2013. Document: BoR (13) 04 BEREC Opinion on Phase II investigation pursuant to Article 7a of Directive 2002/21/EC as amended by Directive 2009/140/EC: Case CZ/2012/1392 Call termination on individual public telephone networks provided at a fixed location (market 3) in the Czech Republic.
- In the Polish Case PL/2012/1394 concerning wholesale broadband access (market 5) in 11 communes in Poland, the Phase II was opened under Article 7 on 10 December 2012. The BEREC Opinion was adopted on 14 January 2013 and published on 17 January 2013. BEREC was of the opinion that the Commission's serious doubts were justified. The Commission imposed a veto on 8 February 2013. As a consequence, UKE withdrew its notification on 4 March.
- ✓ Document: BoR (13) 01, BEREC Opinion on Phase II investigation pursuant to Article 7 of Directive 2002/21/EC as amended by Directive 2009/140/EC: Case PL/2012/1394 Wholesale Broadband Access Market in 11 communes in Poland

## 6 Further topics

### 6.1 Non-discrimination

The European Commission announced in its European Digital Agenda a focus on key remedies. The key remedies identified are non-discrimination and regulatory accounting. In preparation for a forthcoming recommendation of the European Commission on non-discrimination there was close cooperation with the Commission's services to deliver a BEREC Opinion. The work was carried out strongly linked with the review and update of the BEREC Common Positions as described in Section 4.6 above. As a first step in the process to review and update the Common Positions, BEREC published a consultation on 12 key principles of non-discrimination on 1 March 2012 and also held a public workshop with interested stakeholders on this topic. BEREC proposed draft high level principles that NRAs should adopt in order to increase ex-ante compliance with the non-discrimination obligation. BEREC explored the importance of the following in particular:

- the creation of a level playing field;
  - the timely availability of wholesale access products.
  - the provision of access products of reasonable quality; and
  - the provision of efficient wholesale switching processes.
- Document: BoR (12) 10, BEREC's Review of the Common Positions on wholesale unbundled access, wholesale broadband access and wholesale leased lines, Stage 1 Draft High Level Principles on issues of non-discrimination
  - BoR (12) 103, BEREC report on the results from the public consultation on issues relating to non-discrimination

## 6.2 Regulatory accounting

BEREC produced a report on regulatory accounting in practice, as it does every year, so as to provide an overview and assess the level of harmonisation. This year's report layout follows the restructuring done in 2010 for deeper analysis concentrating on the following four key wholesale markets: wholesale line rental, unbundled access, broadband access and leased lines terminating segments. There is also analysis of the cost base and accounting methodologies used for fixed and mobile termination markets. For those markets it contains a comparison of the most 'popular' combinations of cost base and costing methodologies (namely current cost accounting/long run incremental cost (CCA/LRIC). The overall picture is relatively stable in comparison to last year with generally a small number of changes by NRAs since last year. There are clear preferences for price control methods (cost orientation alone or in combination with price cap), cost base (CCA) and accounting methodologies (mainly LRIC with fully distributed costs preferred only in a few markets, mainly the retail markets). The degree of harmonisation of methodologies remains high. The trend towards the usage of CCA/LRIC is more evident for fixed termination rates (FTRs) now that a great number of countries are implementing the 2009 Termination Rates Recommendation. For mobile termination rates (MTRs) the trend towards CCA/LRIC and the usage of bottom-up cost models is also likely to be reinforced. It is too early to see the full effects of the NGA Recommendation of 2010 on the choice of costing methodologies, but it seems that the usage of CCA/LRIC as the preferred combination for market 4 remains stable.

- Document: BoR (12) 78, BEREC Report Regulatory Accounting in Practice 2012

## 6.3 Recommendation on termination rates

During 2012, BEREC continued its work on best practices in MTR and FTR and the issues related to transition towards cost orientation in line with the LRIC methodology such as recommended in the Commission recommendation on the regulatory treatment of fixed and mobile termination rates in the EU. This includes the move towards symmetry and the definition of proper glide paths. The level of implementation of the recommendation was again looked at and closely monitored.

## 6.4 Benchmarks

In 2012, BEREC again collected data with the European Commission and the Communications Committee (COCOM) to produce benchmarks and compare the development of markets in various countries. Different measurement methods by some institutions made comparability difficult. Results were achieved as planned and the termination rates for mobile, fixed and SMS were collected, not to replace other or existing benchmarks but to be used as a supplementary additional resource.

- Documents: BoR (12) 56, Termination rates benchmark snapshot (as of January 2012), Integrated report on Mobile Termination Rates & SMS Termination Rates and FTR, delivered at Plenary 2/2012
- BoR (12) 79, BEREC Report on mobile broadband prices: benchmarking methodology, 17.09.2012, delivered at Plenary 3/2012
- BoR (12) 80, Termination Rates benchmark snapshot (as of July 2012): Integrated Report on Mobile Termination Rates & SMS Termination Rates, 17.09.2012, delivered at Plenary 3/2012

## 6.5 Promotion of broadband

BEREC looked into the current state of broadband in Europe to highlight the key aspects in the broadband promotion strategies of governments, NRAs, public-private partnerships (PPPs), and operators. The main supply-side and demand-side obstacles to broadband promotion, as identified by the NRAs in the replies to a broadband promotion questionnaire were summarised in a report. Having considered the previous analysis, this report provides advice to policy makers (focusing on the demand side) on measures that could be taken to promote broadband adoption effectively.

- Documents: BoR (12) 12, BEREC Report on the consultation on the draft BEREC Broadband Promotion Report, 29.02.2012, delivered at Plenary 1/2012
- BoR (12) 13, BEREC Broadband Promotion Report, 23.02.2012, delivered at Plenary 1/2012
- BoR (12) 91, BEREC Opinion on the draft revision of the EU Guidelines for the application of state aid rules in relation to the rapid deployment of broadband networks, 27.09.2012, delivered at Plenary 3/2012

Furthermore the Commission published revised draft EU guidelines for public consultation on the application of state aid rules in relation to the rapid deployment of broadband networks. BEREC issued an Opinion on these draft guidelines stressing the importance of a proper legal basis whenever NRAs work within state aid schemes. In this regard, the BEREC Opinion welcomes that the draft guidelines encourage Member States to provide a legal basis, but points to the fact that for reasons of consistency the Commission should consider including this point in the next revision of the regulatory framework.

- Document: BoR (12) 91, BEREC Opinion on the draft revision of the EU guidelines for the application of state aid rules in relation to the rapid deployment of broadband networks, 27.09.2012, delivered at Plenary 3/2012

## 6.6 Access to special rate services

BEREC launched a consultation on a draft BEREC report about special rate services (SRS). The main objectives of this report were to: a) analyse the characteristics of SRS in general and the problems and the negative effects for consumers as they occur in at least some countries; and b) give guidance to NRAs on what can be done if problems occur at a national level. The conclusion of this report was phrased in an open way and – although it gives a BEREC view on the more promising regulatory approach – it does not force NRA's into one specific approach. Whether regulation is appropriate will depend on national circumstances. It is the role of individual NRAs to assess whether problems occur for SRS services at a national level and whether they justify regulation.

- Documents: BoR (12) 54, BEREC consultation report on Special Rates Services, 31.05.2012, delivered at Plenary 2/2012

- BoR (12) 55, BEREC Report on Special Rate Services, 31.05.2012, delivered at Plenary 2/2012

## 6.7 Convergence

BEREC continued analysing the impact of fixed/mobile convergence, complementarity and potential substitution, and the effects on fixed and mobile communications markets in terms of voice and broadband, in order to assist NRAs in their next round of market analysis.

- Document: BoR (12) 52, BEREC Report on the impact of fixed-mobile substitution (FMS) in market definition 30.May.2012, delivered at Plenary 2/2012

## 6.8 Cross-border and demand-side related issues

During 2012, BEREC worked on guidance relating to Article 28(2) of the Universal Service Directive (measures to deal with fraud and misuse of numbers) where there is a need for cooperation between different Member States. Following public consultation, the final guidelines were published in March 2013. The two main considerations under Article 28(2) are the requirement to block numbers and the requirement to withhold interconnection and service revenues. The effectiveness of these two options will depend upon the circumstances of the incident. In conclusion, the high level objective of the process published by BEREC is the protection of end-users and stakeholders are encouraged to take further action which will assist in this aim. End-users should be made more aware of the risks of fraud and misuse through telecommunications services and networks and encouraged to take appropriate action such as ensuring there is appropriate security on their terminal equipment. NRAs and operators have an important role in this area and should highlight the issues and potential solutions to end-users where possible. Another important area identified in the guidance document is that operators should explore changes to their interconnect contracts to enable more efficient processes for charges for traffic associated with fraud or misuse. Such developments may turn out to be more efficient than regulatory intervention and provide similar or improved end-user protection.

- Documents: BoR (12) 53, BEREC Report on the current accessibility of numbering resources pursuant to Article 28(1) USD, 24.05.2012, delivered at Plenary 2/2012
- BoR (12) 85, Article 28(2) Universal Service Directive: A harmonised BEREC cooperation process - Consultation paper, 17.09.2012, delivered at Plenary 3/2012

## 6.9 Cooperation with RSPG and ENISA

The Joint BEREC/RSPG (Radio Spectrum Policy Group) Working Group on competition issues was tasked to explore the way in which the economic and social value of radio spectrum used for electronic communications services is determined in relation to authorisation and frequency assignment issues in a report. The objective of this report was to share experiences and views on how to determine the social and economic value of the use of radio spectrum for electronic communications services (ECS), specifically with respect to the process of authorisations and frequency assignments. RSPG/BEREC decided to collect views from Member States on the following WAPECS bands:

- 790-862 MHz (800 MHz band);
- 880-915 MHz / 925-960 MHz (900 MHz band);
- 1710-1785 MHz / 1805-1880 MHz (1800 MHz band);
- 1900-1980 MHz / 2010-2025 MHz / 2110-2170 MHz (2 GHz band);

- 2500-2690 MHz (2.6 GHz band); and
- 3.4-3.8 GHz (3.6 GHz band).

The RPSG/BEREC report examined experiences and views of regulators based on recent award proceedings for radio spectrum rights of use.

- Document: BoR (12) 15, Joint BEREC/RSPG report on exploring the economic and social value of radio spectrum for certain electronic communications services with respect to the frequency assignment procedures, 01.04.2012, delivered at Plenary 1/2012. Possible cooperation models with ENISA were also evaluated relating to security and integrity of networks and services on an ad-hoc basis.

## **7 International cooperation**

As the electronic communication sector is a highly dynamic global market the international dimension needs to be seen and taken care of. The challenges are becoming ever more global and communications and the developments in this field play an especially important role. BEREC needs not only to cooperate within the European Union but also needs to know what is happening outside Europe and should strengthen cooperation with these areas as well.

### **7.1 BEREC – REGULATEL, BEREC - EaP, BEREC – EMERG, BEREC - FCC**

Recognising the growing interest from non-European countries in European regulatory approaches, cooperation with other regulatory organisations and interest groups was strengthened during 2012.

#### **7.1.1 BEREC – REGULATEL**

BEREC established cooperation with the Group of Central and Latin American Regulators continued. In November 2012, the XI BEREC – REGULATEL Summit Meeting took place. The central driver was 'INTERNET FOR ALL AND FOR EVERYTHING', to reflect the fact that, in 2002, the NRAs of Latin America had met already in Mexico to discuss internet access. The achievements made throughout this decade were discussed and an assessment was made as to whether future regulatory policies can promote internet access. In addressing this topic, successes and failures in implementing public policy were shared, as were regulatory decisions on this matter and the challenges faced by regulators.

#### **7.1.2 BEREC – EAP**

Cooperation with the Eastern Partnership Group of Regulators (EaP), representing Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine took a big step forward. In September 2012, the foundation act for the Group was signed with the European Commission in Chisinau, Republic of Moldova and the presence of a number of BEREC representatives.

#### **7.1.3 BEREC – EMERG**

Cooperation with the Euro-Mediterranean countries in the neighbourhood to the EU continued with a number of workshops in order to exchange and share knowledge on topics of common interest to both sides.

### **7.1.4 BEREC – FCC**

The global exchange of views with the United States was given a new basis as a memorandum of understanding was signed between BEREC and the Federal Communications Commission (FCC) to exchange views and compare regulatory approaches in both regions. At the plenary meeting in December 2012, FCC Chairman Julius Genachowski gave a speech about developments and questions on net neutrality in the United States.

## **8 Workshops**

BEREC organised a number of public and internal workshops during 2012 to exchange views and to broaden the experience among its members about themes of common interest.

BEREC hosted a workshop for stakeholders on 15 March 2012 in the context of the public consultation on the proposed important principles relating to issues of non-discrimination.

On 20 June 2012, BEREC hosted another expert workshop on IP interconnection in cooperation with OECD in Brussels, bringing together experts from the IP interconnection community and experts on interconnection from national regulatory authorities. During the workshop the participants discussed the BEREC consultation document 'An assessment of IP-interconnection in the context of net neutrality' as well as the upcoming review of the International Telecommunication Regulations (ITRs).

The first internal workshop took place the day before the plenary meeting in Vienna in February with the title 'New players and business models - disruptive changes and new regulatory challenges?' and provided the heads of the European NRAs, their experts and the European Commission with the chance to discuss and analyse future developments in the telecoms sector at the connection point to the content and end device market and the impact on regulatory practice. Among the speakers were Professor Arnold Picot from Munich University, Simon Hampton from Google and Stephen Collins from Skype, who gave presentations and took part in discussions.

The second internal workshop took place the day before the plenary meeting in Limassol, was organised by Office for Communications, the NRA of Liechtenstein, and covered the theme of telecom-related fraud and security issues. The aim of this workshop was to introduce various types of security and fraud issues to all BEREC participants and offer a platform for a better understanding of these questions. Speakers came from the GSMA, the Federal Criminal Police Office in Germany, the Swiss Internet Registry, ITU and the Federal Bureau of Investigation from USA.

Three further internal workshops were held during 2012, two on BEREC's strategy and one on BEREC's internal governance, each of them held on the day before 2012 plenary meetings.

## **9 Organisational issues**

At the last meeting of the Board of Regulators and of the Management Committee in 2011, the following were elected as Vice-Chairs to the Chair 2012:

- Leonidas Kanellos, EETT, Vice-Chair 2012, to act as Chair 2013
- Göran Marby, PTS, Vice-Chair 2012

- Catalin Marinescu, ANCOM, Vice-Chair 2012
- Ed Richards, OFCOM, Vice-Chair 2012

In the course of 2012, BEREC welcomed RATEL, the NRA from the Republic of Serbia, as a new observer.

The Board of Regulators and the Management Committee met on four occasions during 2012. Special thanks are due to the relevant NRAs, BEREC Office and other Brussels based support staff which organised facilities and hosted those meetings.

BEREC also held a number of public hearings in Brussels during the year to supplement public consultations as well as debriefings following each plenary meeting of the Board of Regulators and the Management Committee.

The Contact Network met on four occasions in order to make the necessary preparations for the regular meetings of the Board of Regulators and the Management Committee. Again special thanks are due to the relevant NRAs who facilitated these meetings.

In order to carry out the 2012 Work Programme, the Board of Regulators decided to maintain the practice adopted previously and allocated individual elements of the Work Programme to Expert Working Groups (EWG). The EWGs for 2012 were:

- Benchmarking expert working group
- BEREC Office evaluation ad hoc expert working group
- BEREC-RSPG cooperation expert working group
- Convergence and economic analysis expert working group
- Framework implementation expert working group
- End-user expert working group
- International roaming expert working group
- Net neutrality expert working group
- Next generation networks expert working group
- Regulatory accounting expert working group
- Remedies monitoring expert working group
- Termination rates expert working group

The robust and effective participation by national experts in EWGs represents a significant commitment by NRAs to the work of BEREC.

### **9.1 New ‘bureau de passage’ for BEREC in Brussels**

As stated in its medium-term strategy adopted in February 2012, BEREC identified the need for an office in Brussels in addition to the seat of the BEREC Office in Riga. This is both for practical reasons and to ensure there is effective interaction with the EU institutions and other stakeholders. A decision was therefore taken at the plenary meeting 2/2012 for a ‘bureau de passage’.

## **10 BEREC stakeholder engagement programme (‘Strategy dialogue’)**

In 2012, BEREC announced a formal programme of engagement to complement BEREC’s regular debriefing meetings and informal exchanges with its stakeholders. BEREC therefore



started a strategic dialogue with stakeholders as a proactive way of addressing the regulatory challenges of a fast-changing sector. On 3 May 2012, BEREC hosted a first summit with CEOs from some of Europe's largest fixed, mobile and cable operators, including both incumbents and alternative operators. This was the first such summit in a 'strategic dialogue'; participants discussed changing business models (as new players enter the market), the challenges of infrastructure investment in a slow-growing European economy, and the challenge of providing cross-border services. There was a collective call for greater regulatory certainty, echoing the findings of investment analysts. This event was followed by similar summits with consumer and user groups, service providers, vendors and other sector innovators, and investment analysts, and this stakeholder engagement programme is expected to become a permanent fixture of the BEREC engagement calendar in the future. The insights and understanding that BEREC expects to glean from these meetings will help it to shape its annual work programme, as well as its longer-term strategic thinking, and help it effectively to discharge its role as advisor, and developer and promoter of regulatory best practice. BEREC is grateful for the opportunity for frank and open stakeholder dialogue, and very much looks forward to continuing these sessions with the wider stakeholder community.

## Annex 1: Plenary meetings

BEREC met in plenary session on four occasions during 2012:

### Plenary Meetings

Date	Location	Agenda		Conclusions	
		Board of Regulators	Management Committee	Board of Regulators	Management Committee
23-24 Feb	Vienna				
24-25 May	Dubrovnik				
27-28 Sept	Limassol				
06-07 Dec	Saint Julian's				

## Annex 2: Membership of Board of Regulators and Management Committee

(M)embers and (O)bservers

	<b>NRA</b>	<b>Board of Regulators</b>	<b>Management Committee</b>
Austria	RTR	M	M
Belgium	BiPT	M	M
Bulgaria	CRC	M	M
Croatia	HAKOM	O	O
Cyprus	OCECPR	M	M
Czech Republic	CTU	M	M
Denmark	DBA	M	M
Estonia	ECA	M	M
European Commission	-	O	M
Finland	Ficora	M	M
Former Yugoslav Republic of Macedonia	AEC	O	O
France	Arcep	M	M
Germany	BNetzA	M	M
Greece	EETT	M	M
Hungary	NMHH	M	M
Iceland	PTA	O	O
Ireland	ComReg	M	M
Italy	Agcom	M	M
Latvia	SPRK	M	M
Liechtenstein	Office for Communications	O	O
Lithuania	RRT	M	M
Luxembourg	ILR	M	M
Malta	MCA	M	M
Montenegro	EKIP	O	O
Netherlands	OPTA**	M	M
Norway	NPT	O	O
Poland	UKE	M	M
Portugal	ANACOM	M	M
Romania	ANCOM	M	M
Serbia*	RATEL	O	O
Slovakia	TU SR	M	M
Slovenia	APEK	M	M
Spain	CMT	M	M
Sweden	PTS	M	M
Switzerland	BAKOM	O	O
Turkey	BTK	O	O
United Kingdom	Ofcom	M	M

\*) from 1 March 2012 onwards

\*\*) ACM since April 2013

# **BEREC report on developments in the electronic communications sector in 2012**

## **1 Introduction**

The electronic communications sector is critical to boost productivity and to bring the EU back to growth. Completing the single market in electronic communications is thus a crucial part of the European Commission's overriding objective of stimulating economic recovery in Europe.

BEREC is committed to this goal and recognises its central role in ensuring there is greater regulatory consistency across Europe. BEREC therefore closely monitors and reports on the developments in the electronic communications sector and publishes this annual report, the legal basis for which is provided in Article 3(1)(n) of the BEREC Regulation (EC) No 1211/2009.

The main aim of this report is to present a view on the sector's developments based on BEREC's expertise and knowledge, and at the same time describe BEREC's own contribution in the field.

This report looks at the developments in 2012 of some of the sector's most relevant areas: market and remedies; next generation networks; net neutrality; international roaming and termination. The report includes qualitative data, based on the key thinking on developments in the sector, together with quantitative data based on the two main periodic BEREC data collection exercises on international roaming and termination rates.

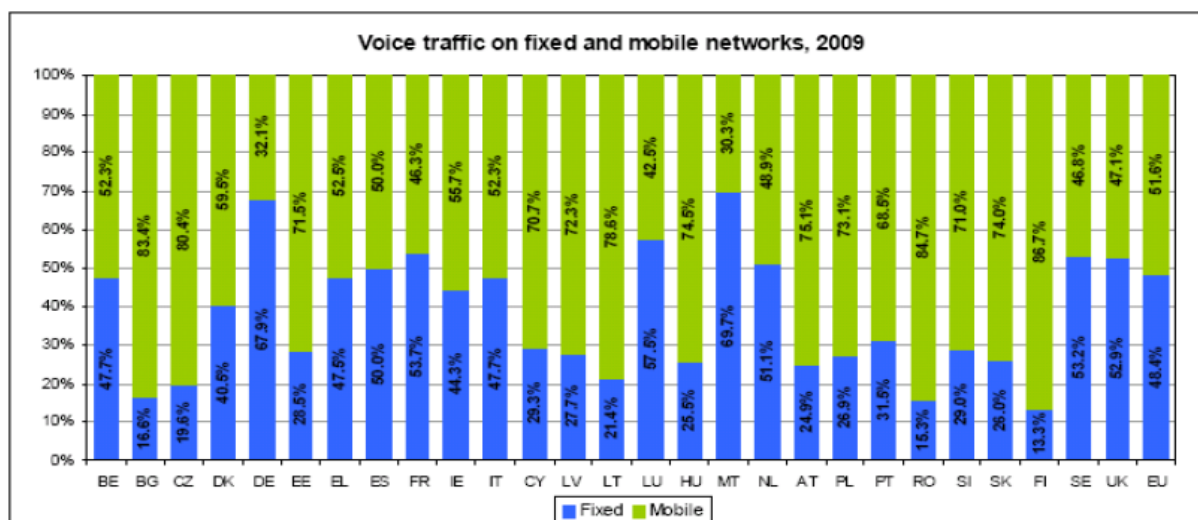
## **2 Recent trends on the electronic communications markets**

The electronic communications sector is characterised by rapid technological change, allowing services to be supplied in new ways, and resulting in changes in the nature of demand and the emergence of new types of operators in these markets. Moreover, in many Member States, the move towards more effective competition in retail markets (underpinned by effective wholesale regulation) has resulted in the commercial launch of innovative offers that better meet consumers' demand.

With the take-up of mobile broadband both from dongles and mobile handsets, the growth of fixed broadband penetration, the increase of internet access capacities and the progressive roll-out of next generation access (NGA), electronic communications markets have changed markedly over the past few years. From a more technical point of view, IP networks have facilitated widespread convergence of services and equipment, and recent years have witnessed a surge of internet-based applications and services.

### **2.1 Fixed and mobile substitution**

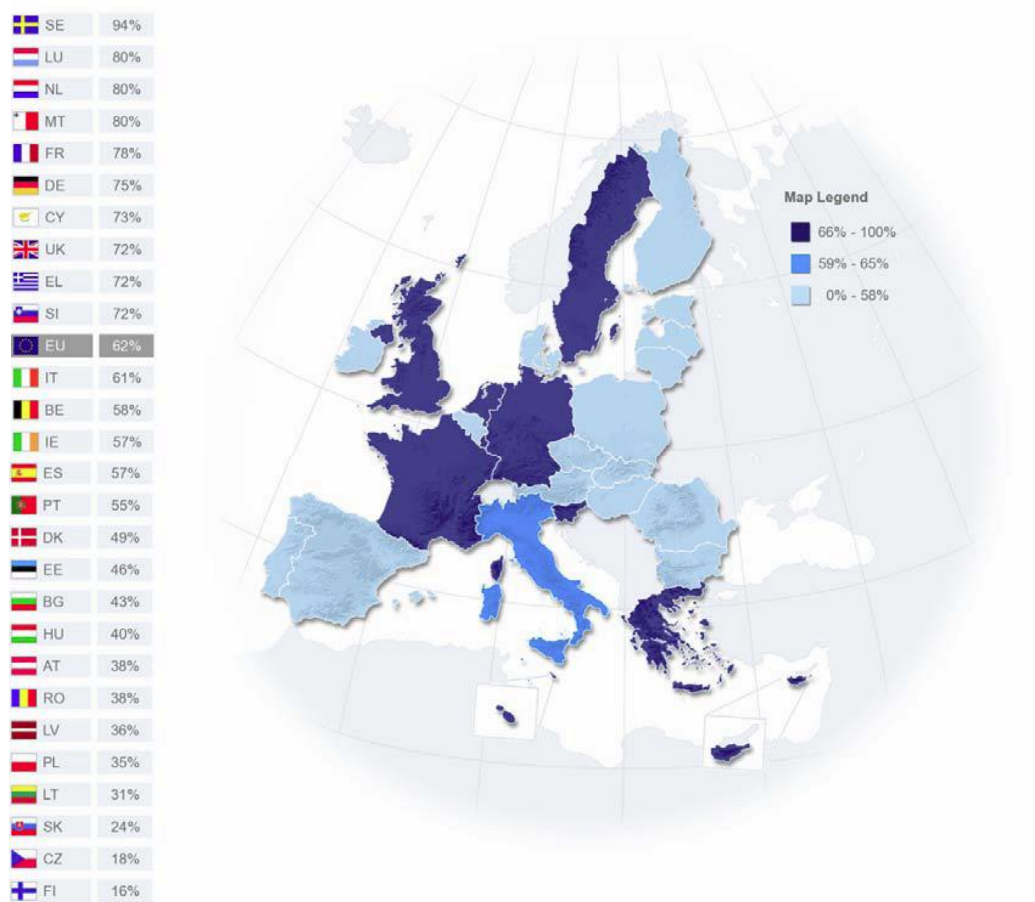
Fixed and mobile substitution (FMS) results from both technological change and increasing convergence of fixed and mobile services. The trend towards FMS is becoming increasingly relevant; in some Member States there is clear evidence of FMS, although the pace at which substitution takes place varies between Member States. The figure below illustrates the differences between countries in fixed and mobile voice traffic consumption.



Source: European Commission – Electronic Communications Market Indicators, Digital Agenda Scoreboard 2011

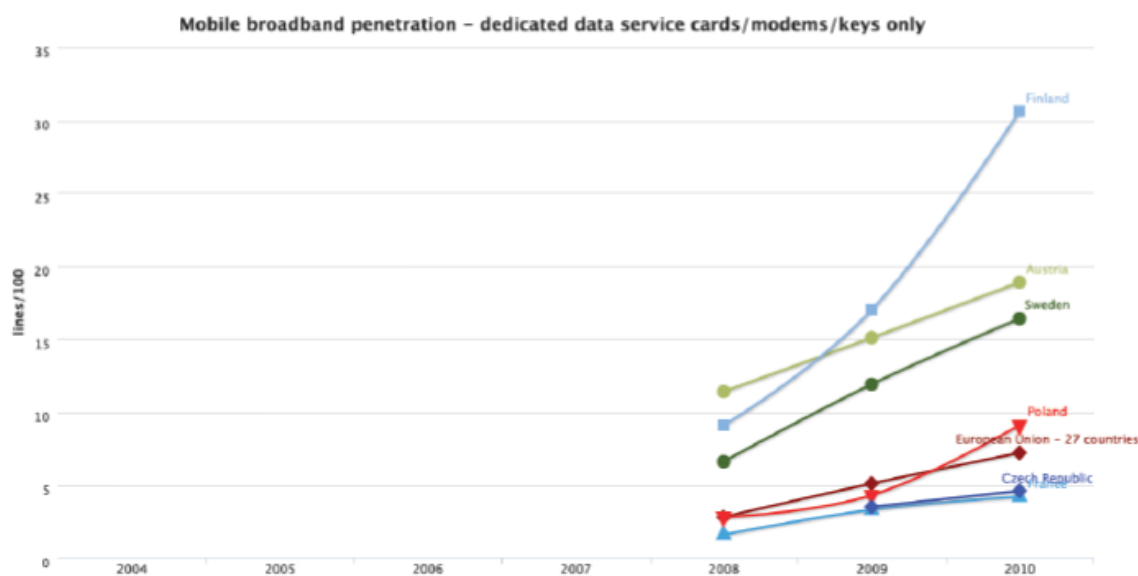
In voice markets, the conditions of competition may be different for calls and retail access markets. Substitution between fixed and mobile calls is becoming quite pronounced in some Member States, as a result of the increase over recent years of attractive mobile tariff plans, for example, including provision of (almost) unlimited calls at a pre-determined price (flat rates). However, with regard to the retail access markets, in most Member States, fixed and mobile access still appear to be largely complementary, as shown in the figure below.

## Households combining a fixed and mobile access



Source: E-Communications household survey (June 2012)

FMS is thus a development that should be continuously monitored by regulators, not only with regard to voice services, but also with regard to other services such as broadband, since during the last few years, a rapid growth of mobile broadband penetration has characterised market dynamics in some Member States.



*Source: European Commission, Digital Agenda Scoreboard 2011.*

The emergence of new mobile broadband technologies, such as LTE (Long Term Evolution), with its potential for increased upload/download speeds and enhanced quality, may affect the degree of substitution between fixed broadband services (provided either on the basis of traditional technologies or NGA) and mobile broadband services.

## **2.2 Bundling**

In a number of Member States, bundling of broadband retail services has become the standard form of providing electronic communications services. According to the latest Eurobarometer, more than 60% of the households in the EU purchased broadband services as part of a bundle in 2011, while this percentage was 48% for fixed telephony. Broadcasting and mobile services are also offered via bundles, although there are fewer such packages available.

According to this survey, consumers see added value in bundles as they have to pay only one invoice. In addition, bundles can be cheaper than the price of purchasing the components on a stand-alone basis.

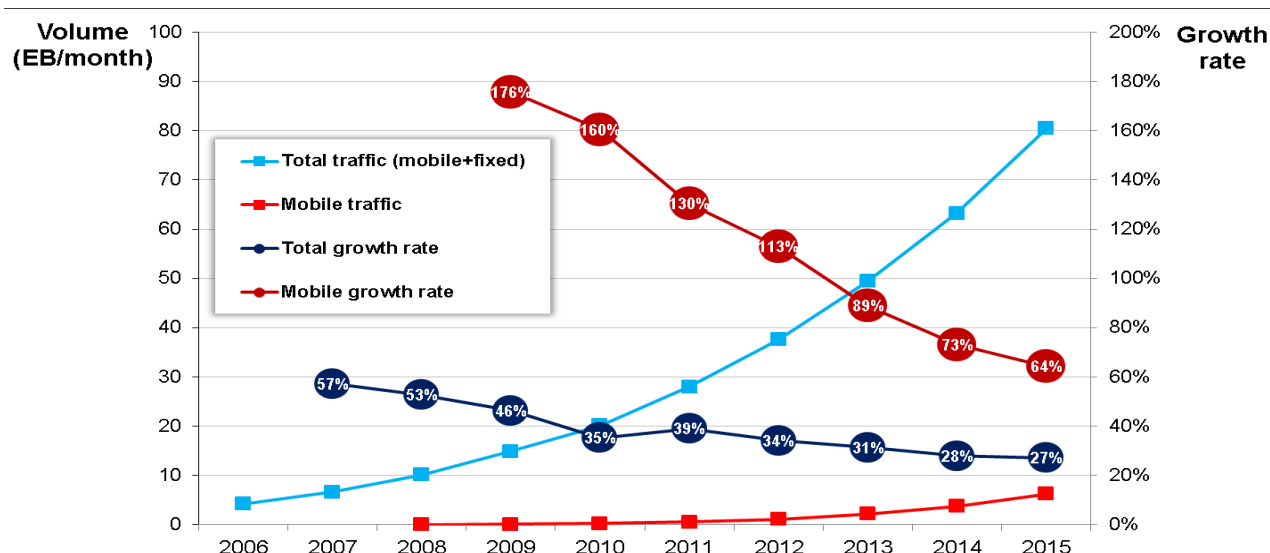
In the near future, the trend shown by these data may be reinforced, with consumer preferences leading to an increase in the penetration of bundles and, at the same time, the addition of new services to the packages. Indeed, this is already the pattern identified in some Member States, where aggressive 'quadruple play' offers exist (including mobile or audiovisual content).

Bundles can enhance efficiency, and their ability to disrupt competition cannot be judged in absolute terms, but they should be considered on a case-by-case basis.

## **2.3 Internet-based applications and services**

Over recent years, the electronic communications markets have experienced significant growth in content and application providers that provide advanced services via the customer's internet connection.

The IP traffic conveyed on networks is increasing, and this trend is expected to continue in the future.



Source: Cisco, 2012 (Visual Networking Index).

Over-the-top (OTT) service providers have contributed to the increased dynamism of the telecommunications markets, making significant inroads in segments that until recently had been supplied by traditional electronic communications operators (such as voice, text messages or broadcasting), and placing competitive pressure on the retail services provided by those operators. The upgrade of broadband access is likely to support this trend, as over-the-top services could be improved with higher bandwidths.

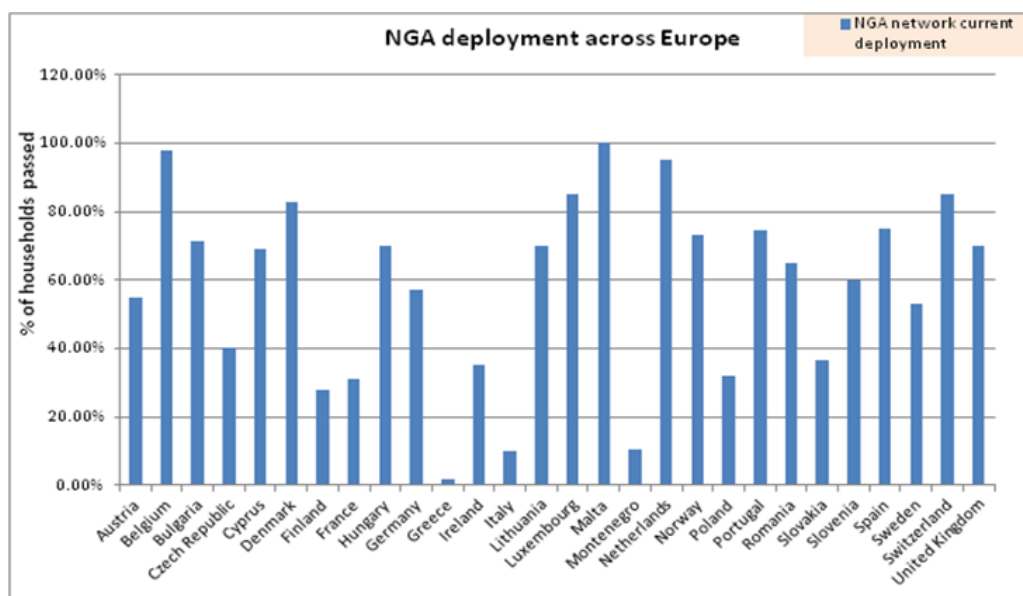
This process widens consumer choice and access to electronic communications services. However, since OTT providers are offering their retail services over fixed and mobile broadband connections, they are not likely to have a significant impact on the competitive conditions prevailing at this level of the value chain.

## 2.4 NGA deployment

The Commission's Digital Agenda for Europe (DAE) sets out ambitious roll-out and take-up targets. To reach these targets, European operators - those with significant market power (SMP), alternative operators and cable and other infrastructure operators - will need to make significant investments. A stable regulatory framework that promotes investment, preserves and promotes competition, and continues to contribute to the development of the internal market is also necessary. National regulatory authorities (NRAs) thus have a critical role to play.

BEREC is determined to promote competition and enhance the broadband investment environment across Europe. Experience shows that in the telecoms sector, competition and investment tend to reinforce each other; a significant proportion of the current NGA investment by incumbents in many EU markets is a response to competition from cable operators and other new entrants in those markets. Retail competition can also (indirectly) drive infrastructure investment, especially when it results in the development of new end-user services. It is crucial that the promotion of new investment in NGA is not pursued at the expense of the competitive gains made over the last decade.

Significant investments in NGA networks are already being made in several Member States. This situation has been shown in the outcome of a recent BEREC questionnaire on the current status of the NGA deployment in each Member State. A snapshot of the current NGA network deployment in Europe is shown in the table below, based on responses received from 29 NRAs.



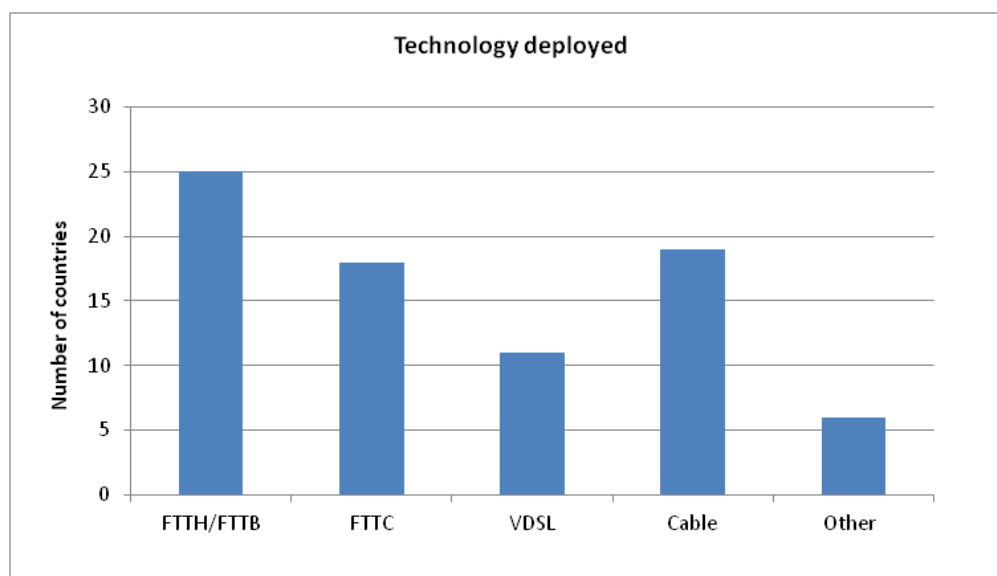
Source: BEREC questionnaire on NGA deployment

Most of the NRAs that replied to the survey indicated that there was already significant NGA coverage, based on different technologies such as FTTH/FTTB, FTTC<sup>1</sup> and cable. Belgium, Denmark, Luxembourg, Malta, the Netherlands and Switzerland have already achieved 80% coverage.

The key technology being deployed in most of the countries that replied (86% of the responses) is FTTH/FTTB, followed by cable in 19 countries. FTTC is deployed in more than half of the countries (18), while VDSL is deployed in 11 countries. Mobile technologies (such as LTE) are not included in this analysis.

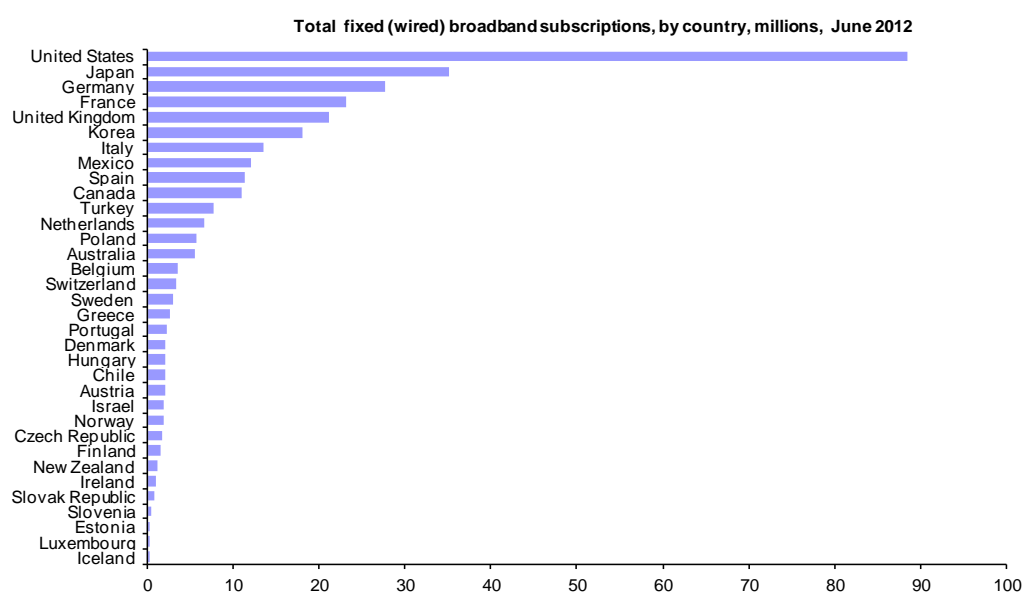
<sup>1</sup> Fiber to the Home/Fiber to the Building and Fiber to the Curb.





Source: BEREC questionnaire on NGA deployment

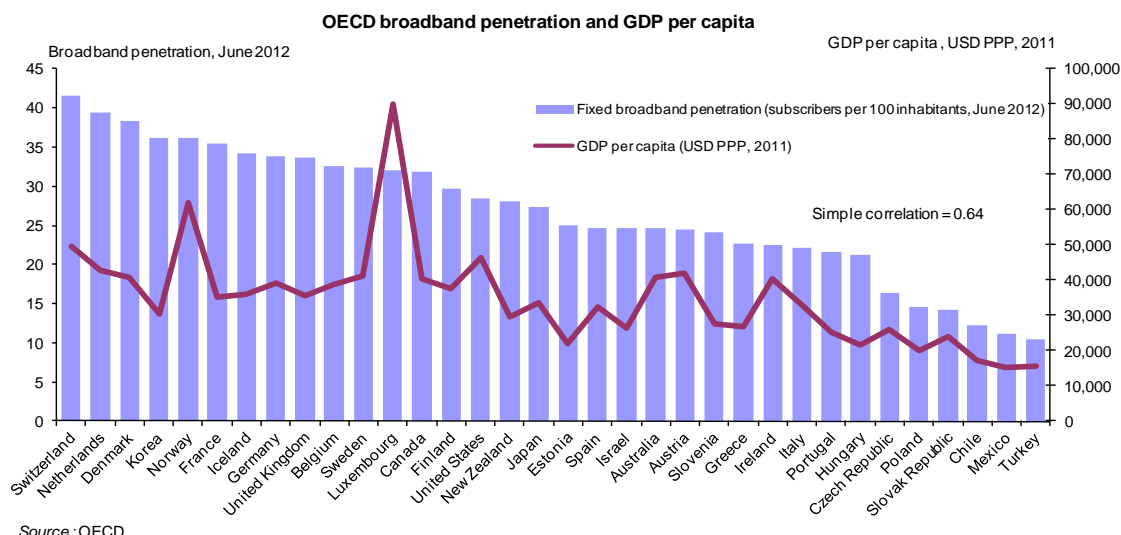
According to the most recent OECD figures, Germany, France and the UK are in the top five countries in the world in terms of the number of fixed broadband subscriptions.



Source: OECD

Switzerland, the Netherlands and Denmark have the highest broadband penetration.<sup>2</sup>

<sup>2</sup> In the following table, GDP per capita includes estimates for Australia, Canada, Ireland, Israel, Japan, Mexico, New Zealand, Poland, Switzerland, Turkey and United States



However, it is worth noting that meeting the Commission's ambitious DAE targets will require an ongoing and concerted effort by NRAs across Europe.

### 3 Regulatory challenges for NGA networks

#### 3.1 Increased complexity and uncertainty

SMP regulation is becoming more complicated due to the fact that wholesale access products need to be newly designed and adjusted to different NGA network architectures. While technological neutrality is endorsed as a principle, the detailed specification and implementation of wholesale products such as fibre unbundling depend on the architecture chosen by the SMP operator.

There also seems to be an agreement that, in general, NRAs prefer intervention at the deepest level possible, a point which is reflected in the NGA Recommendation. Whether a business case based on passive remedies is considered feasible will, however, vary between geographical areas in Europe.

NGA roll-out depends on a number of highly uncertain factors, such as demand, willingness to pay, average revenue per user (ARPU) and penetration, as well as technological developments affecting costs. All the market actors must therefore base their decisions on estimates which may turn out later to have been too high or too low.

In some Member States, investors' roll-out strategies seem to change frequently (e.g. from VDSL to FTTH, back to VDSL, etc.). While transparency of information could mitigate some of problems associated with this variability, strategic changes may affect the parameters on which initial regulatory measures were based. This may raise the question as to whether regulatory measures should be adapted accordingly. However, frequent changes in regulatory decisions are not in line with the goal of providing long-term regulatory certainty.

### 3.2 Variety of local market conditions

Another important common thread across Member States is that markets are developing in an increasingly fragmented fashion.

This variety of local market conditions is reflected in the fact that remedies in terms of access points and prices increasingly (explicitly or implicitly) differentiate between different geographical areas, most importantly between densely populated and less densely populated areas.

Fragmentation of the market (and regulation) is also due to many factors other than density (number of actors, different technologies, etc.)

- a. In most countries there will not be one uniform infrastructure rolled out by the incumbent.
- b. Local fibre networks rolled out by municipalities/local authorities and/or utilities are gaining importance, and these may have different business cases. Municipalities may consider factors that do not play a role for telecommunications investors, such as the opportunity cost of a loss in tax revenues if business users move away because there is no fibre connection.
- c. This implies that more potential actors are present at the wholesale level. There is a chance that the incumbent may also become a buyer of wholesale products, changing wholesale market dynamics.
- d. Given the increased number of players at the wholesale level, it is an open question whether there is a chance that wholesale access occurs on a voluntary basis or whether mandatory access will continue to be required. While some voluntary wholesale contracts are being concluded in some Member States, their scope has remained limited. It remains to be seen whether, given the caveats mentioned above, voluntary access can fully safeguard competition.

Mandatory wholesale access may also be imposed in those cases where state aid is granted.<sup>3</sup>

A variety of local market conditions and trends toward fragmentation beg the question as to whether local 'monopolies' will emerge in the future and how NRAs may then have to respond. Possible responses may be markets with greater geographical differentiation, or an increasing application of symmetric regulation. Both measures are addressed in the Recommendation. Preventing local monopolies may require different measures such as SMP and symmetric regulatory remedies, state aid and competition law all of which need to be fitted together in a consistent manner.<sup>4</sup>

<sup>3</sup> See BoR (11) 05 on Open Access for an analysis of mandatory access in the context of the broadband guidelines and the relationship to regulated access according to the Commission.

<sup>4</sup> See Open Access Report.

### 3.3 BEREC Common Positions on wholesale local access, wholesale broadband access and wholesale leased lines

BEREC has developed best practices in the light of these trends including increased complexity and variety of local market conditions. In December 2012, BEREC adopted its revised common positions (CPs) on wholesale local access (WLA), wholesale broadband access (WBA) and wholesale leased lines (WLL) following a period of public consultation.

The BEREC CPs provide best practice remedies for dealing with competition issues for key wholesale access products where a position of SMP has been identified. These complement the general guidance given on the choice of SMP remedies included in the revised ERG Common Position on Remedies<sup>5</sup>. Application of these CPs will assist NRAs in designing effective remedies in line with the objectives of the regulatory framework. The CPs reflect the product market boundaries as per the classification of relevant markets defined by the European Commission in 2007.<sup>6</sup>

The revised CPs on WLA and WBA are based on BEREC's previous work on NGA, starting with the NGA opinion leading up to the implementation report of the NGA recommendation<sup>7</sup>. All these documents are based on the ladder of investment principle: regulated access at different rungs of the ladder promotes competition and investment, thus fostering a competitive NGA roll-out.

The CPs, dating from 2007<sup>8</sup>, needed updating and extending in order to take account of NGA roll-out, which raised some new regulatory issues. The multiplicity of architectures has led to a number of different and complex access products, deriving from obligations imposed in the market for wholesale (physical) network infrastructure access, namely ducts, in-house cabling, dark fibre, terminating segment, fibre unbundling, and sub-loop-unbundling. Furthermore, NGA roll-out may result in wider scope of the bitstream access. In the NGA context, the bitstream rung may involve more access points<sup>9</sup> than before, ranging from the access point at the beginning of the concentration network to the aggregation level in the middle of the concentration network, up to the parent or distant node in the Ethernet/IP backbone, implying different degrees of own infrastructure used.<sup>10</sup>

BEREC has also recently published its Opinion on the Commission's draft Recommendation on non-discrimination obligations and costing methodologies which is consistent with its revised CPs where issues overlap.

BEREC will continue the discussion on the best way forward for NGA-rollout and remains convinced that following the fundamental principles of the regulatory framework, namely promoting effective competition and efficient investment for the benefit of the European citizens, is the best way to facilitate the transition towards NGA. The discussion will raise fundamental issues on how regulation must develop to guarantee competitive markets in an

<sup>5</sup> ERG (06) 33 (Revised ERG Common Position on the approach to appropriate remedies in the ECNS regulatory framework).

<sup>6</sup> See Commission Recommendation 2007/879/EC of 17 December 2007 on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with the Framework Directive 2002/21/EC.

<sup>7</sup> ERG (07) 16 Rev 2 (ERG Opinion on Regulatory Principles of Next Generation Access), ERG (09) 17 (Report on NGA - Economic Analysis and Regulatory Principles), BoR (10) 08 (BEREC Report NGA – Implementation Issues and Wholesale Issues), BoR (10) 25 rev1 (BEREC Opinion to the Draft Recommendation on regulated access to Next Generation Access Networks), BoR (11) 06 (Next Generation Access – Collection of factual information and new issues of NGA roll-out), BoR (11) 43 (BEREC Report on the Implementation of the NGA-Recommendation)

<sup>8</sup> ERG (06) 70 Rev1 (Common position on wholesale local access)

<sup>9</sup> Sometimes the access point is also called handover or delivery point.

<sup>10</sup> See BoR (10) 08.

NGA environment and how regulation must answer specific questions arising from the implementation of specific technologies or architectures (e.g. vectoring, multicast).

## 4 Net neutrality

### 4.1 BEREC's approach to net neutrality

BEREC elaborated further on several topics related to net neutrality (NN) in 2012, hence launched a public consultation comprising: the report on differentiation practices and related competition issues, QoS guidelines and the report on IP interconnection. In addition, an overview of BEREC's approach to NN complemented by the Summary of BEREC positions on the same topic provided an overall vision of BEREC approach following thorough analysis of NN debate and market evolution in Europe over the past three years.

In particular, BEREC has put forward further explanations on the role of regulators regarding net neutrality. It is an objective of the regulators to promote end-users' freedom to access and distribute content and run applications of their choice online, so as to promote competition and innovation. BEREC also aimed to describe how the Internet works and the developments operators have made that triggered the regulators to consider the case for monitoring and/or regulatory intervention that is, or might come to be, required to fulfil the above objective.

The findings notably distinguished between two different types of services provided to end-users: Internet access services and specialised services. Furthermore, different traffic management/prioritisation practices currently used by operators were considered, leading to the conclusions below.

While BEREC does not believe it is either useful or appropriate within the current Framework to define, a priori, a list, or categories, of reasonable traffic management practices, it has nonetheless identified useful criteria to assist regulators in deciding whether any traffic restriction is reasonable:

- Whether the practice discriminates against any particular content and application provider(s);
- Whether the practice is applied on the request of (and can be controlled by) the end-user;
- Whether the practice is proportionate to the objective (whether it is the least intrusive, and least intense (e.g. in terms of frequency and reach) measure available);
- Whether they are application-agnostic (in which case they are less likely to raise concerns).

To emphasize the role of regulators, BEREC outlines the necessary actions in order to promote net neutrality, such as strengthening transparency and competition, monitoring the markets and services provided and using additional powers, e.g. on quality of service, when necessary.

## 4.2 Restrictions to the open Internet in Europe

Fostering cooperation with the EC, an investigation into traffic management and other practices resulting in restrictions to the open Internet in Europe was carried out by BEREC last year. The findings represent a “snapshot” of the European market based on over 400 responses to a questionnaire addressed to European operators targeting the fixed and mobile markets. Being the first analysis of its kind, BEREC’s aim is to contribute further to the European debate on this important matter.

The scope of the inquiry was deliberately wide since the questionnaire sent to the operators throughout Europe particularly intended to understand the variety in terms of objectives of measures, for instance by including practices aimed at preserving network security and integrity and measures required by legal order. It also covered the setting of data caps, and the potential impact of some specialized services implemented alongside the Internet access service. All these situations stem from very different business objectives or constraints.

The restrictions were analysed from a qualitative point of view as well as the quantitative one including: variety of reported measures, number of operators, also weighted according to their number of internet access subscribers and statistics on national markets.

As per the qualitative categories of restrictions, the first part of the overview refers to differentiation (of traffic or providers) and considers the occurrences of restrictions (contractual and/or technical blocking/throttling) of specific traffic. These differentiation practices which result in restrictions to access content or applications were assessed as the most relevant in terms of net neutrality. It can be emphasized here that restrictions indicated in the offers, and possibly enforced technically, will not necessarily impact all end - users at all times.

As regards P2P, some level of restriction is reported by 49 operators (out of 266) on fixed networks and by 41 operators (out of 115) on mobile networks. As regards VoIP, some level of restriction is reported by 28 operators (out of 115) on mobile networks. Each of these types of restrictions affects at least 20% of subscribers.

The second part (congestion management, security and integrity) consists of measures reported by operators as allowing a more efficient protection and management of networks. 30% of the fixed and 20% of the mobile operators reported certain traffic management practices which have been categorised under this umbrella (such as controlling “spam” traffic).

The third part referring to implementation of business models (data caps, specialized services) corresponds to measures put in place by operators in order to implement specific business models, either concerning the bundling of specialized services with Internet access, or with respect to data volume pricing.

The survey shows that 35% of the fixed operators manage their networks in order to offer specialised services (for the provision of facility-based applications, e.g. telephony or TV) in a way that could potentially affect the (public and best efforts) Internet access service being delivered through the same access network.

A wide variety of data caps and “fair use” policies, used to implement specific business models, were found (especially in mobile networks, where 83% of ISPs apply data caps). However, it should be noted that these were not the main focus of this investigation, since (with some exceptions) they do not in general imply differentiated treatment of traffic.

The last category, measures upon legal order, covers any form of restriction that is not at the operators’ initiative, but is required by public authorities. These measures are undertaken under “legal obligation” purposes (e.g. anti-bill shock in roaming, court orders, etc.) and have also been included in a separate category. As they were not the focus of this particular investigation, they were not detailed further.

### **4.3 Transparency in the scope of net neutrality**

For competition to fully achieve its role of disciplining operators’ behaviour in the interest of their customers, end - users must be fully aware of the characteristics of the access offers, with regards to aspects related to net neutrality, that the ISPs propose. In particular, transparency allows users to identify unrestricted Internet access service offers that provide access to all applications available on the Internet, as well as any limitations applied to restricted offers. Providing information on these restrictions is mandatory according to articles 20 and 21 USD, including enhanced transparency (in particular with regard to restrictions in accessing content and applications) as a key aspect to achieve net neutrality. BEREC finds that an effective transparency policy should uphold accessibility, understandability, meaningfulness, comparability and accuracy.

In order to make offerings more meaningful and comparable, BEREC finds that it is particularly important to develop common frames of reference about Internet access services, and find agreement on which practices can be considered as standard network operation, and on the other hand which should be emphasized in the operators’ communication (based on a tiered approach). Common terminology can help make information more comparable and easier to understand – third parties and end - users should be closely associated to initiatives aimed at developing understandability. For instance, regarding access speed: average download and upload values should be specified, not only maximum speed. Furthermore, in order to promote the open Internet, BEREC highlights the importance of unrestricted offers being available, and that restricted offers being clearly accompanied with information regarding limitations of usability.

End - users need effective transparency but also the ability to easily switch service providers in order to fully exercise their consumer power. Easy switching requires that all significant evolutions of access offers with regards to net neutrality must be communicated clearly, and customers should benefit from the facility to act upon, which they are entitled to according to the US directive. This is a subject of concern, since consumer associations have recently put forward that information on traffic management was still poorly understood and factored in switching decisions, although they do observe an increasing interest from users regarding the quality of their service. Thus, BEREC will further investigate the switching conditions and user behaviour.

#### 4.4 Competitive impact of differentiation practices

BEREC conducted an analysis of the short and long-term economic consequences of differentiated traffic management practices (or pricing) on users, in the report “Differentiation practices and related competition issues in the scope of Net Neutrality”.

BEREC identifies several factors of increased risk as regards the competitive impact of differentiation practices on the different markets and on innovation. This impact depends, in particular, on market power and vertical integration of the ISPs that perform traffic management. In these cases, traffic management can be of economic interest in the short term but may lead to foreclosure; however this foreclosure seems unsustainable if the levels of competition, transparency and switching costs are appropriate. In particular, undesirable outcomes are less probable if the user is properly informed of the performance and quality of the different service offers.

The fact that the ISPs have some control over the repertoire of content offered to users presents risks on the long term dynamics for innovation and cultural diversity. This could be especially problematic in an environment where the practice of blocking or throttling applications became widespread on a general basis, including when e.g. a particular ISP blocks one, another ISP blocks another application, and so on. In this context, Internet current features would be very difficult to maintain, affecting end – users’ welfare.

BEREC also questions the transition from a model with no direct relationships between Internet Service Providers (ISPs) and Content Application Providers (CAPs) (i.e. CAPs generally do not interact with ISPs that control access to end - users, and the latter does not charge the former for conveying its data streams) to a situation of trade negotiations. Assessing its effects on social welfare is complicated. However, BEREC highlights the risks of competitive distortion if the ISP differentiation practices can enable CAP discrimination based on non-objective criteria.

More specifically, although it seems to be unlikely in a competitive market but should it nevertheless happen, negative differentiation (lower priority, degradation of service, etc.) aimed at a specific CAP would raise serious concerns of discrimination. On the contrary, ‘positive’ differentiation (higher priority, out-of-cap delivery, etc.) questions about possible discrimination among CAPs, as some of them may not be able to enjoy the same conditions of delivery as the favoured content, even if they are willing to.

To conclude, the above mentioned practices will harm end - users in the following two cases. Firstly, when the retail market is not effectively competitive, degradation could reduce competitive pressure in the market, impacting upon the end - users ability to choose or even - in the case of vertically integrated operators - producing a high risk of leveraging market power from the dominated market to those closely related.

Secondly, end - users could also be harmed in an effectively competitive market if by several providers perform different forms of degradation becoming a widespread practice. In such a context taking all restrictions together, current Internet features would be very difficult to maintain, and this would severely affect end - users’ welfare. In particular, in addition to limitations on end - users, network effects and incentives to innovation decrease as potential demand of content and application providers is reduced.



This assessment confirms that certain practices may indeed harm users under specific circumstances. In the view of BEREC, the incentives are currently limited for these risks to materialize, however the consequences of generalized differentiation are of sufficient importance for regulators to monitor the markets and be ready to intervene if necessary. In the described conditions, BEREC also draws the high level conclusion that it would neither be appropriate nor relevant within the current Regulatory Framework to define a priori reasonable and unreasonable traffic management practices (e.g. through white-lists or black-lists). It calls for specific case-by-case analysis instead as it does not only depend on the practice itself but also on the behaviour of parties and on market characteristics.

## **4.5 IP interconnection**

With regard to wholesale relationships BEREC states that the Internet ecosystem has managed to adapt IP interconnection arrangements to reflect (among other things) technological developments, changes in (relative) market power of players, changes in demand patterns, and the development of new business models – all without the need for regulatory intervention.

Findings in this respect conclude that, while guaranteed end-to-end quality of service levels are neither commercially nor technically realistic in practice, the Internet community has nonetheless developed alternative mechanisms for providing higher quality of experience, such as endpoint-based congestion control, and the use of content delivery networks (CDNs).

In this respect, regulators will continue to follow the evolution of the market for IP interconnection. However, considering that the market currently seems to function well without any significant regulatory intervention, any measure could potentially be harmful, and so should be carefully considered.

## **4.6 Quality of Service**

The Guidelines for Quality of Service (QoS) in the scope of Net Neutrality (BoR (12) 131) discuss the purpose as well as the scope and extent of Article 22 (3) of the Universal Service Directive, which introduces the competence of NRAs to set minimum quality of service requirements in order to prevent degradation of service, and elaborate on concepts such as Internet access service, specialized services, quality of service, network performance, congestion, traffic management, restrictions, degradation, throttling and blocking.

In the consultation, BEREC asked for stakeholders' comments particularly on the criteria proposed for the assessment of, on the one hand, (a) degradation of Internet access service as a whole, and (b) issues regarding individual applications used over the Internet access service and also sought input on the conditions and process for regulatory intervention, as well as on the relevance and exhaustiveness of the scenarios described.

In situations where regulatory intervention is deemed necessary as a result of the degradation of the Internet Access Services (IAS), the NRA will choose between available

regulatory tools. If market mechanisms do not allow for easy switching to adequate alternatives, fostering competition and promoting ease of switching may be a sufficient response. If offers with adequate quality are still not easily available, it may be appropriate to consider imposing minimum QoS requirements.

Article 22(3) USD provides that “in order to prevent the degradation of service” NRAs may set minimum QoS requirements on ISPs. This indicates that, when a situation of degradation pursuant to this provision is identified through the comprehensive regulatory procedure, the goal of the requirements is to prevent this degradation. The basic approach to this would be to require the ISP to improve the service quality until the degradation is eliminated.

In category (a) degradation of the IAS as a whole, an example could be that the ISP is providing specialised services at the expense of the IAS. Then an NRA could consider requiring a certain performance level of the access speed, which varies over time, but, for example, using statistical mean value would compensate for the statistical variation.

In category (b) degradation of individual applications using an IAS, a relatively likely case would be blocking and/or throttling of single applications. Then an adequate requirement could be to prohibit restrictions of the relevant application(s). In some cases an NRA may also consider it relevant to prohibit application-specific restrictions on a general basis.

If minimum QoS requirements are to be imposed on ISPs, the NRA will notify the Commission about the draft measures, and also make the information available to BEREC. After taking the utmost account of any comments or recommendations of the Commission, the NRA may make a final decision imposing minimum QoS requirements.

## **4.7 Future developments**

In conclusion, BEREC believes that the existing regulatory tools enable regulators to address net neutrality concerns for the time being. At the same time, it is important to bear in mind that market structures and local consumer behaviour, as well as national legal systems, vary greatly across Europe and evolve rapidly. As such, while European regulators will continue to pursue the same objectives and apply the same principles, specific triggers and thresholds for regulatory intervention in a given market will need to be adapted by the national regulator in order to most effectively address national circumstances.

BEREC's studies will continue deepening its analysis of the Internet ecosystem and will aim at exchanging best practices. It should in particular study more in-depth consumers' incentives and market forces driving net neutrality developments and foster exchanges among NRAs about platforms for measuring the quality of Internet Access Services.

## 5 International roaming

### 5.1 Wholesale roaming access and separate sale of roaming services

Roaming Regulation I (EC) No 717/2007 came into force on 1 July 2007. It was amended with Roaming Regulation II (EC) No 544/2009 which expired at the end of June 2012. The new International Roaming Regulation III No 531/2012 entered into force on 1 July 2012<sup>11</sup>.

Pursuant to Article 3 of the new Roaming Regulation, mobile network operators (MNOs) must meet all reasonable requests for wholesale roaming access, which includes direct wholesale roaming access and wholesale roaming resale access. Direct wholesale roaming access means that the access seeker contracts directly with a foreign visited network for the purpose of allowing its roaming customers to use regulated roaming services on that network. Resale access means that the access seeker builds its retail service for its customers on the wholesale service provided by an MNO usually, but not necessarily, in the end-user's home country. Article 3 further includes an obligation for MNOs to publish a reference offer not later than 1 January 2013.

As mentioned above, pursuant to Articles 4 and 5 of the new Regulation on separate sale of regulated retail roaming services, all customers will have the right to choose a provider for international roaming services that is different from the provider for domestic services (while maintaining their domestic services free of charge). This right applies to services which the customers use while abroad roaming within the EEA. This process is known as decoupling or separate sale of regulated roaming services.

After a public consultation, BEREC adopted 'Guidelines on the application of Article 3 of the Roaming Regulation - Wholesale Roaming Access' in September 2012<sup>12</sup>. These BEREC Guidelines apply to any MNO acting as an access provider and any undertaking acting as an access seeker, which are entitled to provide roaming services to roaming customers in the Member States and enjoy the right of wholesale roaming access under the terms of Article 3 of the Roaming Regulation, so as to serve roaming customers of EEA operators. This includes MNOs, full and light mobile virtual network operators (MVNOs) and resellers.

Regarding the decoupling solutions, in the BEREC Opinion on a draft Commission Implementing Act on the separate sale of regulated retail roaming services within the Union<sup>13</sup>, it was noted that the most suitable solution for roaming customers and industry are single-international mobile subscriber identity (single-IMSI) and LBO (Local Break Out) for data services. BEREC considered the technical practicability of several solutions that were discussed and their possible impact on competition in the roaming market. BEREC also took account of the criteria set out in the Roaming Regulation, which indicate that decoupling should be feasible and convenient for end-users. Based on BEREC's Opinion, the Commission produced the Implementing Act for Article 4 and 5 of the Roaming Regulation.<sup>14</sup>

<sup>11</sup> The Roaming Regulation also applies to the EEA Member States Norway, Iceland and Liechtenstein as from December 7 (Norway and Liechtenstein) and December 21 (Iceland) 2012.

<sup>12</sup> BoR (12) 107

<sup>13</sup> BoR (12) 109

<sup>14</sup> Commission Implementing Regulation (EU) No 1203/2012 of 14 December 2012 on the separate sale of regulated retail roaming services within the Union.

On BEREC's initiative, the European Commission established a cooperation platform for roaming market players in Q4 2012. The aim of this stakeholder forum is to facilitate the timely implementation of the decoupling obligations set out in the new Roaming Regulation and defining the set of interfaces to be used for decoupling.

In summary, the new Roaming Regulation covers previous price caps (retail and wholesale prices for SMS and voice and a wholesale price cap for data) and has been extended by introducing a retail price cap for mobile data roaming services. In addition, it introduces new provisions such as granting a regulated wholesale access for MVNOs and the publication of wholesale access reference deals, as well as structural measures to encourage competition on the EEA retail roaming market. From 1 July 2014, customers will be able to choose an alternative mobile roaming provider to their home mobile operator.

## 5.2 Development of international roaming rates

In 2012, BEREC investigated the compliance of roaming tariffs with regulatory requirements and conducted market research on the changes in wholesale and retail prices for voice, SMS and data roaming services<sup>15</sup>. In Q1 and Q2 2012, all consumers at the retail level had access to a Eurotariff and a Euro-SMS tariff. At the wholesale level, the voice, SMS and data roaming charges set between operators were in line with the declining regulated caps.

For voice roaming services, average EEA prices were close to the regulated caps. This implies that providers see little attraction in competing with Eurotariff rates, despite the fact that there is a significant margin between average wholesale prices and retail caps. It must be noted that the average retail price per minute for voice calls made was twice the price of the wholesale average price per minute for wholesale non-group roaming voice calls (30 €cent compared to 15€cent).

BEREC noted that average price paid per minute for voice calls under alternative tariffs was not, as expected, below the average price for the Eurotariff. These results recurred in the second half of 2011 and in fact the gap widened, especially for incoming calls.

Considering 'Rest of World' (RoW) retail voice roaming calls, average prices are significantly higher than for calls within EEA countries. In Q2 2012 the price for RoW calls made were 412% higher than for calls made within the EEA countries. However, there were no clear indications that operators have raised the prices of unregulated RoW roaming calls to make up for loss of revenue due to the regulated price caps.

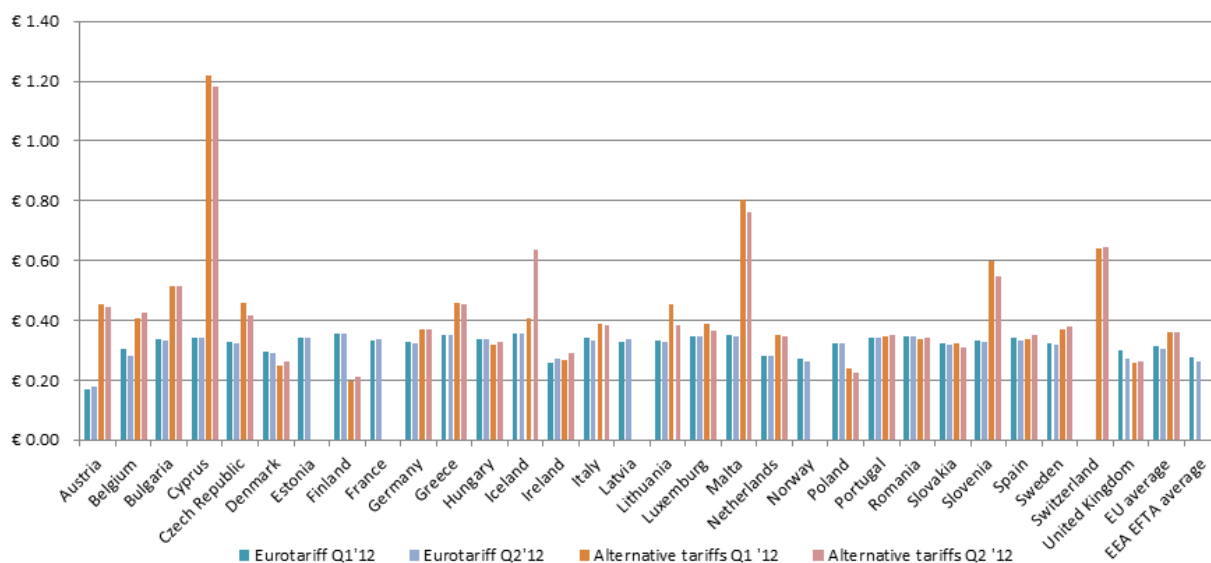
Regarding EU volumes on voice, SMS and data roaming services, one particular issue stands out as being the significant difference between these services. While volumes for voice and SMS services remain almost at the same level (graphs show a slight increase in volumes for SMS and calls received, calls made remain at the same level since 2009), data services rise each year (up to around 629.83% in Q2 2012 compared to Q2 2008 and 175% compared to Q2 2011).

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<sup>15</sup> International Roaming BEREC Benchmark Report January 2012-June 2012

## Retail voice (excl. special corporate)

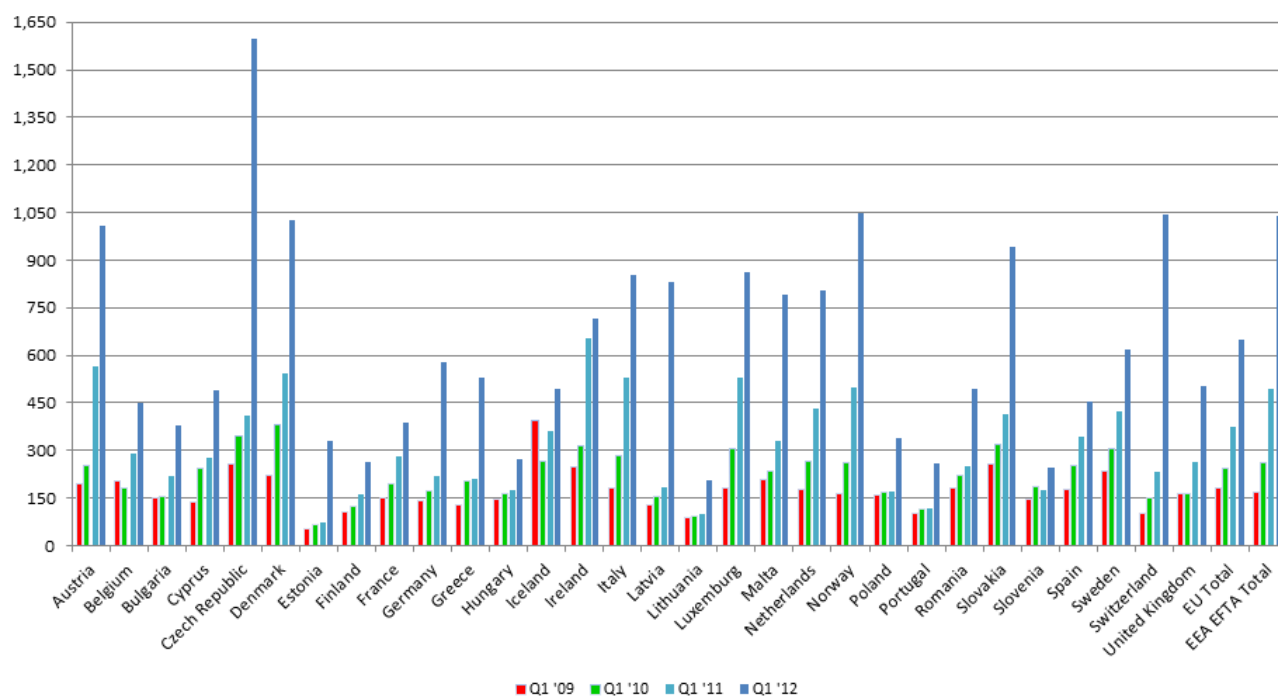
Figure 1: Average retail price per minute for intra-EEA roaming voice calls made:  
Eurotariff and alternative tariffs



**EU average:** Eurotariff Q1 2012 = € 0.313; Eurotariff Q2 2012 = € 0.306; Alternative tariffs Q1 2012 = € 0.359; Alternative tariffs Q2 2012 = € 0.359

While the average Eurotariff varies between countries, the EU average is around 4 cents below the regulated cap of € 0.35. On average the Eurotariff offered a slightly better deal for calls made than alternative tariff plans.

Figure 21a: Volumes of (off-net and on-net) retail data in Q1 2012 (Q1 2008 = 100)



**EU average:** Q1 2009 = 182.927; Q1 2010 = 241.160; Q1 2011 = 375.004, Q1 2012=647.704.

Source Figures 1 and 21a: *International Roaming BEREC Benchmark Report January 2012 – June 2012*

## 6 Termination rate developments

BEREC constantly monitors termination rates in Europe and provides an overview report twice a year on mobile termination rates (MTRs) and SMS termination rates (SMS TRs), while fixed termination rates (FTRs) data are reported once a year.

Following NRA interventions in market 3 'Call termination on individual public telephone networks provided at a fixed location' and market 7 'Voice call termination on individual mobile networks' and the implementation of the Commission recommendation on termination rates, the wholesale rates both for mobile and fixed interconnection have fallen substantially.

The following assumptions were made for the BEREC data collections to make tariffs comparable:

- a. Average call duration of three minutes was assumed.<sup>16</sup>
- b. For those countries which have not set an average tariff and which apply separate rates for the peak/off-peak period, an average price was calculated taking into account the traffic distribution between peak and off-peak periods. If this distribution was not made available, a 50/50 distribution was assumed.
- c. Average MTR per country were obtained by weighting the average MTR of each operator by its market share, measured in terms of subscribers. Both a simple average and a weighted average were calculated.<sup>17</sup>
- d. Interconnection services in fixed networks are provided at different levels called layers in the hierarchy of incumbents' networks. Although there are some unusual features in certain countries, in general, there are three main layers for interconnection: i) layer 1, or local level interconnection; ii) layer 2, or regional level service provision (single transit); and iii) layer 3, or double transit (national level service provision).
- e. In a few countries, a capacity based interconnection regime (CBI) has been implemented for FTRs<sup>18</sup>. In these cases, overall averages were calculated.

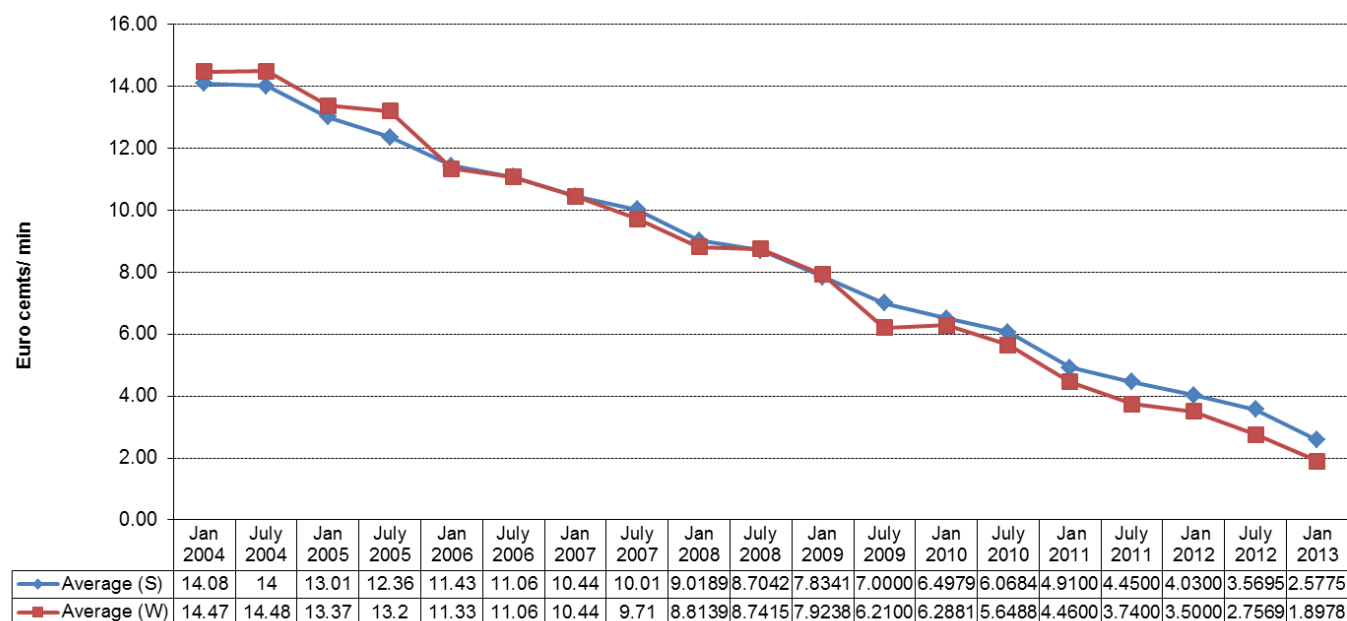
### 6.1.1 Mobile termination rates (MTRs)

As shown in the graph below, wholesale interconnection rates for mobile telephony service in Europe fell markedly between January 2004 and January 2013; the weighted average fell from 14.47 to 1.89 €cents per minute, while the simple average fell from 14.08 to 2.57 €cents per minute.

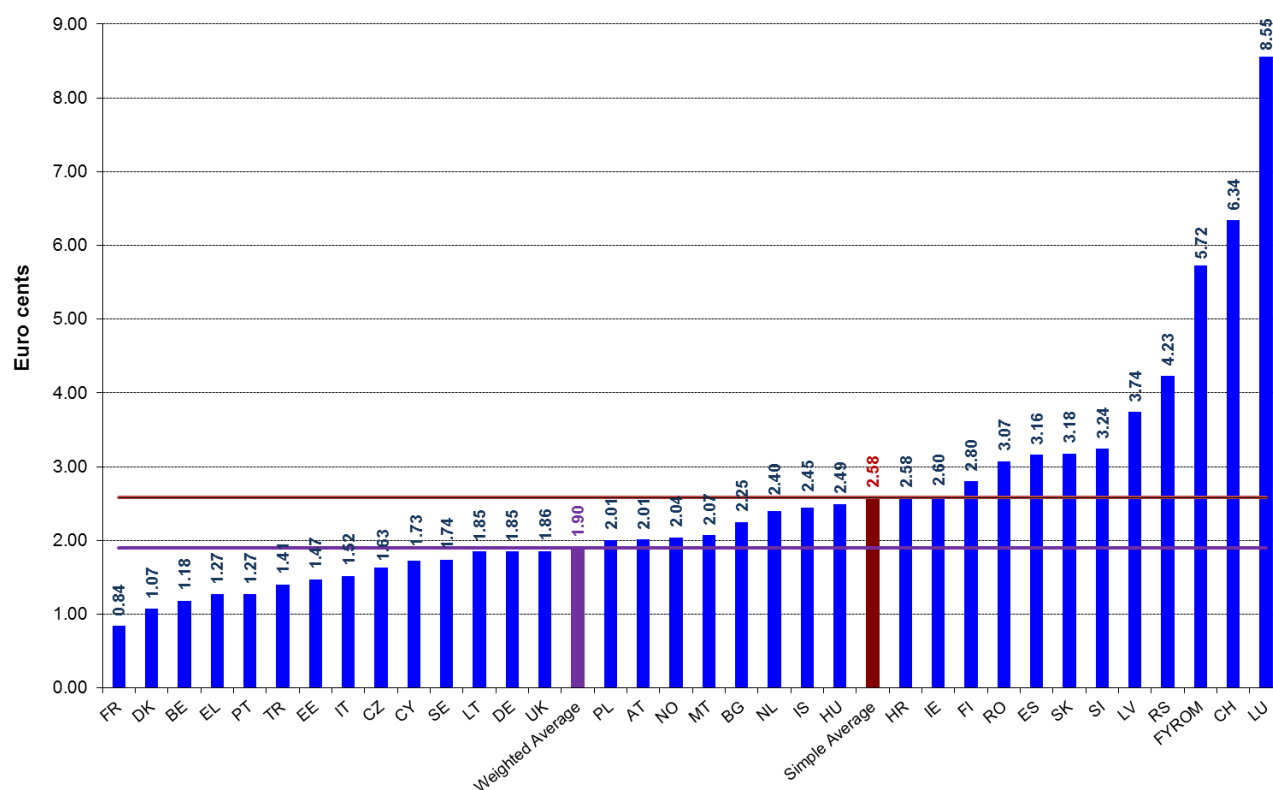
<sup>16</sup> According the standard formula = fixed set-up charge + price per minute\*3)/3.

<sup>17</sup> The latter weighting each country's average with the share of the country's subscribers.

<sup>18</sup> In contrast to the time-based interconnection regime (TBI), in which one price is defined for each minute of interconnection service, in the CBI regime, price is referred to a circuit (usually of 2 Mbps of capacity). Each circuit may be used for a specific amount of minutes of voice, or narrowband IP traffic, depending on the expected demand and quality of service parameters.



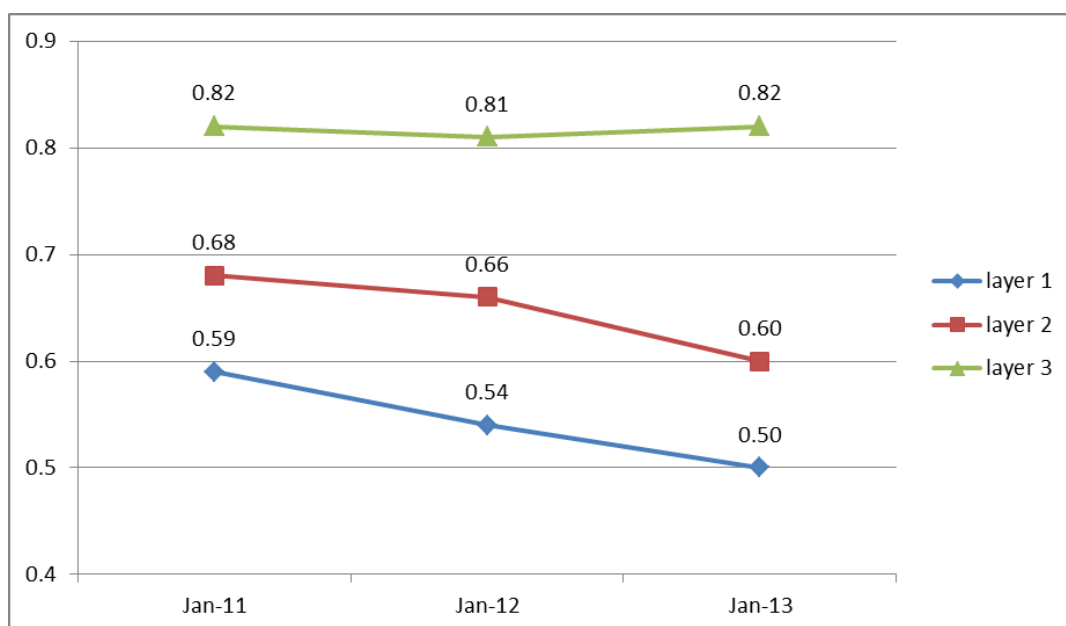
Between July 2012 and January 2013, the weighted average shows a 31.2% fall and the simple average a 27.2% decline. Individual Member States' average rates, together with simple and weighted averages, as of 1 January 2013 are shown in the table below.



Source: BEREC TRs snapshot – H1 2013

### 6.1.2 Fixed termination rates (FTRs)

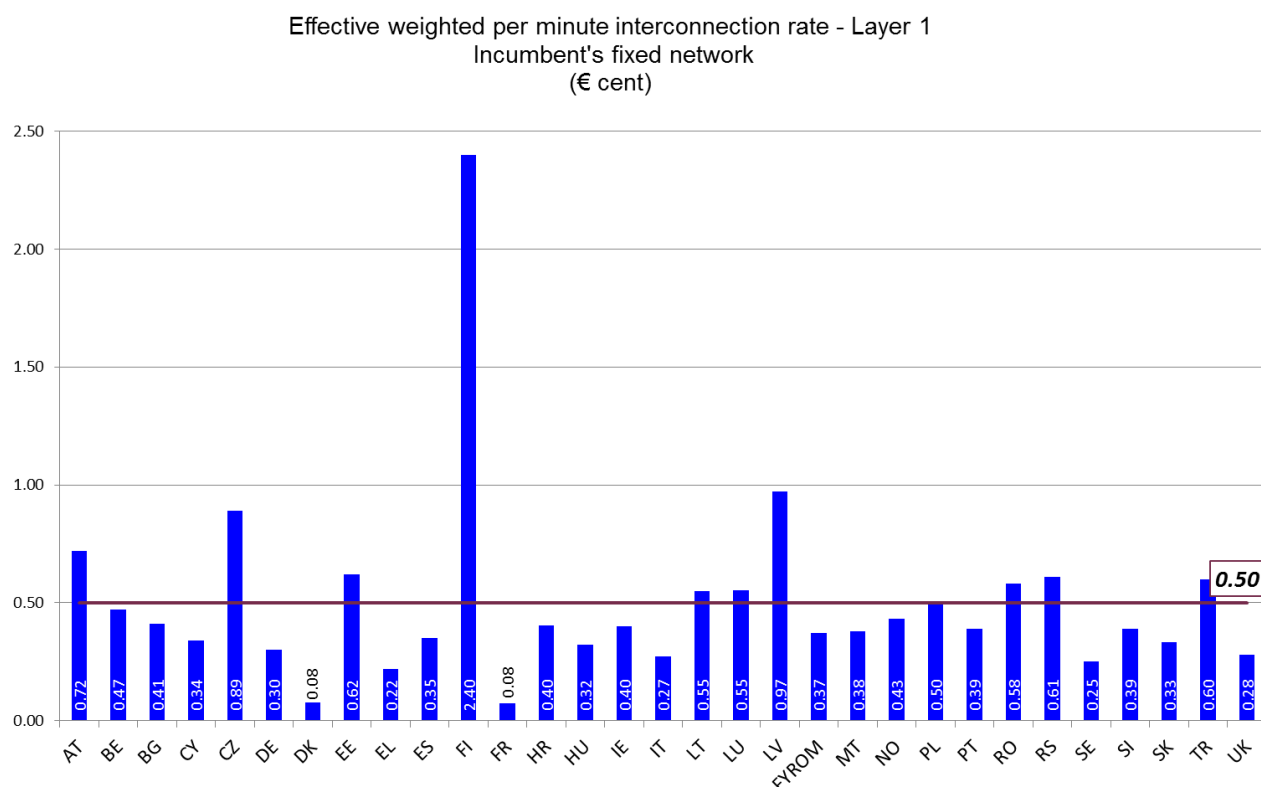
Compared to MTRs, the fall in FTRs is smaller, as the level of tariffs has been significantly lower. BEREC analysis is based on differentiation of network hierarchies and in particular on three different network layers for the relative distance of the interconnection level to the termination point. Tariffs in layer 1 and layer 2 (shown in €cents per minute in the graph below) saw a fall of 7.5% and 9% respectively from January 2012 to January 2013, and, over the two-year period from January 2011 to January 2013 of 15.25% and 11.75%. Layer 3 tariffs were stable overall.



Source: BEREC TRs snapshot – H1 2013

Individual Member States' average FTRs for layer 1 as of 1 January 2013 are shown in the table below:





Source: BEREC TRs snapshot – H1 2013

### 6.1.3 SMS termination rates (SMS TRs)

From January 2012 to January 2013, in terms of a simple average, wholesale SMS termination rates declined from 3.27 to 2.87 €cents per minute (12% decrease). The decrease from January 2011 was 18.5%. This downward trend is expected to continue, following the general decline in termination rates.