TABLE OF CONTENTS

Bundesnetzagentur

Annual Report 2011

Investment in the future: new infrastructures for telecommunications and energy

Consumer Protection and Advice

Table of Contents

TABLE OF CONTENTS

President's message

In every sector the Bundesnetzagentur has had an eventful and highly successful year. As the new Bundesnetzagentur President I look forward to building on these successes in 2012.

Competition trends in the telecommunications markets continue to be pleasing and notable for their diversity and strong technological dynamic. In particular, the Internet, developing ever further, is raising the data transfer requirements; in this market environment, anyone failing to invest in high speed networks will soon be left behind. Moreover, competition between the different telecommunications networks is accelerating these trends remarkably. One of the reasons for the successful competition outcomes is the Bundesnetzagentur's proven regulatory measures, which are constantly adapted to reflect the changing circumstances in the changing market. Two important successes for the Bundesnetzagentur in 2011 were extended broadband coverage and elimination of the so-called not spots in rural areas. Thus we see that broadband deployment can be achieved in a reasonable period of time, under competitive conditions, with the right mix of strategies and technologies.

In the mobile market, assignment of the 800 MHz spectrum after the auction in 2010 was tied to progressive coverage and rollout obligations. Prior to the auction, the federal states had identified towns and districts with little or no broadband coverage; these were grouped into four priority levels depending on the number of inhabitants. Now, one and a half years after the auction, the deployment of broadband has progressed to such an extent that the coverage requirements have been met at year's end in seven of the total of thirteen federal states identified as underserved.

Impetus has been given to the expansion of super fast fixed networks by the Bundesnetzagentur's NGA Forum. The Forum's remit is to support implementation of the federal government's broadband strategy in practical terms. The large number of companies investing in NGA has led to a patchwork of new networks. And so what is required now is detailed concepts showing how these companies can make their new optical fibre networks mutally available and how they can grant third-party access. Interoperability is key to the

success of the rollout of broadband infrastructure. In adopting comprehensive specifications on this, the NGA Forum has achieved a major breakthrough in planning certainty and additional investment.

In the postal services market, too, we have been able to improve the conditions for competition as a result of our decisions on particular issues. Under our system of ex post price controls, for instance, we have investigated the rates of First Mail Düsseldorf GmbH. The rates charged by this company, a member of the Deutsche Post AG group, were found not to be cost-covering overall for particular letter products, affecting the competitive opportunities of other companies. This was not acceptable. Our decision, meanwhile upheld by the courts, will contribute to changing the letter mail pricing structure and restoring equal opportunity among providers. Also, the Bundesnetzagentur approved the rates for letters up to 1000g. This approval followed a benchmarking decision taken in November 2011 giving Deutsche Post AG a small degree of scope for price increases which, however, it has not put to use for 2012. Accordingly, postage for domestic letters will remain the same next year with customers continuing to pay 55 cents. Consumers are therefore guaranteed a high quality level at a price that remains affordable.

In the energy sector, the federal government has set ambitious goals. A clever mix of strategies will be needed to achieve these goals. Where the integration of the growing volumes of electricity from renewable sources is concerned, a

clear distinction must be made between visionary energy policy and the short term requirements of a secure energy supply. Much may be feasible in the medium to long term, such as new storage technologies. However, if we jeopardise security of supply in the short term, we will also jeopardise achieving the long term goals of energy policy. The energy policy decisions taken make, once more, the importance of rapid grid expansion abundantly clear. Besides the swift exit from nuclear energy, the lawmakers have adopted an extensive package of legislation that will greatly influence our work in the coming years. New ways forward have been created in the shape of the Network Development Plans, the new procedures and the responsibilities envisaged in the Grid Expansion Accleration Act. The Bundesnetzagentur will make full use of all these ways to accelerate expansion and perform its new legal duties promptly and comprehensively.

The closure of eight nuclear power plants poses additional challenges for the grid. Here, the status of the Bundesnetzagentur as an independent, specialist authority was underlined when the federal government charged it with studying how to compensate for the shortfalls in energy generation in the next two years. Although the Bundesnetzagentur, after weighing all the facts, concluded that it was not necessary to specify a power plant for back-up operation under section 7(1e) sentence 1 of the Atomic Energy Act, it is fully aware that extreme situations can be managed only by considerable intervention by the network operators in power plant scheduling. Eliminating all risk is technically and economically impossible. From today's point of view, however, the main extreme situations for the transmission networks are manageable with the set of intervention instruments the transmission system operators have at their disposal.

Special attention will need to be given to the availability of sufficient conventional generating capacity when there is not enough electricity from renewables. It will be crucial to continue to add to capacity in southern Germany. Currently, the figures for reducing the number of plants generating non-volatile energy in southern Germany clearly exceed the expansion figures. Even after completion of the larger power plant projects the situation in southern Germany will remain serious and risks will still not have been banished, compared with the situation before the closure of eight nuclear plants. The framework conditions for new planning should therefore be reliably clarified.

Increasingly, the direction of the Bundesnetzagentur's rail regulation work is being set at European level. A regulatory framework for the activities of the EU Member States and their national regulatory bodies is being created with a

view to completing the European single market. In June 2011 fifteen national rail regulators signed an agreement setting up the Independent Regulators' Group – Rail (IRG – Rail). Following the example of comparable groups in other sectors, IRG – Rail provides a forum for an exchange of experience among the authorities and seeks to secure consistent rail regulation in Europe. National regulatory authorities working together in regulatory groups or bodies at European level has taken on immeasurably more importance than in the past in every sector. Against this background, the Bundesnetzagentur's international activities are gaining more and more prominence.

Powerful networks are securing Germany's ability to compete in all sectors. And the dynamic of our social and economic life makes absolutely no exception for regulation. Regulation, too – just as businesses – must constantly address new issues and refine the framework conditions, resolutely and purposefully. Thus the Bundesnetzagentur remains committed to its goal of promoting efficient networks in Germany through its regulatory work and progressing the framework conditions for competition in the network industries so that Germany can remain a country of modern infrastructures.

Jochen Homann
President, Bundesnetzagentur

TABLE OF CONTENTS

Investment in the future: new infrastructures for telecommunications and energy

TABLE OF CONTENTS

Broadband rollout in rural regions, along with the expansion of high-speed networks, continued to be the central topics of political discussion in the telecommunications sector in 2011. Energy policy was this year shaped to a significant degree by the decision in favour of an accelerated exit from nuclear energy and the consequences of this on electricity grid expansion.

SIGNIFICANT PROGRESS FOR BROADBAND ROLLOUT

The German federal government published its broadband strategy in February 2009 in order to provide a major boost to broadband rollout, formulating two key objectives in the process:

- Nationwide capable broadband access available by the end of 2010
- Regarding rollout of high-speed Next Generation Access networks (NGA), 75 percent of households should have broadband access with transmission rates of at least 50 MB/sec by 2014.

Broadband rollout in rural regions and the expansion of high-speed networks were therefore also the focus of the NGA Forum, an advisory board founded in May 2010 by the Bundesnetzagentur for promoting dialogue between the Bundesnetzagentur, network operators, manufacturers, states and local authorities on NGA rollout.

In addition to factors such as willingness to pay on the demand side, other aspects are of particular importance for broadband rollout in sparsely populated areas, including expansion of wireless broadband connections (eg LTE), synergy effects in cabled infrastructure expansion by telecommunication, energy supply and cable companies, and the sustained involvement of the public sector.

By mid-2011 around 99% of households had access to a broadband connection with bandwidth of at least 1 MBit/s. The goal for wireless broadband rollout in the short term is to cover up “white spots”. Assignment of the 800 MHz spectrum thus involved a progressive coverage obligation. At least 90 percent of citizens in underserved regions were to be provided with broadband connections before frequencies could be used freely.

One and a half years after the spectrum auction, deployment of broadband in Germany has progressed to such an extent that the coverage requirements have already been met in seven federal states. Further rollout in rural areas is expected for 2012.

The early award of spectrum – particularly the digital dividend – allows citizens to benefit from network expansion via LTE technology, for example. Through the relevant opportunities for further development, this technology continues to offer a basis for meeting the demand for increasing data rates.

The discussion regarding the financial support options of the government requires the involvement of all decision makers. Cooperation with the public sector can involve the use of synergies in public infrastructure plans, surety programmes and (low-interest) loan programmes, along with support schemes and public private partnerships. Lastly, there is also infrastructure construction by the public sector itself.

Energy suppliers can make a significant contribution to the construction of a broadband

network in rural areas. The keys to success in terms of economic viability are shared use of infrastructure, coordinated installation activities, funding and large market shares through regional sales. The Bundesnetzagentur's infrastructure atlas has particular significance in this context.

Through the use of all available options, nationwide capable broadband access can be achieved within a short space of time.

MIX OF STRATEGIES AND TECHNOLOGIES FOR NATIONWIDE NGA ROLLOUT

High bitrate coverage calls for the efforts of a number of companies and a mix of strategies and technologies (VDSL, FTTB/H, TV cable, wireless technologies).

In the context of the NGA forum, the WIK consultancy determined the investments, end consumer prices and financing requirements for (profitable) nationwide NGA rollout to the home in its study "Implications of nationwide fibre rollout and its subsidy requirements". Depending on the architecture and technology, a fibre network with potentially approx. 40m connections in Germany would need investment ranging between € 70 and 80 bn. The differences in investment volumes between the architecture and technologies are fairly low, at up to 10% (max).

The investments required per connection depend very heavily on the population or connection density and range from 1,000 euros in the lowest cost areas to around 4,000 euros per connection in sparsely populated parts of the country.

The profitability of network expansion depends to a crucial degree on the Average Revenue Per User (ARPU) and thus on attractive services and the achievable penetration rate, as total investments per customer increase significantly in expansion areas with fewer subscribers. With favourable assumptions regarding profits and costs, profitable FTTB/H expansion is conceivable for 25-45 percent of all connections, depending on architecture. It is also evident, however, that the current rate of expansion achieved with fibre connections has not yet reached the potential it has even under unfavourable circumstances.

The expansion limits would be higher if greater network usage/penetration was achievable or if the end customers were willing to pay higher prices for fibre network services. The limits can be further stretched to a certain degree if the necessary investments are able to be reduced through the use of existing infrastructure and coordinated installation activities.

In order to achieve profitable coverage, conceivable options include a higher monthly price for customers in deficit expansion areas; a uniform price which makes all rollout areas profitable, or investment injections in deficit areas. Assumption of costs for in-house cabling and building access by the users could also be considered here.

Competitive involvement of all market partners in necessary fibre network usage can be achieved if suitable access products are developed and provided while the new networks are being established. Ultimately, efforts are required by all involved in order to realise the necessary investments.

TABLE OF CONTENTS CHAPTER

ACCELERATION OF ELECTRICITY GRID EXPANSION

The accelerated exit from nuclear energy in the wake of the tragedy in Fukushima shaped energy policy debate in 2011 significantly. The undisputed fact is that renewable forms of energy will play a central role in the future of the energy industry. Electricity grid expansion is one, if not the central challenge for the realisation of the new direction in energy policy. While plans were already in place to accelerate grid expansion with the help of the Power Grid Expansion Act (EnLAG) in order to achieve the government's desired change in electricity generation structure before the events in Fukushima, the nuclear moratorium made the swift expansion of the electricity grid all the more urgent than it had been in the past. As the Bundesnetzagentur's 2011 Monitoring Report indicated, half of the 24 projects which were to be realised as soon as possible under the EnLAG requirement plan of 2009 were experiencing delays. Only around twelve percent of the 1,800 km of paths to be constructed have been completed thus far.

A lack of investment incentives is not behind these delays in expansion, however. Particularly when compared with investment alternatives, investors in German network infrastructure are offered attractive returns with low risk. The more crucial element for the acceleration of network expansion is the swift execution of the regional impact assessment and planning approval procedures.

READJUSTING RESPONSIBILITIES

With the new version of the Energy Act (EnWG) and the Grid Expansion Acceleration Act (NABEG), lawmakers have also readjusted responsibilities for expanding transmission networks. It goes without saying that the network operators still play the significant role here. They have responsibility for the system and also bear an entrepreneurial responsibility within the regulatory context.

In future, under the new EnWG the transmission system operators (TSOs) will determine the basic energy requirements for very high voltage lines together in an annual Network Development Plan. Network optimisation is essentially to be given priority over network expansion here. Expansion should only take place when all other possibilities have been exhausted.

Throughout the process of establishing demand, the public will be involved in a total of four consultations. Three of these will be carried out by the Bundesnetzagentur, with the remaining one performed by the TSOs themselves. The Network Development Plan drafted following this wide public consultation will be based on a publically discussed scenario framework and accompanied by an environmental report written by the Bundesnetzagentur and also consulted upon. The two documents form the basis for the drafting of a Federal Requirements Plan, which will be issued by the federal law makers in parliamentary proceedings and will determine the priority requirement of the projects included therein.

The first consultation dealt with the scenario framework and has already been completed for 2011. On this basis, the Bundesnetzagentur approved the energy scenario framework which the TSOs will use as the foundation for the Network Development Plan.

The Bundesnetzagentur is aware of the responsibility it faces in light of the new energy legislation. With the EnWG and NABEG, the lawmakers have assigned the Bundesnetzagentur new tasks which must be addressed within as short a time as possible. In organisational terms, the course has already been set for this.

The lawmakers have expanded the role of the Bundesnetzagentur in the energy sector. For the first time, the authority is no longer only calling for the rapid expansion of energy networks on the very high voltage level, but is actively participating in the realisation of these ambitious goals. NABEG has enabled the Bundesnetzagentur to replace regional impact assessments with what is to be known as specialist federal planning. The requirement for this is that the very high voltage lines in question cross state or national borders. These projects in particular have often experienced problems in the past, due amongst other factors to the significant differences in approval practices between federal states. The new, uniform national procedure arrangements and the responsibility for central line construction projection mean an all-in-one approval process can be ensured in future. This central focus will noticeably speed up the urgently required network expansion.

The challenges posed by the turnaround in energy policy are sizeable – and the ambitious goals can only be achieved if all steps in the process are consistently accelerated. However, a project as large as the expansion of the electricity grid across Germany can only succeed if it is supported by society at large. Experience of previous large projects has shown that a fully completed and legally sound planning process does not preclude that some of the public will, in and out of court, remain against its implementation, despite all efforts to obtain acceptance and take all interests into consideration as best possible.

ACCEPTANCE THROUGH INVOLVEMENT

Full consensus on a line project is unlikely to ever be achieved – especially not from those who will be directly affected by the construction. Nevertheless, discussions with citizens and stakeholders indicate that network expansion can be accepted if decisions regarding necessity, technology and path routing are not made behind closed doors, but instead reached transparently with the involvement of the wider public.

The Bundesnetzagentur is therefore operating on a platform of maximum information and communication: right from the start, community groups and interested citizens are called upon to get involved and help to develop solutions and then share the responsibility for these. The conditions for success are promising, as there are high levels of support in Germany for the fundamental goals, namely moving to renewable sources of energy whilst maintaining the same high level of supply security with minimum impact on the environment, the landscape and personal property.

The Bundesnetzagentur is thus responsible for a complex topic which affects society as a whole and raises numerous questions at the same time. However, active participation is required in order to identify suggestions, objections and criticism at an early stage. The opportunities to get involved have already begun with the aforementioned scenario framework consultation, and will continue with further rounds of participation

in the Network Development Plan, specialist federal planning and approval procedures.

The Bundesnetzagentur wants to involve the public in all steps of the process, instead of confronting them with fixed plans. For this reason, the opportunities for participation are not restricted to the legally prescribed consultations. For example, a range of "technical dialogues" will allow interested parties to discuss key technical questions relating to the future of energy transfer with specialists, such as: What storage possibilities might there be in future? What opportunities does decentralised electricity generation offer – and what are its requirements? What are the advantages and disadvantages of underground cables and overhead lines? This will result in all involved receiving important information and estimates under transparent circumstances.

The environmental consequences of network expansion are also bound to be key to the acceptance of this topic. That is why, following the "technical dialogues", the Bundesnetzagentur is planning a similar series of events dedicated to environmental aspects. Here, too, the focus is on highlighting the critical points with the help of as many experts as possible and with the involvement of interested members of the public in order to reach effective decisions.

One thing that is certain is that environmental concerns are top priority in the network expansion process. To this end, two strategic environmental assessments (SEA) are legally required for the Federal Requirements Plan and during specialist federal planning.

2011 saw significant improvements in high-performance broadband provision. The Bundesnetzagentur laid the foundations for this with their market-oriented decisions, enabling infrastructure providers to offer competitive products. On the electricity and gas market, in light of the change in energy policy of summer 2011, the Bundesnetzagentur faces challenges of a similar magnitude to the responsibilities bestowed upon the authority at the beginning of electricity and gas regulation.

TABLE OF CONTENTS

Consumer Protection and Advice

TABLE OF CONTENTS CHAPTER

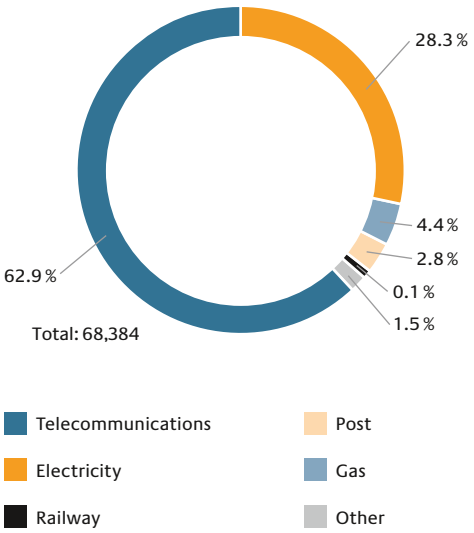
Consumer Advice

Consumer protection is a central concern of the Bundesnetzagentur. In 2011 the Consumer Advice service again functioned as a primary address for the enquiries and complaints of consumers in connection with telecommunications, energy, postal services and railways.

The number of enquiries and complaints received by the Bundesnetzagentur's Consumer Advice service in 2011 was 68,384. Most of these consumers contacted the service by phone (32,050 calls). The great majority of written contacts were by email (27,742 messages received).

The main focus continued to be on telecommunications. In spite of that, the disputes consumers referred to the Bundesnetzagentur showed a substantial increase in problems with electricity and gas suppliers. In just one sector, electricity, complaints were 86 percent up on the previous year.

Enquiries and complaints broken down by sector 2011[1]



TELECOMMUNICATIONS

Disputes involving aspects of contract law again loomed large in the enquiries and complaints in this sector. At issue in most cases were the conclusion, performance and cancellation of telecommunications contracts. In addition, large numbers of consumers continued to

[1] The mid-2011 recasting of the system of recording and processing enquiries and complaints resulted in gaps in the specific, subject-based attribution of consumer contacts to the various sectors. Separate breakdowns for each sector, as in the 2010 Annual Report, are therefore not possible.

complain about providers' business conduct and customer service. There was particularly heavy criticism of the way the undertakings handle customer complaints, either ignoring them or – according to consumers – reacting in an inadequate manner.

Objections to telephone bills prompted a large number of subscribers to contact the Consumer Advice service. Most of the complaints about specific items on bills focused on disagreement as to whether the items were in fact contractually subject to charge. In the majority of cases the contracts were so-called subscription contracts which the consumers had entered into online. A large number of the complaints about bills related to call-by-call connections and the use of premium text messages, which were sent to short, five or six digit phone numbers, eg in order to buy ring tones.

The Consumer Advice Service again received a large number of complaints concerned with a switch of telecommunications providers, the switching being done both from a dominant market player to a competitor – and back again – and from one of those competitors to another. The chief cause of dispute was delay in the porting of phone numbers or even refusal to port them. Again and again the process of switching failed to function smoothly when customers themselves terminated and then got the new provider to execute the porting and termination order all in one. Even quite minor errors in the porting application, eg irregularities in the address data supplied, frequently caused considerable switching delays and in some cases meant interruptions of service. In spite of the problems, consumers' propensity to switch provider stayed at a consistently high level.

As regards the allocation of numbers, most of the enquiries and complaints received by the Bundesnetzagentur were from consumers whose ten-digit numbers had been withdrawn, the reason being that the provider had failed to comply with the binding rules on phone number length when the numbers were originally allocated. The second major cause of complaints was changes in rates, at short notice and of considerable extent, for internet-by-call and call-by-call connections.

The so-called EU Roaming Regulation was again the subject of consumer enquiries in the year under review. As in the previous year, the questions focused on the retail price for the regulated Eurotariff or the text message Eurotariff, as well as the regulated wholesale price for data roaming services. In this area there were also questions on the cost limitation function, which came into effect in 2010. Some consumers also complained that they had not received the warning text messages or that the data roaming had not been switched off in timely manner after the stipulated ceiling had been reached.

In addition there was a further reduction of wholesale and retail prices for roaming calls, also of the wholesale price for data roaming, as from 1 July 2011. In this context too consumers had queries about compliance with the regulated tariffs.

Parallel to the work of the lawmakers, the Bundesnetzagentur started discussions in the review year with some of the market players about the stage reached in the implementation of the changes to be expected from the customer protection section (Part 3) of the amended Telecommunications Act (TKG). This enabled the Bundesnetzagentur at an early stage to put

across its ideas for the application of the new rules and – as the case arose – to become aware of problems and provide solutions. Some consumers have already approached the Consumer Advice service in search of information on their new rights, especially with reference to switching providers.

ENERGY

A total of 22,380 enquiries and complaints landed on the Consumer Advice desk in 2011, which means an increase of nearly 75 percent compared with the year before (2010: 12,801).

Many of these electricity and gas enquiries and complaints focused on energy billing and the related disputes about contractual matters. The large number of enquiries and complaints in this area was due to long delays in the delivery of annual and final accounts, irregularities in the refund of credit balances and the payment of bonuses to customers, and also to the complex and multi-layered nature of the contractual arrangements.

The effect of the transposition into national law of the third internal energy market package in August 2011 has been to strengthen consumer rights as defined in the Energy Act (EnWG). In particular, the deadlines for energy billing, the level and due date of prepayments and the obligation to provide information in the event of alterations to contracts were regulated by statute. It is a fair assumption that this will enable future disputes to be avoided or alternatively settled with the undertakings in short order. Since 1 November 2011 consumers have been able to take their case direct to an arbitration body (Schlichtungsstelle Energie e.V.) if their attempts to reach agreement with the undertaking are unsuccessful.

2011 followed the trend of recent years in that the growing propensity of consumers to switch suppliers produced a large number of complaints about the time it took to make the switch. It remains to be seen what effect the statutory deadline of three weeks for completion of the switch will have on the volume of enquiries and complaints. The network operators and energy suppliers were given a deadline of 1 April 2012 to introduce the necessary IT processes. The Bundesnetzagentur will keep the market under close observation, especially as from the second quarter of 2012, with a view to checking on compliance with the new rules.

In the review year the Bundesnetzagentur took further action in support of consumer interests by collaborating in the working groups for consumer protection and end user markets of the Council of European Energy Regulators (CEER). In 2011 the Council defined the regulatory requirements for intelligent meter devices, with special emphasis on the aspects relevant to consumers. A benchmarking system for the role and responsibilities of the regulatory authorities in the protection of consumer interests was also implemented. The requirements to be met by an energy arbitration body were defined in collaboration with the European Commission (Directorate-General for Health and Consumers).

POST

The number of complaints about postal services was slightly down on the previous year, with a total of 1,924 being received by the Bundesnetzagentur in 2011. Most of them were concerned

with postal delivery problems. The number of complaints about the poor quality of service for the delivery of registered and insured items, ie mail with advice of delivery, was relatively high. The Bundesnetzagentur also received a number of complaints about late deliveries, non-delivery, delivery to the wrong address and failure to forward mail as requested.

The increasing provision of facilities for the delivery of parcels via parcel collection points was accompanied by a rise in the number of complaints about technical problems connected with the collection machines. There was also criticism of the restrictive assessment of claims by Deutsche Post AG (DPAG) related to the parcel delivery service, and of a claims settlement policy which did not seem orientated to customer interests.

RAILWAY

The Consumer Advice service received only the occasional complaint about the railways. Such complaints as came in were chiefly concerned with the difficulty of enforcing passengers' rights and with the terms and conditions of fares. In response, reference was made to the Bundesnetzagentur's responsibilities in connection with regulating the railway companies.

Universal Service

Universal services are those which are generally regarded as indispensable. Deutsche Telekom AG (DTAG) currently provides the universal services defined in the Telecommunications Act (TKG). In the post sector there are a number of market players which deliver the universal services that DPAG is, since 2008, no longer obliged by law to provide.

TELECOMMUNICATIONS

In the period under review, universal services were dominated by two subjects: connection to a public telephone network and access to public telephone services. Consumers sent the Bundesnetzagentur a tot al of 1,595 enquiries and complaints related to the provision of these basic services.

The Bundesnetzagentur has found in the recent past that an increasing number of consumers are having to face delays in the provision of new connections and/or the modification of existing connections. The TKG does not lay down any specific deadlines for the provision of individual telephone connections, but consumer complaints demonstrate that in many cases this basic service is not provided without delay. The Bundesnetzagentur consulted with DTAG on the matter and was able to achieve improvements in this area of customer service. It will keep future developments under close observation and take further steps where necessary.

The fully comprehensive provision of public payphones also falls within the scope of universal service (see section 78(2) para 4 of the TKG). In the review period DTAG designated further unprofitable locations which it wishes to close. See page 71 for information on the total stock of public telephones.

In future DTAG will be able to make further cuts in the number of public payphones, without restriction except for the need to have the approval of local government authorities. If such consent is not given or if it is revoked at a later date, however, the undertaking will be entitled to install a so-called basic telephone in fulfilment of its obligation to provide universal service. The Bundesnetzagentur will keep the cutting-back process under review and for this purpose hold biannual consultations with DTAG and the local government central associations.

The Bundesnetzagentur set out its position on the question of whether broadband access should be included among the universal services in its 2010/2011 Activity Report for the telecommunications sector. The comprehensive review of social, economic and technical trends carried out by the Bundesnetzagentur suggested the answer should be in the negative. It is the

Bundesnetzagentur's considered opinion that there has been a significant improvement in broadband access in the last two and a half years owing to the German government's broadband strategy and the increasing supply of radio-based services.

POST

So-called universal postal services are provided by the undertakings operating on the postal market subject to section 87 ff of the Grundgesetz (German Basic Law). Details of the extent and quality of this basic service are set forth in the Postal Universal Services Ordinance (PUDLV). Universal service in postal terms basically means the delivery of letters, parcels, newspapers and magazines and the operation of stationary facilities (branch offices and agencies) where conveyance services for letters and parcels are offered. The PUDLV also stipulates the required degree of post box coverage and transit times for letters and parcels.

In 2011 the Bundesnetzagentur did not become aware of any circumstances which suggest a failure to meet the requirements set down in statute law for the provision of universal postal services. The readings taken on annual average transit times for letter mail confirmed that the statutory quality targets were fulfilled.

The minimum number of stationary facilities prescribed by the PUDLV is 12,000, a figure which was in fact exceeded in the year under review. This was mainly due to the fact that a large number of providers offered their services in their own branches, particularly in the parcel segment. The requirements stipulated by the PUDLV for stationary facilities are neutral in terms of competition and allow the facilities to be supplied, and the total to be met, by a number of postal service providers operating independently of each other. Customers are offered a significantly larger number of stationary facilities than the PUDLV requires.

Text and video relay service for deaf and hearing-impaired persons

In the year under review the Bundesnetzagentur took steps to ensure that the relay service would be funded by the telecommunications undertakings. The relay service will be provided by Tess GmbH until the end of 2012.

The aim of the text and video relay service is to ensure that the access of deaf and hearing-impaired persons to "spoken" telephoning is of the same standard as that enjoyed by other users, so as to guarantee them unimpeded telephone contact with family members, friends, doctors, authorities, and so on. For this purpose the deaf or hearing-impaired person uses a PC to make a video or a text connection with the sign or written language interpreter provided by the text and video relay service. The interpreter converts the message into spoken language for the person called, and then translates the reply into sign or written language for the benefit of the caller.

Under section 45(2) sentence 1 of the TKG, every provider of publicly available telephone services is obliged either to set up its own relay service for deaf and hearing-impaired persons or to commission a third party for the purpose by means of a written agreement under private law. So far it has been necessary for the Bundesnetzagentur to issue an invitation to tender for the provision of the relay service as a means of ensuring the whole sector would be involved.

Until the end of 2012 the relay service will be provided by Tess – Sign & Script – Relay Dienste für hörgeschädigte Menschen GmbH (Tess GmbH).

In order to secure the financing of the relay service for 2012, the Bundesnetzagentur took steps at the end of 2011 to determine and stipulate the special levy to be paid by the telecommunications undertakings involved.

Further information on the relay service can be found on the Bundesnetzagentur's website at www.bundesnetzagentur.de.

Special control of anti-competitive practices

In 2011 the Bundesnetzagentur again received a large number of complaints about the misuse of phone numbers and unlawful telephone spam. A significant increase in the number of administrative fine proceedings against cold calls and uncompromising action by the Bundesnetzagentur against business models based on number misuse for telephone and fax spam, however, helped to produce an appreciable decline in the number of complaints about certain types of misuse.

A total of 116,291 written and telephoned enquiries and complaints about phone number misuse and unlawful telephone spam reached the Bundesnetzagentur in 2011. Gratifyingly, most types of complaint showed a decrease compared with 2010. In the second half of the year the number of complaints nevertheless stayed at a consistently high level. Most consumers contacted the Bundesnetzagentur in writing, with phone calls accounting for 25,047 of the total.

The decrease in written enquiries and complaints was particularly evident in the case of telephone spam, the total complaints figure for 2011 being substantially down on 2010.

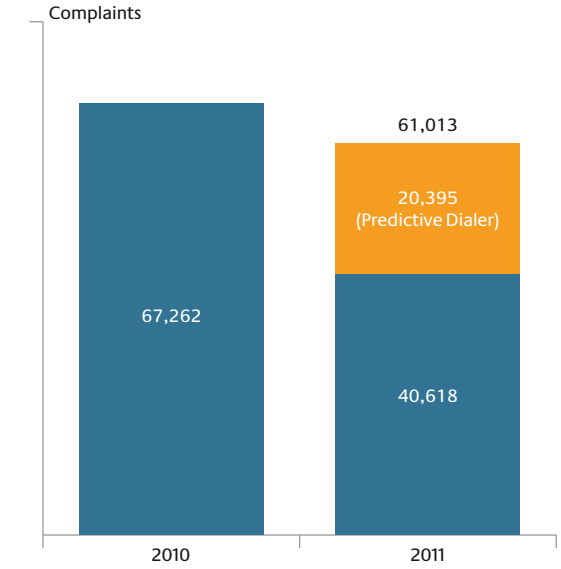
As regards illegal telephone spam, a comparison of 2011 and 2010 shows a more than 30 percent decline in written complaints from consumers. Since April 2011, however, the rate of complaints has settled at a relatively steady, high level. The decline in the total number of complaints was accompanied by the opening of an increasing number of administrative fine proceedings.

COMBATING PHONE NUMBER MISUSE

Overview

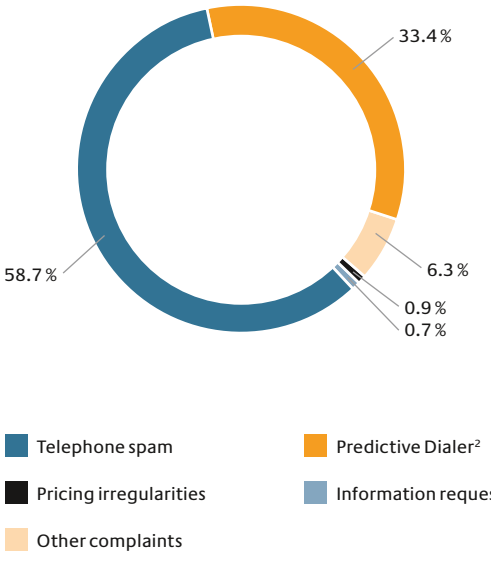
In 2011 the total number of written enquiries and complaints calling for action on number misuse was 40,618. While this means a decline of 26,644 compared with the year before, it remains true that the level is still high. In addition there were 20,395 complaints about the nuisance of attempted calls.

Written complaints 2010–2011



The subjects of complaints and enquiries break down as follows:

Written complaints and enquiries 2011



Many of the cases recorded under telephone spam also included pricing irregularities. These are not listed additionally under the heading Pricing irregularities.

In 2011 the Bundesnetzagentur instituted a total of 2,163 new administrative proceedings aimed at combating phone number misuse.

Under section 67 of the Telecommunications Act (TKG) the Bundesnetzagentur is authorised, when it has certain knowledge of number misuse, to take action specifically intended as a deterrent against further misuse. It can for instance issue orders and take other measures designed to ensure compliance with statutory provisions and with the conditions it has laid down for the assignment of numbers. The measures include deactivating numbers and cancelling unlawfully used numbers. In the period under review the Bundesnetzagentur issued orders for the deactivation of a total of 846 numbers, which means an increase of more than 36 percent on the previous year.

When telephone numbers are used unlawfully the Bundesnetzagentur can forbid the invoicing undertaking to bill and collect payment. The effect of the ban on invoicing is that consumers may no longer be billed for specific amounts. If consumers have already received such invoices, the prohibition of collection then takes effect and the amounts billed may no longer be collected.

In 2011 the Bundesnetzagentur issued billing and collection bans affecting a total of 22 telephone numbers and 60 product IDs or article/service numbers. In addition, as a preventive measure, all German network operators were forbidden to allow four suspect undertakings – and any legal successors they might have – to charge amounts, which had already been the subject of previous billing and collection prohi-

[2] In 2010 the complaints about so-called predictive dialers were still recorded under the heading of telephone spam and not shown separately. For 2011, in order to achieve greater transparency and do justice to the large volume of complaints, it has been decided to show them separately for the first time.

bitions, by attributing them to new product IDs or new article or service numbers. The prohibition extended to any other undertakings to which such demands for payment had been transferred. In the review period the Bundesnetzagentur imposed a fine of €260,000 on an undertaking which was in breach of billing and collection prohibitions.

As a way of protecting consumers from phone number misuse the Bundesnetzagentur can also prohibit business models founded on number misuse. Four such business models were prohibited by the Bundesnetzagentur in 2011.

When legal action was taken against the measures to combat number misuse, the administrative courts in 2011 ruled in favour of the Bundesnetzagentur in every case.

Phone number misuse in the form of pricing irregularities

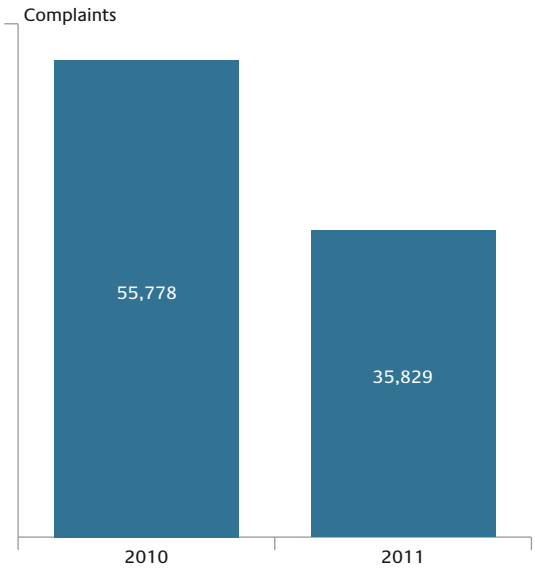
In 2011, too, the complaints about contraventions of price indication regulations referred for the most part to the failure to state correct or any prices for (0)900, (0)137 or (0)180 numbers. This happened chiefly in the context of advertising on websites, in print media or on television.

It has become clear that in some cases, particularly when (0)180 numbers are made part of an offer, there is still a certain ignorance about the price statement obligations introduced by statute in 2010 with regard to these so-called medium-rate service phone numbers. Frequently the statement of the price ceiling for calls from the mobile network is incomplete, incorrect or not in conformity with statutory provisions. In many cases therefore the Bundesnetzagentur initially issued the undertakings involved with a formal warning and gave them information on their price indication obligations under statute law. Depending on the severity of the contraventions, however, the Bundesnetzagentur also issued orders to deactivate numbers or instituted administrative offence proceedings.

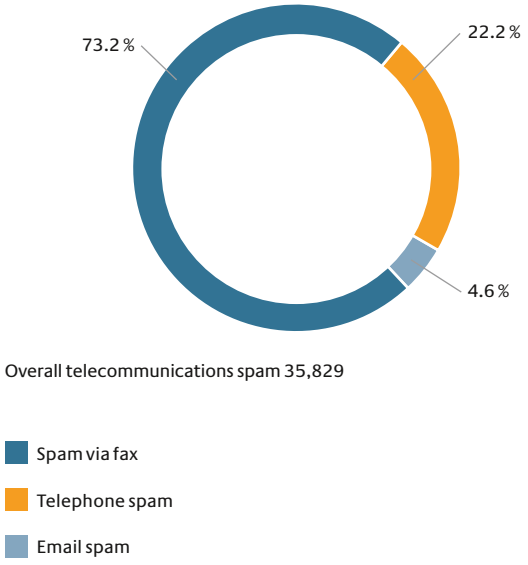
Combating telephone spam

Most of the complaints about phone number misuse received by the Bundesnetzagentur continued to be concerned with telecommunications spam, which here covers telephone, fax and email spam. The total number of complaints in 2011 was 35,829, 35 percent down on 2010 (55,778).

Written complaints about telephone spam 2010–2011



Breakdown of complaints 2011



The trend towards a massive decline in complaint numbers, which had started in 2010, persisted last year. The figure for 2010 was over 38,000 complaints about telephone spam, but in 2011 there were only 7,940. The deactivation orders and prohibitions on billing and collecting imposed on unlawfully used phone numbers evidently had their effect.

As regards spam via fax, there had already been some sharp increases in complaint numbers in 2010, and there was a further strong rise in 2011, when the total was about 65 percent up on the previous year. With 26,229 complaints the fax segment accounted for some 73 percent of total telecommunications spam, thus ousting telephone spam, which had been the dominant category in this area in 2010.

The bulk of the complaints about spam via fax referred to geographic or foreign numbers. One of the chief reasons for the increase in complaints is that a ruling by the North-Rhine Westphalia Higher Administrative Court in August 2010 cast doubt on the legality of the deactivation of geographic phone numbers in relation to fax spam under specific conditions.

However, the large number of complaints over the course of 2011 prompted the Bundesnetzagentur to take action against this kind of spam by issuing numerous deactivation orders against the national numbers used and by prohibiting the business models of the undertakings sending the faxes. In the most extreme cases, where number holders had already attracted negative attention due to fax spam, the Bundesnetzagentur in 2011 also ordered the deactivation of the customer base numbers of private automatic branch exchanges. This had the effect of preventing the use of many numbers for the dispatch of spam by fax.

The actions taken by the Bundesnetzagentur on fax spam in the second half of 2011 resulted in a significant decrease in the volume of complaints (35 percent down on the first six months of the year).

Predictive Dialer

Complaints about so-called predictive dialling referred as a rule to the nuisance of multiple attempts to call consumers, a category which accounted for a total of 20,395 complaints in 2011. In their complaints the consumers described how they received repeated and regular calls from a specific number over an extended period of time. When they took the call there was no reply from the caller or the caller hung up at once. In some cases the attempted call ended after the consumer let the phone ring several times. In most cases there was no conversation with the caller. The consumers affected found these calls extremely annoying.

Most of the calls of this kind came from call centres which use a computer-based dialling program called predictive dialer to attempt to call subscribers. The point of such programs is to optimise the utilisation of the call centre's labour force by having the numbers dialled on a systematic basis. The usual thing is for more numbers of potential customers to be dialled than there are in fact personnel available to handle the calls. As soon as the first subscriber takes the call, the other calls being attempted at the same time are interrupted, and these other numbers are automatically dialled again later. The basic intention behind the use of a predictive dialer is not to provoke a return call to the number shown in the display but actually to set up a phone conversation with an employee at a call centres.

The use of such predictive dialers is not forbidden by law, nor are there statutory provisions governing the calling procedures of call centres. "Aggressively" configured predictive dialers, however, which involve a significant number of repeated call attempts at certain times and intervals etc can generate an unreasonable degree of nuisance for subscribers. The Bundesnetzagentur is of the opinion that such attempted calls – irrespective of the purported content of the intended call – constitute a violation specifically of section 7(1) sentence 2 of the Unfair Competition Act (UWG) to the extent that they involve an unreasonable degree of nuisance. Whether specific acts of dialling represent an unreasonable degree of nuisance needs to be decided with reference to the circumstances of the individual case. The assessment of whether such nuisance has occurred is a complex matter in terms of both facts and the law. It is theoretically possible to determine that such nuisance has occurred even if the party called has given valid consent to telephone advertising. If the calling procedures of a call centre are an unreasonable nuisance for consumers, the Bundesnetzagentur may, after examining the facts of the specific case, institute administrative proceedings and take steps to protect consumers, eg order the deactivation of the phone numbers concerned.

After the first administrative proceedings in 2009 and 2010 the Bundesnetzagentur had a series of meetings with sector spokesmen and associations on the use and configuration of automatic dialling programs in call centres with a view to protecting consumers from nuisance of the above kind. The sector took the meetings as an opportunity to draw up rules of its own for the use of such programs and to check on the implementation of the rules. This involves eg the definition of extensive configuration data. Furthermore, the undertakings have been urged only to make calls within specific time slots. The Bundesnetzagentur is making ongoing checks on the extent to which the sector's efforts at self-regulation produce an appreciable decrease in the nuisance and the complaints.

In view of the complexity of any legal assessment of the complaints, the consumers in question were again, in 2011, given information on the basic issues involved. A questionnaire was also developed as a means of obtaining the further details required for the assessment of specific circumstances. In this connection more than 8,000 consumers were approached again in the review year and requested to supply further detailed information on the call attempts they had been exposed to.

The information thus obtained made it possible to start investigations of 33 numbers and institute the required administrative proceedings against assignees and subscribers. As a result numerous phone numbers were deactivated by the number holders themselves and returned to the Bundesnetzagentur. In certain cases warning notices were issued, and some proceedings are still in progress.

Selected proceedings

Action taken against foreign phone numbers on spam faxes

In 2011 the Bundesnetzagentur launched a test case against the transmission of spam faxes under the heading of "Swiss Money Report". A "Swiss Money Report" is a faxed newsletter with stock exchange information which in some cases was sent several times a week. A spam fax, it always included a recommendation to buy a specific security. The contact numbers stated were in every case foreign telephone numbers. The faxes were frequently sent at night, which meant the ringing caused immense annoyance to consumers who had only one line for phone and fax.

In the course of the proceedings all German network operators were for the first time instructed to terminate – provided it was technically possible – both the incoming connections and the accessibility of a total of six foreign telephone numbers stated on the faxes. Most of the operators then followed the instruction in relation to the specified foreign phone numbers.

Before taking this novel step the Bundesnetzagentur carried out an investigation into whether such an order was in fact technically feasible. The resulting findings allowed the Bundesnetzagentur to order the network-facing blocking of foreign telephone numbers. Consumers were thus for the first time given immediate protection against the massive nuisance of spam faxes using foreign numbers.

Attempts had been made beforehand – without success – to gain the cooperation of various foreign regulatory authorities in identifying the originators of the faxes and putting an end to the faxing of spam. According to the consumers concerned, the return of the fax and the sending of an email to the stated contact address, making it clear that no further faxes were wanted, did not have the desired effect. The faxed newsletters continued to be dispatched in large quantities.

The basic problem is that the provisions of the TKG allow action to be taken only in connection with the unlawful use of German – but not foreign – telephone numbers. The Bundesnetzagentur can eg order the deactivation of phone numbers by the operators in whose network the numbers are functional, but has no power to do so with foreign operators.

Federal Constitutional Court rules on 11861

In December 2010 the Bundesnetzagentur ordered the deactivation of the directory enquiries number 11861 on grounds of breaches of the obligation to state the price before the call is set up, as required under section 66b subsection 3 of the TKG and of the price indication obligation defined in section 66a of the TKG. The order was issued in response to a large number of complaints by consumers and extensive investigations by the Bundesnetzagentur.

The operator of the directory enquiries service filed an objection to the notice of deactivation. The undertaking also petitioned in summary

proceedings for an order giving the objection suspensory effect. This petition was denied by the rulings of both the Cologne Administrative Court and, at the next higher judicial level, the North Rhine Westphalia Higher Administrative Court.

The operator then contested these rulings by entering a constitutional complaint with the Federal Constitutional Court and petitioned for the issue of a temporary order. The court dismissed this petition by its ruling of 24 August 2011 and decided the constitutional complaint did not require a ruling.

Following this the Bundesnetzagentur rejected the majority of the points in the objection. No ruling has yet been made in the primary matter by the Cologne Administrative Court on the operator's action for the rescission of the ruling on the objection.

Action taken against unlawfully offered competition entry and other services

In the months December 2010 to February 2011 the Bundesnetzagentur imposed various bans on billing and collection in respect of specified demands for payment made by telomax GmbH on behalf of third party firms. These firms offer competition entry services under names like "win-finder.com" and "gluecksfinder.net". The offers are preceded by illegal cold calls, in the course of which contracts were allegedly entered into for utilization of the competition entry services, with costs arising for the consumers called.

The demands for payment for the competition entry services are included with the telephone bills sent to the consumers concerned, based on so-called product IDs or article/service numbers. All told, the Bundesnetzagentur issued billing and collection prohibitions for 54 product IDs or article/service numbers. The bans for 45 of these product IDs or article/service numbers were imposed with preventive effect, so as to stop the billing before it could even be started. The amount that would have been billed for ran into several millions.

telomax GmbH and one of the third party firms affected filed an expedited motion with the Cologne Administrative Court against the bans on billing and collection issued in December 2010 and January 2011. Both the Cologne Administrative Court and, at higher judicial level, the North Rhine Westphalia Higher Administrative Court confirmed the notices issued by the Bundesnetzagentur and denied the petitions for an order giving the objection suspensory effect.

After two more undertakings with similar business models entered the market in 2011, the Bundesnetzagentur received a large number of complaints from the consumers affected. In August 2011, in response, it imposed a ban on the billing and collection of demands in connection with a telephone and research service for senior citizens ("Senioren Info Service"). The demands were made with the telephone bills for the consumers concerned and related to a product ID. The service had been offered by phone beforehand via a recorded message, ie unlawfully.

In November 2011 billing and collection bans were also issued in respect of five product IDs which had been used as a vehicle for billing for competition entry services. These bans too were in response to the cold calls received by consumers, in the course of which call centre personnel offered them a free petrol coupon.

To activate the coupon they had to call back to a (0)800 number. When they did so, they heard a recorded message which told them to activate the coupon by pressing a key. They found they had thereby registered for a competition entry service for which a fee was charged.

The emergence of the above business model prompted the police to launch extensive investigations on grounds of suspected criminal fraud on an organized commercial basis. In the course of the investigations 64 search warrants were executed at the beginning of 2012, with 8 persons being arrested and having to appear before a magistrate. 1,000 police officers 10 public prosecutors were involved.

Proceedings under the Administrative Offences Act and charges under section 67 subsection 3 of the TKG

The Bundesnetzagentur instituted four administrative fines proceedings in the period under review on grounds of breaches of the obligation to indicate and formally state prices. Two of the telephone numbers concerned had the (0)900 prefix, one was a (0)180 number and the last was a (0)137 number. In two cases administrative fines were imposed, but these rulings are not yet final and absolute.

National and international cooperation in the combating of phone number misuse

At the national level 2011 saw an extensive exchange of views and information using the channel of a series of meetings with representatives of various associations and bodies. The re-evaluation and amendment of the TKG triggered a large number of questions. 2011 also saw a continuation of the successful cooperation with the consumer advice centres.

The Bundesnetzagentur collaborates closely with international bodies such as the Electronic Communications Committee (ECC), the Contact Network of Spam Authorities (CNSA), the International Audiotex Regulators Network (IARN) and other regulatory authorities. Notes are compared regularly on methods of misuse, on the international undertakings which operate outside the relevant laws and on strategies for combating number misuse. Various administrative proceedings with a cross-border dimension provided a framework for a regular check by the Bundesnetzagentur on whether and to what extent foreign authorities and organizations could be of assistance. Fax spam was given particular attention in this respect, with intensification of bilateral cooperation among various European regulatory authorities on account of the problem of the increased illegal use of foreign phone numbers.

COMBATING ILLEGAL TELEPHONE SPAM

Since 4 August 2009, illegal telephone spam and failure to fulfil the calling line identification presentation requirement for cold calls have been administrative offences. The number of written complaints received by the Bundesnetzagentur in this connection in 2011 was 30,231[3], which is significantly lower than the figure for 2010 (43,505, not including predictive dialling). The decline can be put down to the heavy fines imposed by the Bundesnetzagentur and the concomitant sensitising of the market.

[3] The statistics for complaints about predictive dialing are recorded under the heading of phone number misuse for 2011.

The above figures do not include cases of consumers receiving calls in which a recorded message promised a prize, telephone spam using a recorded message and complaints about predictive dialling. These cases are classified as illegal use of phone numbers, which is a violation of section 7 subsections 1 and 2 para 3 of the UWG (Unfair Competition Act), and action is taken against them under the heading of phone number misuse, eg formal warnings and/or deactivation of numbers. Under section 7 subsection 2 para 1, in conjunction with section 20 of the UWG, on the other hand, administrative fine proceedings on grounds of illegal telephone spam – so-called cold calls – are instituted only with reference to calls made by natural persons.

Proceedings under the Administrative Offences Act

A large number of investigations having been launched in 2009 and 2010 and the first administrative fine proceedings having been conducted, it proved possible in 2011 to achieve a substantial increase in the number of fine proceedings following successful conclusion of the very extensive investigations. All told, fines to a total amount of over €8,400,000 were imposed in 64 proceedings in 2011. Apart from the undertakings operating the call centres involved, the sectors most heavily involved were the media, telecommunications, insurance and finance.

Large-scale proceedings resulted in administrative fines totalling €1,420,000 being imposed against just one undertaking, which had engaged a large number of call centres. In addition fine notices totalling €1,164,000 were delivered to ten call centres which were contracted or subcontracted to the undertaking in question. The undertaking transmitted hundreds of thousands of consumers' data records to the call centres. One call centre, for example, received 370,000 data records for an advertising campaign lasting about four months. Of the consumers' grants of consent which were submitted during the hearings of the undertaking and the contracted call centres, not a single one was legally effective. Most of them had been bought from a data dealer and proved to be inadmissible general declarations of consent, some of them up to ten years old.

Other proceedings too made it clear that the undertakings concerned have a problem when they are required to present effective declarations of consent by consumers to cold calls. In very many cases both the address data of the parties called and their purported consent are obtained from data dealers. As a rule the forms of consent that were submitted did not fulfil the requirements of either statute law or case law. Consequently the Bundesnetzagentur held them to be legally ineffective.

What often made the consent inadmissible is the degree of explicitness required. The law stipulates, among other things, that any consent given by consumers must refer expressly to the advertising of a particular product or particular service and/or a particular undertaking. Generalised statements of consent to cold calls for a number of products and services and for undertakings from various sectors, such as are frequently sold, together with address data, by data dealers, do not, in the Bundesnetzagentur's view, suffice.

In the great majority of the proceedings the undertaking entered an objection with the Bundesnetzagentur. In cases where the Bundesnetzagentur decided not to allow the objection, the fine proceedings were handed over to the

state prosecutors for forwarding to the competent district court. The subsequent primary proceedings mean that such cases take a good deal longer to complete. In 2011 the number of proceedings rendered final and absolute was 17.

Calls to which criminal law is applicable

A large number of the complaints received about cold calls referred to circumstances relevant to criminal law, for which the public prosecutors alone are responsible. Most such complaints were about so-called phishing calls. The term phishing is used for calls which attempt, on some pretext or other, to obtain the subscriber's bank account details so as to be able to withdraw money from the account. A ploy frequently used is to tell the subscriber that he (or she) has entered a prize competition and that, for the alleged contract to be terminated, it is necessary to check the account details.

In such cases, where there are grounds for suspicion of a criminal offence, it is the relevant prosecuting authorities that are responsible. What the Bundesnetzagentur does is to forward the results of its investigations to the competent state prosecutors. This was done in 79 cases in 2011; the Bundesnetzagentur's investigations were in response to a total of about 8,500 complaints from consumers.

The Bundesnetzagentur also regularly recommended that the consumers concerned should be very careful with their personal data (phone numbers and other contact data, but first and foremost their bank account details). Such data should be disclosed only when absolutely necessary and only to firms or contract partners known to be of good repute. A close check should also be kept on movements in the consumer's bank account. The police or the public prosecutors should be informed if there are any signs or indications of criminal acts.

Telephone calls "on behalf of the Bundesnetzagentur"

Since early 2011 the Bundesnetzagentur has had an increasing number of complaints from consumers about unsolicited calls from callers who falsely posed as employees of the Bundesnetzagentur. During these calls, purportedly on behalf of the Bundesnetzagentur, consumers were offered subscriptions to magazines or the deletion, for a charge, of personal data for prize competitions which the consumer had allegedly entered.

During the review period, therefore, the Bundesnetzagentur stated that it had not itself made any cold calls to consumers, nor had it contracted third parties to do so. The callers had evidently sought to make their calls seem above board by claiming to speak on behalf of the Bundesnetzagentur. As a rule the provisions of criminal law are applicable to such calls, which in many cases constitute a form of phishing. The Bundesnetzagentur has reported these calls to the police.

ACTIVITIES OF THE RADIO MONITORING AND INSPECTION SERVICE

The Bundesnetzagentur's radio monitoring and inspection service (PMD) makes an important contribution to consumer protection. It is the primary job of the PMD to ensure both the efficient, nation-wide and interference-free use of the frequency spectrum and electromagnetic compatibility with the environment (EMVU), and to do so it uses not only cutting-edge stationary and mobile measuring technology but also the Bundesnetzagentur's service centres at

many locations in Germany. The PMD's complex and comprehensive radio monitoring and inspection activities include eliminating interference, monitoring frequency use, market surveillance, EMVU measurements and the identification but not allocation of frequency use. Some of these duties can only be performed efficiently in the context of international cooperation.

Interference elimination

Dealing with cases of electromagnetic and radio interference (investigating interference) continues to be one of the PMD's core tasks. This activity is particularly concerned with the safety-related radiocommunication services and applications used by the aviation sector, the authorities and organisations concerned with public safety (BOS) and other public bodies. Depending on the needs of particular cases, purpose-built monitoring vehicles and various specially equipped vehicles are used, in addition to stationary measurement and direction-finding stations, in order to identify both domestic and foreign sources of interference.

All told, some 7,000 service engineer operations to eliminate interference had to be carried out in 2011. Of particular importance was the elimination of interference in safety-related radiocommunication services, with well over 300 cases affecting aeronautical radio alone, and the latter cases are given top priority by the PMD. Only a relatively small proportion concerned electromagnetic incompatibilities in other electrical and electronic equipment, eg faulty heating controls.

In 2011 frequent reports were received from operators of UMTS networks in the conurbations that other frequency use impairs the services of their base stations, preventing them from meeting their network quality parameters. This problem has worsened in recent years. The PMD's technical checks revealed that the sources of interference include satellite receiving equipment with insufficient attenuation of interference radiation and cordless telephones (DECT phones) transmitting in the UMTS reception band because of faulty equipment. Those responsible for the sources of interference are required to remove them.

At certain selected events in 2011 the PMD was present on the spot and was thus able to identify the cause of any interference during or (potential interference) even before the event itself, which helped to ensure trouble-free radio and TV broadcasts of important events. It is also vitally important that the organisers and security organisations present at such events can communicate without interference.

The Bundesnetzagentur has a satellite radio monitoring station specially designed to eliminate interference with satellite radio transmission. This is of direct benefit to consumers who use satellite receiving equipment or GPS navigation systems. The measuring station also performs a number of functions directed at the trouble-free and efficient use of communication and broadcasting satellite systems.

Market surveillance under the EMVG and FTEG

The Bundesnetzagentur conducts tests on electrical appliances available on the market. The tests are performed subject to Directive 2004/108/EC on the electromagnetic compatibility of operating equipment (EMC Directive) and Directive 1999/5/EC on radio equipment and telecommunications terminal equipment

(R&TTE Directive). These two Directives were transposed into national law by the Electromagnetic Compatibility Act (EMVG) and the Radio Equipment and Telecommunications Terminal Equipment Act (FTEG). In fulfilment of its market surveillance function the Bundesnetzagentur checks whether the appliances meet basic requirements. This is done on the basis of spot checks and by examination of documentation or, when required, by laboratory tests. The principles of risk assessment are taken into account.

As the responsible market surveillance authority the Bundesnetzagentur was informed by customs authorities about 2,821 shipments which were suspected of being in breach of statutory provisions (one shipment can contain a number of different products). In 80 percent of these cases it was possible for the customs to effect a permanent cancellation of approval for the non-compliant products to be bought and sold freely on the EU market. The products may therefore not enter the market in their current form.

More and more goods are now being sold on the internet, which means that online market surveillance is also gaining in importance. The Bundesnetzagentur has now concluded agreements with all the reputable internet platforms enabling the platform administrators to remove illegal products from an offering at short notice and thus eliminate the risk of their being placed on the market.

The Bundesnetzagentur does its market surveillance in this segment in cooperation with various internet platforms. In 2011 it identified a total of 109 providers of non-compliant products, 88 of them from EU member states and 21 from third countries. The collaboration made it possible to block a total of 214 offerings, covering altogether 10,025 non-compliant products.

Other market surveillance activities involved measuring or administrative tests on 2,579 series/single devices. 1,771 of these devices came under the EMC Directive and 808 under the R&TTE Directive. Deficiencies in respect of CE marking and other administrative requirements were found in 277 devices under the EMC Directive and in 430 devices under the R&TTE Directive.

768 series and 297 single devices were tested using measuring equipment. 229 series and 66 single devices tested positive in the sense that they failed to meet prescribed requirements, a percentage rate of 34% and 22% respectively. The testing focused mainly on radio sockets and radio-controlled toys.

During 2011 a total of 620 follow-up measures aimed at restricting market activity were taken on non-compliant products (267 sales bans and 353 notices of assessment).

Under the terms of an administrative agreement with the Federal Environment Agency (UBA), the Bundesnetzagentur also checks that marking conforms to the requirements of Directive 2002/96/EC on waste electrical and electronic equipment (the “Electrical Scrap Directive”). 360 checks were carried out in 2011. Notice of radio equipment which operates on frequencies whose use is not harmonised throughout the EU must, in pursuance of the FTEG, be filed with the Member State authorities responsible for frequency management at least four weeks before it is intended to be placed on the market. The Bundesnetzagentur gives the persons placing it on the market infor-

mation on the type of frequency assignment necessary for the operation of the radio equipment (general or individual assignment) and, where appropriate, specifies any existing restrictions on frequency use in Germany. The number of such notices processed by the Bundesnetzagentur averaged 100 per month in 2011.

At EU level the Bundesnetzagentur works with the ADCO R&TTE on product risk assessment. In 2011 this collaboration took the form of participation in a one-year test phase of a risk assessment procedure developed by ADCO as a framework for joint market surveillance operations. Development work is currently being done on suitable procedures for assessing the risks inherent in a specific product or product group.

Electromagnetic compatibility and the environment

The number of visits to the Bundesnetzagentur's internet portal for electromagnetic fields (EMF) continued at a high level in 2011. Members of the public often use the EMF database as an aid for monitoring the installation of new radio transmitter stations in their neighbourhood, or alterations to an existing station, and send their questions to the email address provided for the purpose. This kind of transparency has prevented a great deal of misunderstanding and incorrect information and thus made the EMF debate more businesslike.

Particular interest was focused, in 2011 too, on the automatic measuring system for recording the local immissions of radio transmitting equipment. The system makes it possible to record the field strength of such equipment round the clock, and the degree of observance of immission limits can then be accessed on the Bundesnetzagentur's websites. 14 such systems were set up at the request of local authorities or state environment ministries, to enable them to answer questions on immission levels at various times of day.

To operate a new installation or to alter radio transmitting equipment which is subject to official approval, it is necessary to obtain a certificate of safety from the Bundesnetzagentur as proof of compliance with the limits stipulated for the protection of persons in electromagnetic fields. Examples of this equipment are digital police transmitters and the new LTE mobile phone technology. In 2011 the Bundesnetzagentur issued a total of 18,352 such safety certificates.

Since spring 2010 it has been possible for the certification to be applied for and issued online. The Bundesnetzagentur can also be informed online that radio equipment has been put in operation or decommissioned. The online facility is basically available to all operators of radio equipment, and so far two mobile network operators have made use of it. More than 15,000 certificates of safety have already been issued online.

Further information can be accessed at the Bundesnetzagentur's EMF website (http://emf.bundesnetzagentur.de/).

DATA PROTECTION IN TELECOMMUNICATIONS AND POST

In 2011 the Bundesnetzagentur continued to monitor compliance with data protection rules. The regulations embodied in the Telecommunications and Postal Acts and the PDSV are designed to protect the confidentiality of postal and tele-

communications services in the context of service providers and their customers and users.

As there are currently no data retention regulations, the retention of telecommunications traffic data is at present governed by the operating requirements of network operators and service providers. The result is that there are very wide differences as regards the extent and duration of data retention by the undertakings. The job of the Bundesnetzagentur in this context is to check on the undertakings' compliance with the statutory limits. At the same time it has started to collaborate with the Federal Commissioner for Data Protection and Freedom of Information on the development of a recommendatory guideline for the undertakings.

The operators of telecommunications systems are required, as a means of providing telecommunications security, to take technical measures of protection under section 109 of the TKG: they have to draw up a security concept specifying the situation of hazard and the relevant protective measures. In 2011 23 new and 34 revised or adapted security concepts were submitted and the Bundesnetzagentur checked, or has yet to check, on whether or to what extent stipulations are met. In addition, 35 on-site inspections were conducted on the operating or office premises of service providers and spot checks were carried out on the implementation of their security concepts and compliance with the provisions of data protection law.

Postal services were also monitored in the period under review, with both routine and incident-related checks being made on data protection and the confidentiality of postal deliveries. A total of 805 reports on such checks were generated in 2011. 350 reports referred to incident-related checks, and 19 of these were concerned purely with data protection issues.

As in previous years, 2011 saw the continuation of the successful collaboration between the Bundesnetzagentur and the Federal Commissioner for Data Protection and Freedom of Information. The effect was to achieve effective coordination on policy issues related to data protection.

Dispute resolution

The number of requests for dispute resolution received by the relevant Bundesnetzagentur service in the review year demonstrates the need felt by end consumers for the efficient settlement of disputes by an impartial third party.

The job of the dispute resolution services is to settle individual disputes between the users of postal and telecommunication services and their providers. The services act only after a specific application has been made to them. Applications are held to be admissible if and when the complainant asserts a violation of the rights to which he (or she) is entitled under the TKG or the Postal Services Ordinance (PDLV). It is also necessary for there to be, or to have been, no legal or other arbitration proceedings pending, and for an attempt to have been made beforehand to reach agreement with the respondent. A fee is charged for the use of the dispute resolution service. The fee amount depends on the sum at issue, with a minimum of €25.

Participation in the dispute resolution proceedings is voluntary for both parties. The proceedings have to be closed as soon as one party refuses to participate in them. Hearings of the parties involved are conducted with the aim of reaching amicable agreement, with a view to avoiding legal action. Consumers are therefore offered an efficient means of enforcing their rights. The result of the proceedings largely depends on the extent to which both parties help to clarify the facts of the case and are prepared to reach agreement on a settlement.

TELECOMMUNICATIONS

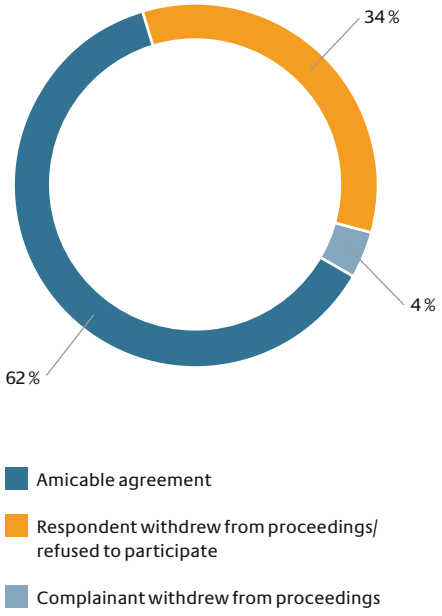
In 2011 the dispute resolution service was requested to conciliate in 678 cases, which meant that the high level of use of the service continued unabated. In addition, the service was sent 217 other requests for help.

The total number of proceedings concluded in the period under review – some of them dating from the previous year – came to 699, about nine per cent of them by way of withdrawal of the request for conciliation. Just over half of the remaining cases (51.9 percent) had to be refused on grounds of inadmissibility, as the disputes submitted did not fulfil the conditions laid down for conducting dispute resolution proceedings (in most cases there was no infringement of consumers' rights under the TKG). This applied in particular to the conclusion, termination and execution of contracts. The amendment of the TKG is intended to have the effect of broadening the scope of the dispute resolution service, so as to enable it in future to deal with a large

number of the cases which are currently being turned down.

In the end the service was able to initiate 276 dispute resolution proceedings. In 95 cases the respondent refused to take part or brought about the closure of proceedings by withdrawing its consent to participation. In the remaining 181 proceedings the dispute resolution service was able to mediate effectively between the parties. Following on the good results of previous years, it achieved agreement between the parties in 94 percent of these cases. There were only isolated cases of proceedings which had been opened having to be terminated because the application was withdrawn.

Results of proceedings initiated 2011



Most of the proceedings had to do with complaints about billing and problems connected with continued use of the same phone number after a switch of provider. Mobile data services accounted for the bulk of the complaints about billing. The fact that many of the functions of smartphones are dependent on an internet connection meant that the rates which had been agreed before the consumer acquired a new mobile device were in a number of cases no longer reasonable, with the result that extremely high costs were incurred within a short time.

End users continue to see the ability to retain the same phone number as a cardinal consumer right. 33 percent of the initiated dispute resolution proceedings featured problems in this area. The large majority of the requests for dispute resolution – 70 per cent – were in relation to the landline service. The upcoming amendment of the TKG will contain provisions designed to eliminate to the greatest possible extent any future interruption of service.

POST

2011 saw 22 applications being made for the resolution of disputes over postal services. 13 proceedings were opened, and five of them were successfully concluded. Five were unsuccessful in the sense that the parties failed to reach agreement. Three proceedings have not yet been concluded. Eight requests for the resolution of a dispute had to be turned down because the conditions for the opening of proceedings had not been met. One application was withdrawn.

TABLE OF CONTENTS CHAPTER

TABLE OF CONTENTS

International Cooperation

TABLE OF CONTENTS CHAPTER

Telecommunications

2011 was the year the BEREC Office was inaugurated in Riga and the Bundesnetzagentur engaged in intensive cooperation in the Body of European Regulators (BEREC) and IRG working groups. In this context significant progress was made in areas such as next generation networks, net neutrality and international roaming.

REGULATORS' GROUPS: BEREC/BEREC OFFICE

These days many of the decisions taken by the Bundesnetzagentur at the national level are based – either directly or indirectly – on European rules and agreements. This state of affairs is reflected in the importance now attached to intensive participation in European regulators' groups. In the telecommunications field close cooperation takes place in particular in the Independent Regulators Group (IRG) and - since 2010 - in the Body of European Regulators for Electronic Communications (BEREC).

BEREC is made up of a Board of Regulators composed of high-level representatives of the national regulatory authorities (NRA) and a separate secretariat (Office) which provides BEREC with administrative support and which is subject to supervision by a Management Committee in which all NRAs and the Commission are represented. BEREC develops regulatory best practices, such as common approaches, methodologies or guidelines on the implementation of the EU regulatory framework by NRAs. BEREC also issues opinions on actions planned by the European Commission and produces reports on issues relevant to the sector. The BEREC Office began work at its location in Riga on 14 October 2011. The body's envisaged contingent of 28 staff should be complete during the course of 2012.

NEXT GENERATION NETWORKS – PROJECTS

"BEREC Report on the Implementation of the NGA Recommendation"

The "BEREC Report on the Implementation of the NGA Recommendation"[1] published in October 2011 reviews progress made on implementing the NGA Recommendation issued by the European Commission on 20 September 2010 in the Member States. Since the NGA Recommendation came into force 13 and 10 Member States have submitted notifications for market 4 and 5[2] respectively. The report confirmed that different Member States are in fact following different NGA deployment strategies which make varying use of own infrastructures and of active or passive

[1] BoR (11) 43.

[2] Commission Recommendation (2007/879/EC).

wholesale products. Specific circumstances in different countries call for expansion measures which are tailored to national markets. As it is still early days as far as the regulation of NGA networks is concerned, there is very little experience available as yet about the impact on incentives to invest and on competition.

BEREC was able to draw some tentative conclusions. Unbundled access to the fibre loop has been mandated for Fiber-to-the-Home (FTTH) networks in ten Member States (including in Germany), for example, and to the terminating segment in these networks in five countries. Another five countries plan to impose obligations in parallel.

The pursuit of different strategies and national specificities mean that regulating significant market power has become a more complex task. What is more, the roll out of NGA is bound up with considerable uncertainties in terms of demand, willingness to pay, potential revenues and NGA market penetration. At the same time, there is a growing variety of local market conditions. In most countries, for example, former monopolists ("incumbents") are not rolling out uniform infrastructure and more and more local fibre networks are being rolled out by municipalities/local authorities and/or utilities. In this respect the question is whether increasing fragmentation and heterogeneity will lead to the emergence of local monopolies to which regulators may then have to respond.

In BEREC's view, fulfilling the NGA Recommendation does not imply imposing all the remedies in all Member States. Instead, suitable combinations will be found to remedy the competition problems identified. BEREC therefore takes the view that it is as yet too early to define best practice.

Report: "Next Generation Access – Collection of Factual Information and New Issues of NGA Roll-out"

The "Next Generation Access – Collection of Factual Information and New Issues of NGA Roll-out"[3] report published in February 2011 updates the country case studies published in 2009[4]. One of the aims was to identify recent developments with regard to the deployment of NGA networks by incumbents and competitors and to address the status of broadband roll-out in view of the European Commission's Digital Agenda.

Most countries have launched national initiatives and measures - with specific defined targets - aimed at promoting next generation broadband roll-out. In Germany, for example, the target is to provide 75% of the population with broadband of at least 50 Mbit/s by the year 2014. In many countries, the target date for the provision of high-speed Internet services is between 2015 and 2020. Public funding is available for this purpose - particularly for rural areas. Alongside Germany, some MS have also set up expert groups to promote the development of NGA networks and to deal with the practical challenges involved (such as the interoperability of wholesale products).

Differences between countries in terms of the status of NGA roll-out reflect differences in factors such as the degree of infrastructure competition, costs (population density, topology) or providers' rollout strategies. It was not

[3] BoR (11) 06.

[4] BoR (11) 17b.

possible, however, to reach an overall assessment on the extent to which national broadband targets have been reached given that, in most cases, such plans were only made in 2009 or 2010 and most NGA targets are medium term in nature (in many countries going up to around 2015).

While countries have set themselves ambitious rollout and broadband targets it is also the case that actual take-up of NGA high-speed broadband services falls significantly short of the NGA network coverage already available. This is probably due to two factors: a limited willingness to pay a premium for very high-speed services and the lack of killer applications that strictly require speeds of 50 or even 100 Mbit/s.

OPEN ACCESS

BEREC published a report in February 2011[5] which primarily addressed the open access obligations arising from the "Community Guidelines for the application of State aid rules in relation to rapid deployment of broadband networks" published by the European Commission on 17 September 2009. This describes obligations and other forms of access, including "classic" regulated access under the European regulatory framework.

In most Member States specific decisions regarding access obligations are made by the same authorities by which state aid is provided. Under the State aid guidelines Member States should consult the relevant NRA when setting conditions for wholesale network access. However, in many countries the regulatory framework which would allow NRAs to set access conditions is not in place. Member States consequently hold different views on whether or to what extent NRAs should be involved in issues concerning State aid. The report presents case studies on the involvement of NRAs with State aid in France and Spain.

Obligations which arise when State aid is granted are entirely independent of obligations based on significant market power. In particular, if open access is mandated in return for State aid this does not restrict the powers of NRAs to impose access obligations under the European regulatory framework.

The report also looks at other forms of open access: Bearing in mind the prohibition of vertical agreements and concerted practices under European law, consideration is also being given to access obligations in the form of antitrust regulations which would also apply in regulated sectors[6]. Voluntary forms of open access diverge depending on whether the company granting access has significant market power or whether it is vertically integrated or not. Incentives to provide a voluntary offer of open access are also influenced by these factors.

BEREC response to EC questionnaire on the revision of the State aid guidelines

Based on the open access report, in October 2011 BEREC published its response to the European Commission's questionnaire on the current revision of the State aid guidelines[7] in which it emphasises the fundamental importance of guidelines for increased legal certainty and the avoidance of competitive distortions. BEREC's

[5] BoR (11) 05.

[6] Art. 101 of the Treaty on the Functioning of the European Union.

response also assesses the guidelines in the light of sluggish demand for newly developed services.

The extension of NGA aid to wireless access technologies is considered in the context of the principle of technological neutrality and coherence between guidelines and the NGA recommendation. BEREC's response refers to issues which would have to be taken into account if such expansion were to take place. BEREC comes to the conclusion that expansion is not necessary at the present time.

With regard to the extent of access obligations for NGA networks the response also discusses the pros and cons of a proportionality approach, including in particular emphasising the requirements which such a proportionality test would have to meet (case-by-case market analysis, description of potential access products, possibilities of guidelines, experience and expertise of the authority imposing access obligations). At the same time access obligations in a State aid context should on no account lag behind the obligations to which the dominant undertaking is subject.

The document also emphasises the role of regulatory authorities in the process of promoting broadband. While the technical expertise of these authorities with regard to access and rates regulation could provide useful help in contributing to State aid decisions, involving authorities in this way could also lead to different legal and practical problems. Particular importance is attached to the lack of a legal basis.

ROAMING REGULATION

In the run up to the 1 July 2010 reform of the Roaming Regulation the European Commission launched an EU-wide consultation process on the workings of the EU's roaming regulations back in December 2010. The consultation laid the groundwork for the review of existing roaming regulations which the European Commission was required to conclude by the end of the June 2011. Based on its findings from previous years BEREC submitted a statement in February 2011 in order to contribute to the ongoing development of this regulation.

The European Commission finally published its proposal[8] for an amended Regulation on Roaming on 6 July 2011. This will come into force on 1 July 2012 and has been conceived as a long-term regulation which will remain in effect until 30 June 2022. At the heart of the new regulation are two structural measures: the introduction of a general right of wholesale access for mobile virtual network operators (MVNOs) and resellers as well as the proposal to separate the sale of roaming services and other services (decoupling). The approach which has been applied to date, using a glide path for regulated price ceilings, should be retained and a new "safeguard cap" introduced as well for data services at the retail level. BEREC published its analysis of these proposals and, in particular, expressed its view on the new structural approaches in August 2011. The Office argued for the introduction of a general access obligation. However, it must be possible to reflect different cost structures in prices by differentiating between full MVNOs, MVNOs

[7] BoR (11) 42.

[8] European Commission proposal (COM (2011) 402).

and resellers without their own network. No special technical implementation should be mandated; instead, market players – for the most part mobile telecommunications companies – should work out a technical solution themselves, whereby BEREC would draw up guidelines for this purpose. Negotiations were launched in the European Parliament (EP) and Council under Polish Presidency and will be continued under the Danish presidency with the aim of passing the reform in its first reading by mid-2012.

OTHER STATEMENTS OF POSITION BY BEREC

At the end of 2011 BEREC issued detailed statements expressing its view on the Commission consultations launched in October 2011 in the field of innovations in telecommunications. The main focus of these consultations was the facilitation of non-discriminatory access to the services and infrastructure of dominant telecommunications operators for alternative providers. An assessment was also undertaken of the cost accounting method used by NRAs to calculate the prices payable for access products, access to the local loop or for bit stream access at the wholesale level. The European Commission's decision-making process is due to be completed in early 2012 and may take the form of two recommendations.

The BEREC response also provides an overview of the most important principles which should be applied when selecting the appropriate accounting method. BEREC has also drawn up a decision-making matrix which can be used as an analytic framework when selecting an accounting method. The content of the response takes up where the previous papers (including the report on Regulatory Accounting in Practice 2011) left off and emphasises the flexibility of the NRAs and their ability to choose the suitable method from the entire range of available instruments.

With regard to "non-discrimination" BEREC advocates that vertically integrated operators with significant market power should provide other undertakings which provide equivalent services with services and information under the same conditions and of the same quality as they provide for their own products or those of their subsidiaries or partner undertakings. Exceptions to this principle might be justified for objective reasons only. In order to put this principle into effect, where justified, particular attention was given to the availability of the wholesale product in the run up to a retail product based on it. Other issues were the specification of wholesale switching processes, access to equivalent information systems and service agreements, service guarantees and key performance indicators (KPI).

BEREC also specified in detail the role it plays in "Article 7/7a notification procedures" and issued two corresponding statements. At the end of 2011 - and for the first time since the expiry of the implementation deadline of the new EU regulator framework in the telecommunications field - the European Commission expressed serious doubts about the conformity with EU law of two regulation measures planned by the Polish NBA (UKE). Under the new provisions BEREC will be involved in this procedure and asked to give an opinion. In both cases BEREC basically shared the doubts voiced by the European Commission.

Postal services

Drawing on its many years of national experience in the regulation of postal services the Bundesnetzagentur is committed to strengthening cooperation at the European and international level and actively contributes its expertise in various projects and workshops.

UNIVERSAL POSTAL UNION

The meetings of the Post Operations Council in April 2011 and of the Council of Administration in November 2011 were both primarily concerned with the preparation of the 25th Universal Postal Congress in Doha (Qatar) in 2012. The envisaged key strategic objectives on which the Universal Postal Congress must decide are the development of the physical and electronic networks used for postal services, the improved interoperability of these networks, improved technical know-how and sustainable development.

As was the case in the previous two years, the Council of Administration provided a forum for postal regulation which enabled member states to exchange views about current regulatory issues in the postal sector in particular. The main topics of discussion were the role and significance of regulation in an age of liberalisation and electronic substitution as well as the definition of a sector-specific regulatory framework for the sustainable development of the postal sector.

The Bundesnetzagentur presented the German universal service model at a meeting of the "Universal services" project group in the context of the Commission 1 on "Regulatory issues" chaired by the Federal Ministry of Economics and Technology (BMWi). The model in which universal postal services are provided by all the actors active in the market rather than a designated operator met with great interest.

REGULATORY BODIES AND EXPERT GROUPS

CERP/CEPT/CEN

As a committee of the European Conference of Postal and Telecommunications Administrations (CEPT) the European Committee for Postal Regulation (CERP) is responsible for regulatory policy in the postal sector. 48 European countries are members of CEPT (and consequently of CERP). Germany is represented by the Federal Ministry of Economics and Technology (BMWi); the Bundesnetzagentur acts autonomously in certain areas, in consultation with the BMWi. CERP has been chaired by the Bundesnetzagentur since May 2008 and its chairmanship (and consequently its management of the secretariat) was confirmed in 2011.

TABLE OF CONTENTS CHAPTER

A key focus of CERP's activities is on assisting new EU Member States to establish all the mechanisms of the EU internal market. Other primary CERP tasks are cooperating with the European Commission and the Universal Postal Union.

The chairmanship of the newly established Policy and Universal Postal Union working groups and the vice-chairs of the CERP were elected at the 44th Plenary in Dublin in May 2011. The 45th Plenary took place in Montreux in October 2011.

The WG Policy prepared a questionnaire which asked all CERP members to provide a critical commentary on existing regulations in the Postal Services Directive to sound out views on future regulation. Initial findings will be available at the end of 2012. The WG UPU concentrated on preparing the 2012 Universal Postal Congress and set up a special sub-group for this purpose whose task is to evaluate proposals received and to come up with European positions on areas of regulatory relevance. As the body which represents the postal interests of member countries CERP takes regular part in conferences of the European Commission's Directives Committee.

CERP is one of CEPT's three autonomous business committees. The other two are the Electronic Communications Committee (ECC), which is also chaired by the Bundesnetzagentur, and the Committee for ITU Policy (Com-ITU), which is chaired by Sweden. Since the reorganisation of the CEPT, which was completed in spring 2009, the chairmen of the three committees have formed the joint presidency. CEPT held its general assembly in Copenhagen in December 2011 at which the experiences over the last two years were presented and the new structure was confirmed.

As a "closely related association" of the Universal Postal Union CEPT takes part in conferences held by the Council of Administration and the Postal Operations Council and actively supports other member countries. In tandem with the Universal Postal Union's International Bureau CERP has stepped up its efforts to explain the "philosophy" and fundamental principles of liberalisation and regulation in the member countries and to bring these into line with or implement these in specific national situations. In the run up to the launch of a comprehensive postal reform a project was run in Swaziland in August 2011 and a regulatory workshop held by the Bundesnetzagentur in Bonn in November 2011 which was attended by 23 representatives from various African countries.

The European Committee for Standardisation's (CEN) Technical Committee 331 (TC 331), which is regularly attended by a representative of the Bundesnetzagentur, draws up standards for postal services. Turkey became the 32nd member on 1 January 2012. CEN/TC 331 is made up of five working groups: Quality of service, Hybrid mail, Automatic identification of items - Addresses, Physical characteristics and forms for the improvement of postal networks and quality of service and Apertures in letter boxes.

CEN/TC 331 works closely on the development of standards with the European Commission and the Universal Postal Union. In 2011 the work of CEN/TC 331 again concentrated on the implementation of the European Commission's M 428 standardisation mandate of 9 October 2008. Under this mandate the European Commission launched eleven new projects: nine in the field of quality of service and one each in the fields of hybrid mail and the automatic identification of items and addresses.

From a regulatory perspective, the revision of EN 13850 (Standard for the measurement of transit time of end-to-end services for single piece priority mail and first class mail) and the ongoing development of EN 13850 in a multi-operator setting and the measurements for component services are especially important.

Committee under Art. 21 of the Postal Services Directive

This committee, which assists the Commission in its work, meets twice a year. Germany is represented by the Federal Ministry of Economics and Technology (BMWi); the Bundesnetzagentur also takes part. In 2011 the committee and additional working groups dealt in particular with the implementation of the third Postal Services Directive (2008/6/EC) and preparations for the Universal Postal Union due to be held in 2012. The results of two studies undertaken on behalf of the Committee in three workshops were also presented, including a method for improving the measurement of consumers' postal service preferences and a study of cross-border parcel services within the Community. The Bundesnetzagentur contributes the experience it has acquired in the context of the full opening of markets since 2008.

ERGP

The 2nd Plenary of the European Regulators Group for Postal Services (ERGP) was held in Paris on 24 November 2011. This Group was established in a Commission Decision in 2010 and is based on previous bodies: the ERG (telecommunications) and ERGEG (energy). Elections to leading positions in the body were held during the event: Göran Marby from the Swedish regulator PTS took over the Chair from its previous holder Joelle Toledanol, commissioner with the French regulator ARCEP. Göran Marby will be supported by the Vice-chairs Marie-Laure Denis (ARCEP) and Luc Hindryckx (BIPT, Belgian regulatory authority).

The ERGP also submitted first reports by its five sub-groups for approval to the presidents of the EU Member State NRAs. The issues of allocation of common costs/regulatory accounting and costs of universal obligation/VAT exemption were presented in the form of reports which had already been made available to the public for consultation. Two public reports from the End user satisfaction and monitoring of market outcomes sub-group were also accepted while reports from the other sub-groups were adopted as internal reports on which further work needed to be done. The Bundesnetzagentur chairs the "Access sub-group".

The Work Programme for the year 2012 was also adopted. The envisaged focus is on allocation of costs/regulatory accounting, cost calculation of universal services obligation/VAT exemption, end user satisfaction and monitoring of market outcomes, cross-border products and services and access regulation.

Electricity and gas

With the establishment of the Agency for the Cooperation of Energy Regulators (ACER) and the transposition of the Third Energy Package into national law the instruments for the completion of the internal energy market by 2014 are now available. The Bundesnetzagentur is providing intensive assistance for cooperation between national regulatory authorities in the framework of ACER as well as for the continuing work of the Council of European Energy Regulators (CEER).

ACER

ACER officially launched its operative activities in Ljubljana following the full adoption of the Third Internal Energy Market Package on 3 March 2011. The Bundesnetzagentur is a member of the Agency's Board of Regulators and vigorously represents the interests of the German energy market in the Agency's working groups thereby ensuring that adequate weight is given to the German energy market at the European level.

The European Regulators' Group for Electricity and Gas (ERGEG), which was set up in 2003, was disbanded by the Commission after its official consulting functions had been taken on by ACER in July 2011. In the framework of ERGEG and in consultation with the European Commission the regulatory authorities decided to make use of the almost two-year transitional period between the adoption of the Third Internal Energy Market Package in 2009 and its complete adoption in 2011 to undertake preparatory work to enable the Agency to begin its work quickly and to act as if the Agency had already begun working.

This approach allowed the Agency to publish two framework guidelines on electricity grid connection (electricity) and capacity allocation mechanisms (gas) prepared by the ERGEG as early as 3 March 2011 for public consultation. ACER's framework guidelines form the basis for the development of network codes by the transmission system operator associations ENTSO-E and ENTSOG. The Commission is empowered to enact grid codes as implementing measures through the comitology procedure. Drawing on previous experiences regulators subjected the internal procedure in which framework guidelines are drawn up to a review and made corresponding recommendations to ACER and the Commission.

The energy regulation authorities based their cooperation in ACER entirely on the aim of completing the internal energy market decla-

red by the heads of state and government in the European Council on 4 February 2011. To this end they have agreed a three-year plan with the Commission and the transmission system operator associations which defines the sequencing of each of the framework guidelines and grid codes.

Over the last twelve months the Agency has enacted three other framework guidelines on capacity allocation and congestion management (electricity), on system operation (electricity) and on accounting (gas). The energy regulatory authorities also issued formal opinions in 2011 on ENTSOG's Community-wide ten-year network development plan and on ENTSO-E and ENTSOG statutes and rules of procedure. In 2011 the Agency also assumed responsibility from ERGEG for the regional initiatives. These will continue to play an important role in the future in the ongoing integration of energy markets. In April 2011 the Commission asked the regulatory authorities to draft work plans at the regional level focusing on the goal for 2014. In this context the Bundesnetzagentur assumed responsibility for the "Cross-regional roadmap on market coupling". This roadmap was approved by the Florence Forum in December 2011.

Under Regulation 1227/2011/EU on wholesale energy market integrity and transparency (REMIT) of 25 October 2011 both ACER and the NRB took on new implementation tasks, including market monitoring in particular. The NRAs assist ACER in identifying the tasks arising from the directly relevant insider trading and market manipulation rules and prohibitions as well as corresponding publication obligations.

CEER

The Bundesnetzagentur has been a member of the independent Council of European Energy Regulators (CEER) since 2005. CEER will continue to operate even after the founding of ACER and will focus more strongly on issues for which ACER is not responsible. This concerns issues such as consumer protection, regulatory aspects of retail markets, promoting the use of renewable energies and international cooperation. At the same time CEER supports the work undertaken by the Agency in a number of ways.

In the first six months of 2011 CEER was involved in intensive dialogue with the Commission on the regulatory aspects of the energy infrastructure package presented on 19 October 2011. In a series of workshops regulators and representatives of the Commission discussed the extent of the required investments, the financial viability of projects undertaken by the operators of transmission system operators, the role of innovative funding mechanisms and specific proposals for speeding up planning and approval procedures. CEER also took part in a consultative procedure with the Directorate-General for Economic and Financial Affairs on the topic of project bonds. Under the chairmanship of the Bundesnetzagentur CEER prepared a comparative overview of investment conditions in the framework of national rates regulation systems.

The preparatory work undertaken over many years by energy regulation authorities in the framework of CEER and the Financial Services Working Group on improving the transparency and integrity of energy trading was recognised in the "Energy Transparency Award" which was given by the Florence School of Regulation in 2011. CEER also focused on combating VAT fraud

in energy trading and - together with eight industry associations for the energy sector and dealers - published a joint statement proposing a series of preventive measures.

CEER responded to the decision taken by the federal government in March 2011 to shut down the country's seven oldest nuclear reactors and to take the Krümmel nuclear power plant from the grid by setting up working groups to examine the impact of the moratorium and the final pull out from nuclear energy on Europe's energy economy. It is the fifth time that CEER has produced a benchmarking report on the quality of supplies in the electricity field. A 2011 CEER report on national measures to encourage the use of renewable energies laid the groundwork for future studies of the impact of non-harmonised support measures. Another report discussed the regulatory challenges for the development of electro mobility.

CEER published its finalised "Gas Target Model" in December 2011. This model contains recommendations for the creation of a single European gas market, for the integration of functioning wholesale markets, security of supply and guarantees of the required investment in infrastructure. CEER also contributed to the Commission's proposal for guidelines on gas congestion management based on regulators' recommendations adopted under ERGEG; this proposal will subsequently go through the comitology procedure.

In connection with consumer protection and retail markets CEER identified the regulatory requirements for intelligent measuring equipment and issued recommendations for the handling of load management measures/offers in the retail market. The Association also worked with the European Commission's Directorate General for Health and Consumers to define the requirements for a dispute resolution service in the energy sector.

CEER members informed each other about the status of transposition of the Third Internal Energy Market Package into national law and progress achieved on certifying transmission system operators.

Dialogue with strategically important partners continued in the framework of the International Strategy Group (ISG) and the international positions of the CEER were coordinated. This was particularly the case with regard to the strengthening of the role of European regulators at the international level. Particular attention was paid to ongoing developments in European energy foreign policy; in this field ISG assumed an active co-determining function. Common regulatory practices also needed to be developed by sharing experiences and drawing up best practices. This was exemplified by discussions with the Russian regulator (Federal Tariff Service, FTS) and collaboration with the states in the Commission's Eastern Partnership Platform. There was also close bilateral exchange with other regulatory organisations and authorities (AFUR, ARIAE, NARUC, MEDREG, FERC).

Railways

2011 was the birth year of the Independent Regulators' Group - Rail (IRG-Rail) which was chaired in its first year by the President of the Bundesnetzagentur. IRG-Rail began working successfully and published its first position papers on important issues, including on proposals made by the European Commission on the revision of the European legal framework and Regulation concerning a European rail network for competitive freight which entered into force in 2010 and on market monitoring.

IRG-RAIL REGULATORS' GROUP

The Bundesnetzagentur launched an initiative in 2010 with the NRAs of the United Kingdom, the Netherlands, Austria and Switzerland to strengthen cooperation between the independent regulatory authorities in the rail sector. The Independent Regulators' Group – Rail (IRG-Rail)[9] was established with the official signing of the Memorandum of Understanding in the Hague on 9 June 2011 and Matthias Kurth was elected as the new body's first chairman. The IRG-Rail is a forum in which independent rail regulatory bodies in 17 countries are able to share experiences and discuss common problems. The aim is to develop best practices and common approaches and to thereby safeguard strong and consistent regulation in Europe.

The work which IRG-Rail plans to undertake by the end of 2012 is defined in a work programme[10] on the basis of which five working groups cover the following key topics: first package recast, rail freight regulation, market monitoring, economic equilibrium und charges. The working groups published several position papers in IRG-Rail's first year. A position paper[11] on the Commission's proposals for the recasting of the first railway package appeared on 9 June 2011 and a critical position[12] agreed on the discussion of a European regulator in the rail sector on 6 September 2011 which was prepared by the Recast working group under the leadership of the Bundesnetzagentur.

The Bundesnetzagentur received the presidents and experts of the members to the second plenary assembly in Bonn on 28 and 29 November 2011. The delegates adopted a new position paper[13]

9 www.irg-rail.eu.
10 IRG-Rail (11) 3.
11 IRG-Rail (11) 4.
12 IRG-Rail (11) 5.
13 IRG-Rail (11) 6.

on the recast of the first railway package, a prompt reaction to the first reading by the European Parliament on 16 November 2011. This IRG-Rail paper expresses support for the legislative proposals to strengthen the independent rail regulatory bodies as a means of ensuring effective and fair regulation. However, a shift of power or a European regulatory body would thwart this goal: such a European body could not be as efficient and accurate as national regulators. IRG-Rail also expressed its concerns about proposals which would affect practical regulatory work such as inflexible decision deadlines or notification processes which would allow the European Commission to review national decisions. The latter could interfere with national legal proceedings and also undermine the concept of strong and independent regulatory bodies.

Delegates also adopted a position paper[14] on Regulation 913/2010/EC which creates nine international rail freight corridors and establishes the organisational rules under which they are set up. Under the chairmanship of the Bundesnetzagentur the relevant IRG-Rail working group first undertook a legal review of the Regulation before defining the fields of work of NRA. The document contains initial findings in the form of joint NRA positions concerning the establishment of corridors and the creation of the necessary administrative structures. The medium-term objective is to prepare a manual of joint regulatory practices. The IRG-Rail plenary assembly also agreed a common list[15] of qualitative and quantitative indicators aimed at increasing the comparability of national rail monitors. The ultimate goal is to publish a common report comparing national results.

COOPERATION IN THE IQ-C

The International Group for Improving the Quality of Rail Transport in the North-South Corridor (IQ-C) continued its corridor-specific discussion in 2011 with contributions from the NRAs in Belgium, Germany, Italy, the Netherlands and Switzerland. Representatives from the Austrian NRA also had observer status to reflect the relationship of the corridor to the Austrian-based Organisation Rail Net Europe.

One key topic was avoiding discriminatory practice in connection with the pre-agreed and defined path for international traffic. The IQ-C identified important aspects which are not taken account of in the European Commission's rail freight traffic regulation manual. The group also concentrated on monitoring competition and market developments in corridor A and the allocation of capacities. The NRAs focused on producing recommendations for improved capacity allocation and procedures for dealing with complaints about capacity bottlenecks.

AMENDMENT OF THE FIRST RAILWAY PACKAGE

On 20 September 2010 the European Commission submitted a proposal to the European Parliament for the improvement of railway services for passengers and rail freight customers. The idea is to promote more competition on the European rail market, to strengthen the powers of NRAs and improve the general conditions for investment.

These objectives of the European Commission should be supported. The proposals address the

[14] IRG-Rail (11) 7.
[15] IRG-Rail (11) 8.

key problems affecting the European rail market in recent years and include a number of sensible and necessary changes which may bring about improvements in national and cross-border passenger and freight transport.

Key issues in this context are strengthening the independence, powers and functions of NRAs. Calls for stronger cooperation between NRAs are also sound and sensible and led to the founding of IRG-Rail. It is essential that best practices and common approaches are developed to ensure consistent regulation in all Member States. In this respect, however, NRAs must be left sufficient flexibility and leeway to modify the panoply of regulatory instruments according to national circumstances or problems. In this connection a European regulatory authority is regarded as neither appropriate nor necessary. The very nature of such bodies is such that there is always a danger that their creation can lead to greater bureaucracy and centralisation. This contradicts and undermines the previous recast approach taken to date: ensuring the necessary coordination and consistency in cross-border rail traffic by strengthening independent national regulators and ensuring cooperation.

The Bundesnetzagentur analysed the status of negotiations in the Council and the amendments proposed by the European Parliament and contributed its position in the relevant bodies and in the IRG-Rail Recast working group in particular. Further consultations will continue in both bodies based on the position of the Council and the European Parliament with the declared objective of enacting the package by mid-2012.

International projects

Partnership with other regulatory authorities as well as close exchange of experience at the European and international level also strengthen all parties' grasp of the work of other bodies while also illustrating that the Bundesnetzagentur is a highly-sought discussion partner worldwide.

INTERNATIONAL COOPERATION AND STUDY VISITS

The Bundesnetzagentur has stepped up its cooperative activities with African postal service regulators within the framework of the Integrated Postal Reform and Development Plan (IPDP).

The Bundesnetzagentur again played host to a number of international delegations in 2011. Representatives from regulatory authorities in countries such as Algeria, China, India, Indonesia, Japan, Korea, Lebanon, Russia and Turkey also contacted the Bundesnetzagentur to find out more about its structure, its collaboration with the Federal Cartel Office and about specific regulatory approaches in all sectors.

In the energy sector international guests were primarily interested in issues concerning renewable energies. In this connection the Bundesnetzagentur provided information about the challenges inherent in the grid and market integration of renewable energies. Another important topic was incentive regulation.

The primary issues in the telecommunications sector in 2011 concerned the rollout of broadband and, more generally, NGN/NGA.

PROJECTS IN THE CONTEXT OF EUROPE

Twinning is funded by the EU and is a means of encouraging partnerships between bodies in EU Member States and public authorities in current and potential accession countries as well as with neighbouring European countries. The objective of twinning projects is to develop public structures in harmony with European administrative practice. Support for partner and neighbouring EU countries in the process of building up administrative structures is provided in the framework of a process of partnership between public administrations in EU Member States and bodies in the partner country.

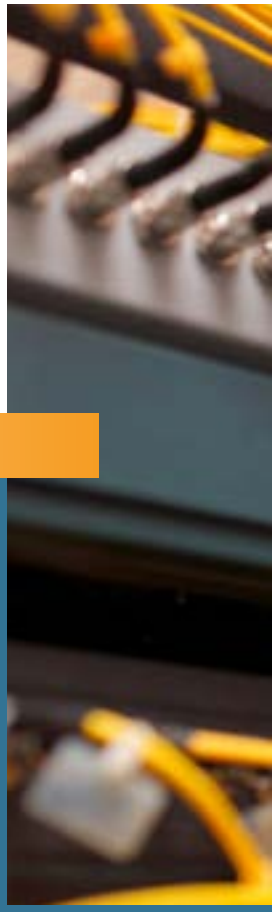
In 2011 the Bundesnetzagentur worked with the Italian regulatory body AGCOM on successfully completing the twinning project with the Egyptian regulatory authority for telecommunications which was launched in 2008. This project focused on the legal framework for the sector-specific regulation of the telecommuni-

cations market and the implementation of defined projects, particularly in the field of market and frequency regulation.

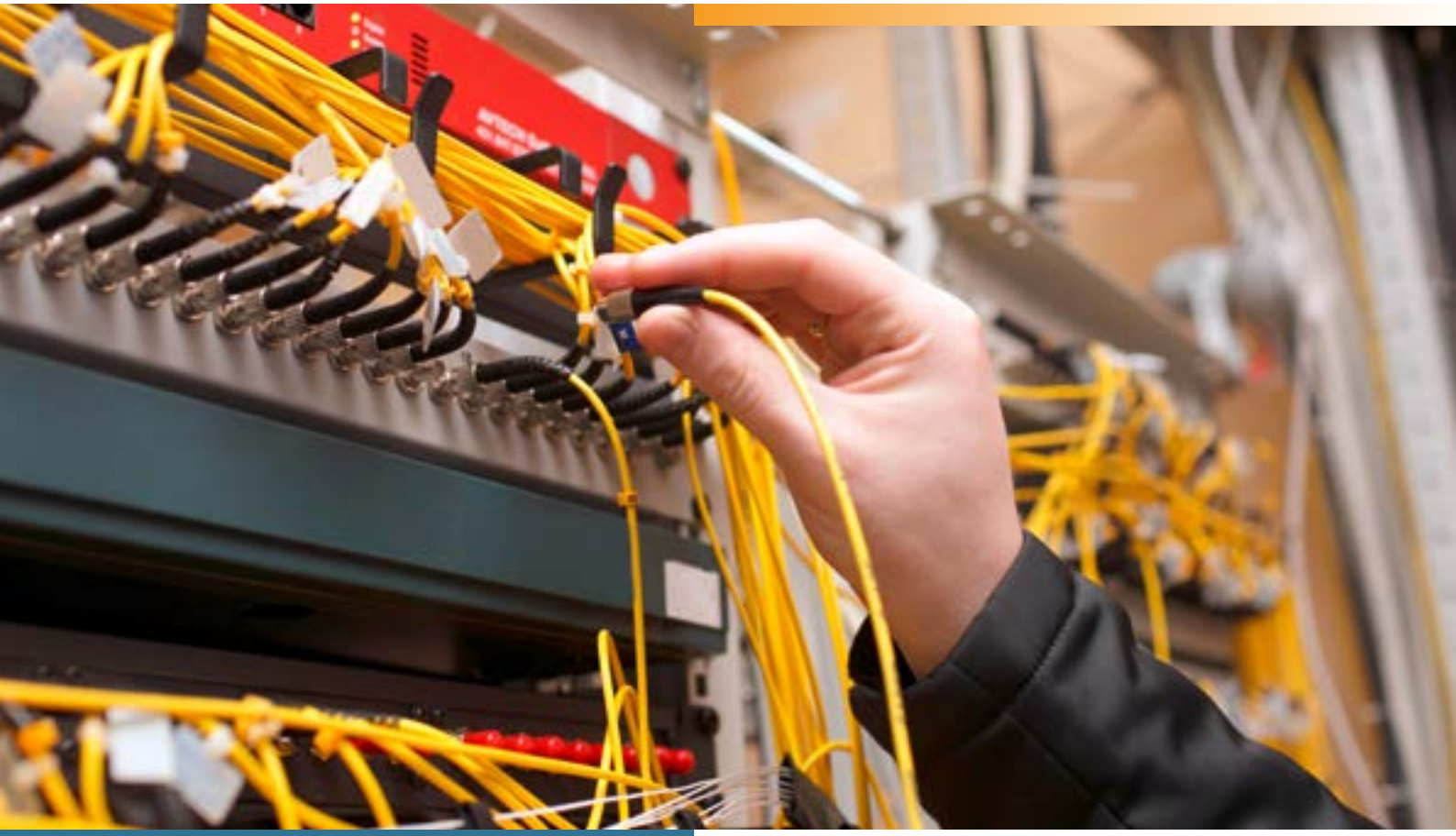
The Bundesnetzagentur also launched a twinning project with the Israeli Ministry of Communication in 2011. AGCOM and the Spanish regulatory body CMT are also involved as the junior partners of the Bundesnetzagentur in the project which focuses on access and rates regulation for NGAs.

Various projects in addition to twinning were performed in 2011 which aimed at drawing countries closer to the European Union in the context of TAIEX projects. This entailed the European Commission assisting countries with regard to approximation, application and enforcement of EU legislation. These projects usually last three to five days and cover a narrowly defined range of issues. In this context the Bundesnetzagentur has sent staff on expert missions and run study visits in Germany. Armenia and the western Balkan countries have so far benefited from this programme.

TABLE OF CONTENTS



Telecommunications



Market watch

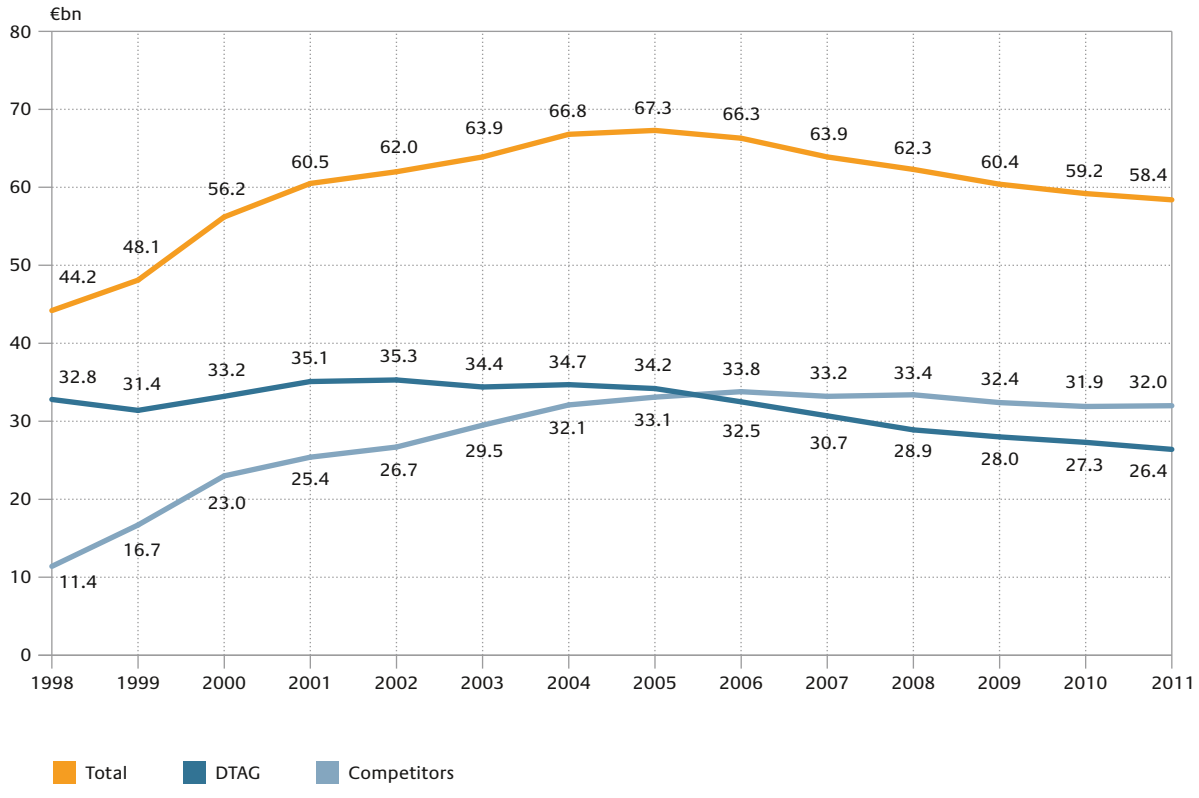
Market share of alternative providers stable – Growth primarily in the cable TV sector – Increasing use of VoIP for landline telephony – Internet use increasingly mobile with growing volumes of data – Steady trend towards bundled service offers

TELECOMMUNICATIONS SERVICES AS A WHOLE

External revenue

At around €58.4bn in 2011 external revenue on the German telecommunications market fell again last year, although the rate of decline has slowed down significantly. Revenues dropped by three percent in 2009, two percent in 2010 and by another 1 percent in 2011.

External revenue on the telecommunications market 1998–2011



Alternative providers earned moderately higher revenues in 2011. Mobile telecommunications and cable operators accounted for the lion's share of this increasingly positive trend.

External revenue by sector 2009–2011

in €bn	2009		2010		2011e	
External revenue on the telecoms market	**60.4**	**Anteil**	**59.2**	**Anteil**	**58.4**	**Anteil**
External revenue in fixed networks	**27.78**	100 %	**26.30**	100 %	**24.32**	100 %
Via retail	21.18	76 %	19.83	75 %	18.54	76 %
Via wholesale	5.79	21 %	5.75	22 %	5.12	21 %
Other external revenue	0.81	3 %	0.72	3 %	0.66	3 %
External revenue based on cable TV infrastructure	**3.55**	100 %	**3.79**	100 %	**3.95**	100 %
Via retail	3.35	94 %	3.58	94 %	3.73	94 %
Via wholesale	0.20	6 %	0.21	6 %	0.22	6 %
Other external revenue	~ 0.00	0 %	~ 0.00	0 %	~ 0.00	0 %
External revenue from mobile services	**25.38**	100 %*	**25.84**	100 %	**26.36**	100 %
Via retail (excluding terminal equipment)	17.67	70 %	17.85	69 %	18.50	70 %
Via wholesale	4.51	18 %	4.39	17 %	3.43	13 %
Via terminal equipment	1.70	7 %	2.39	9 %	3.43	13 %
Other external revenue	1.50	6 %	1.21	5 %	1.00	4 %
Other external revenue	**3.70**		**3.22**		**3.74**	

* Totals may deviate from rounded cumulative values

76 percent of fixed-line external revenue was from retail services in 2011. This includes external revenue obtained with services for private, business and public end consumers. Over 20 percent of external revenue was from wholesale charges for non-group fixed network, cable and mobile communications and service providers. These include wholesale products for voice traffic/telephony, broadband/Internet and infrastructure services.

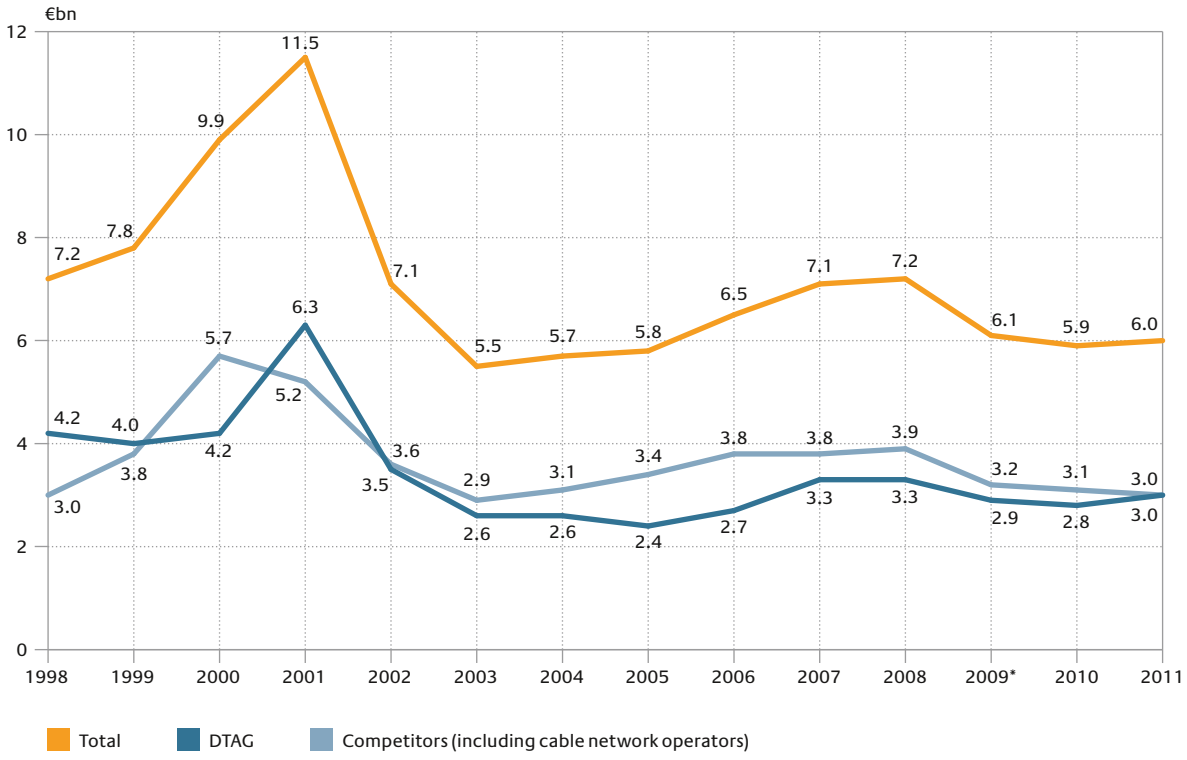
70 percent of external revenue for mobile telephone services was from retail services. In contrast to the fixed network and the cable TV infrastructure, this figure takes no account of external revenue from terminal equipment. A growing share of revenues is generated from terminal equipment used for mobile communications. The reason for this is the successful marketing of smartphones by mobile operators. The share of external revenue with wholesale services fell from 17 percent in 2010 to 13 percent in 2011. This is also partly due to falling termination rates.

94 percent – by far the largest share – of external revenue based on the cable TV infrastructure was for retail services.

Real investment

Compared with the total of €5.9bn invested in fixed assets on the telecommunications market in 2010, alternative providers and Deutsche Telekom AG (DTAG) each invested €3bn in 2011.

Investments in fixed assets on the telecommunications market 1998–2011



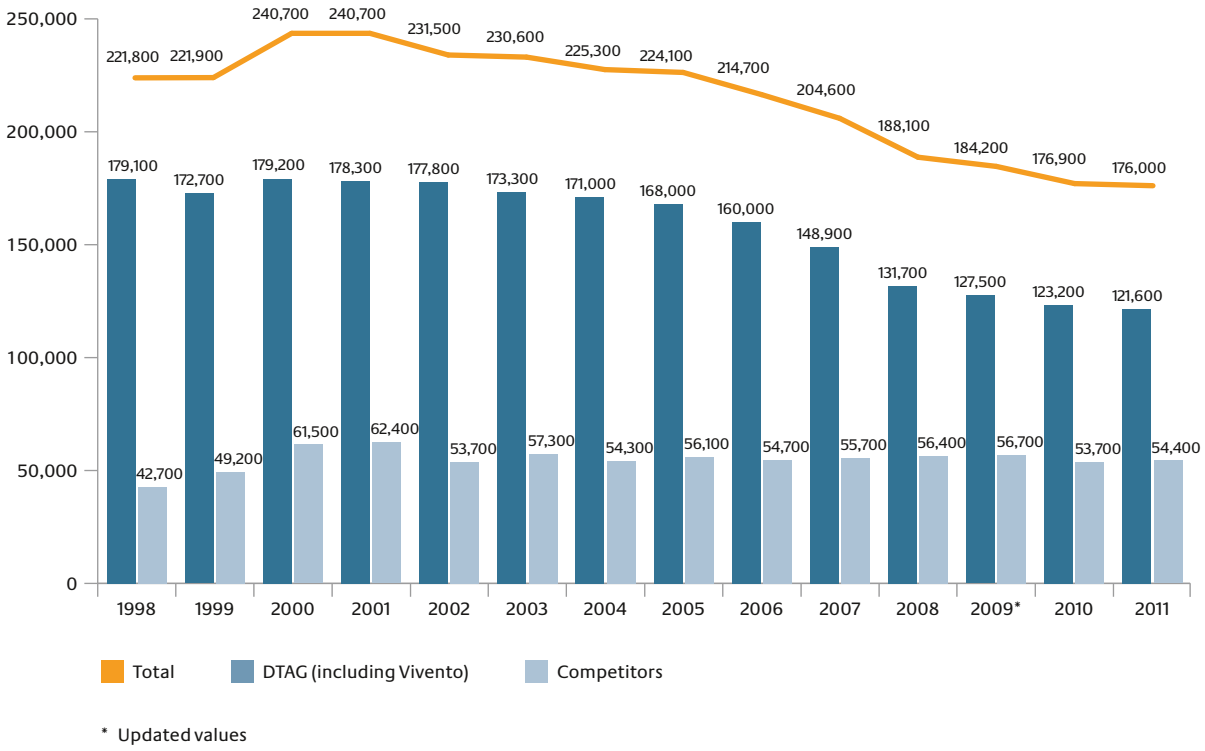
* Updated values

After peaking in 2008 at €0.88bn investments in cable TV infrastructure in 2009, 2010 and 2011 remained stable at around €0.7bn.

Employment

At the end of 2011, companies operating in the German telecommunications market employed 176,000 people. The number of employees in this industry was consequently somewhat lower than the previous year (176,900 people). Alternative providers expanded their workforces by a total of 1.3 percent. DTAG continued to cut back on staff numbers throughout 2011.

Employees on the telecommunications market 1998–2011



* Updated values

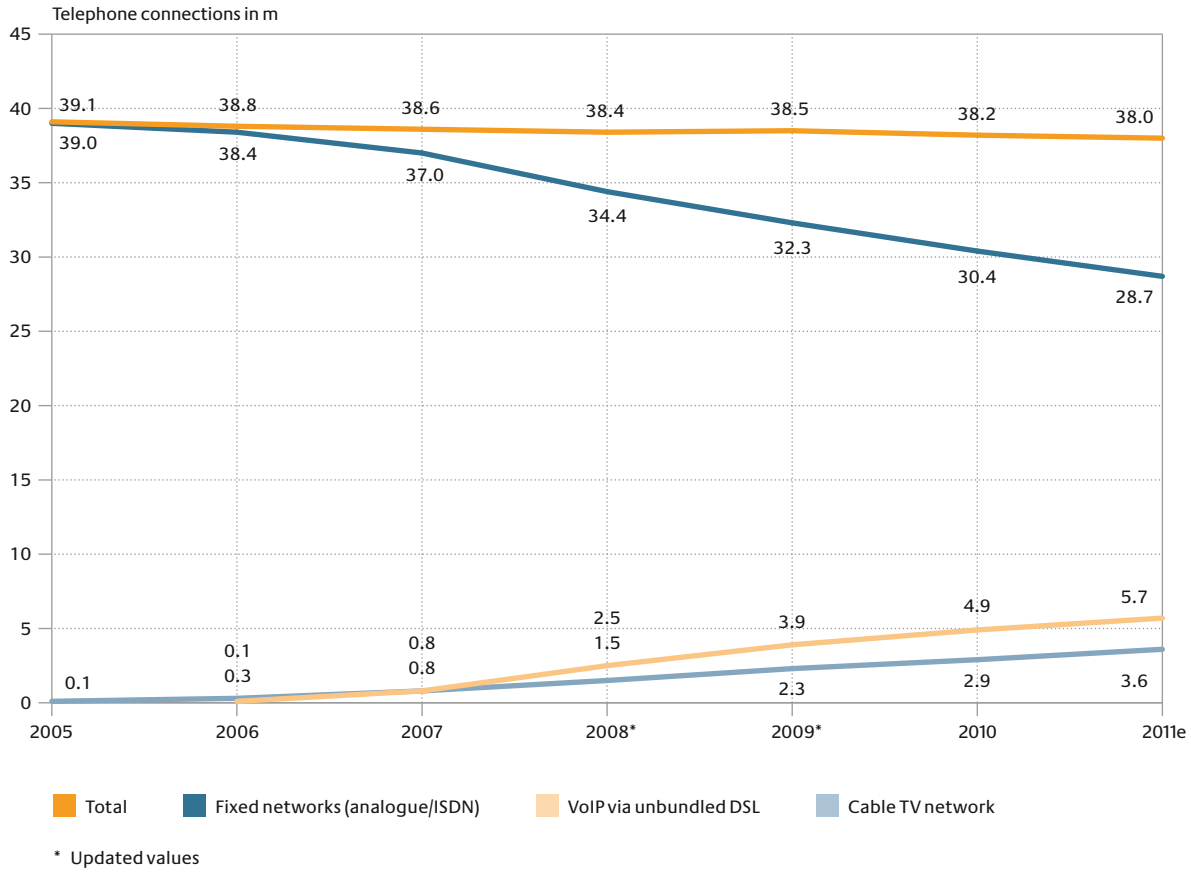
TELECOMMUNICATION SERVICES BASED ON FIXED NETWORK CONNECTIONS

Access points for voice communication

The development of landline voice communication via traditional telephone connections (PSTN/ISDN), on the one hand, and via unbundled DSL connections[1] (VoIP) and the cable TV infrastructure, on the other, has diverged in recent years The apparent demise of the traditional landline is accompanied by more and more telephony via DSL and cable TV. In the next few years fibre access to telephony is destined to grow in importance. Overall demand for voice lines in fixed networks declined slightly.

[1] In the case of unbundled DSL connections, the provision and operation of DSL connections is not bound to a traditional analogue or ISDN telephone connection.

Voice communication connections 2005–2011



The most common landlines are still analogue connections. The number of these connections fell in 2011 by approximately six percent to an estimated 17.5 million. At the same time, the number of ISDN basic access connections fell last year to around 11.0 million. The total number of ISDN primary rate multiplex access connections (ISDN-PMx)[2] also went down. In contrast, there was an increase in the number of voice access points via unbundled DSL connections (full connections) which are used for VoIP and in telephony via cable TV networks. The total number of VoIP via unbundled DSL rose by an estimated 5.7 million (plus 17 percent) and the number of cable TV connections used for telephone calls by around 3.6 million (plus 24 percent). Accordingly, traditional fixed network connections were replaced by alternative technologies. At the end of 2011 there were around 66,000 coin and card public telephones in place.

[2] Data on ISDN-PMx lines are based on estimates.

Telephone connections and competitor shares in fixed networks 2009–2011

	2009*			2010			2011e		
	Total stock	Competitor share		Total stock	Competitor share		Total stock	Competitor share	
	m	m	%	m	m	%	m	m	%
Analogue lines	20.01	1.71	8.5	18.67	1.72	9.2	17.53	1.73	9.9
ISDN basic lines	12.15	4.20	34.6	11.63	3.94	33.9	11.00	3.58	32.5
ISDN-PMx lines	0.106	0.0294	27.7	0.103	0.0296	28.7	0.099	0.0298	30.1
Public telephones	0.084	0.0017	2.0	0.070	0.0015	2.1	0.066	0.0014	2.1
Voice access via cable TV networks	2.30	2.30	100.0	2.90	2.90	100.0	3.60	3.60	100.0
Access via unbundled DSL connections used for VoIP	3.85	3.80	98.7	4.86	4.77	98.1	5.68	5.45	96.0
Total connections	**38.50**	**12.04**	**31.3**	**38.23**	**13.36**	**34.9**	**37.98**	**14.39**	**37.9**

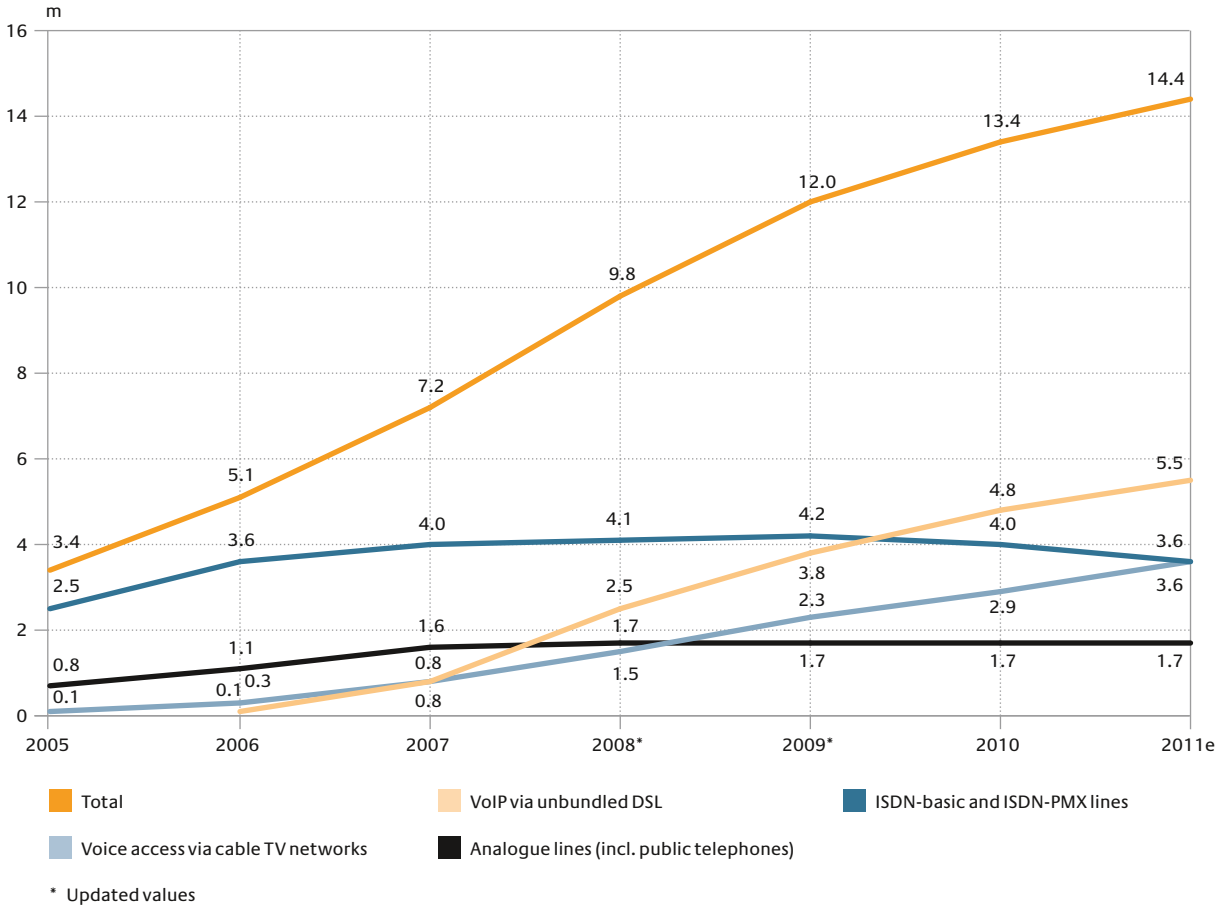
* Updated values

Data including self-supply

At the end of 2011, there were an estimated total of 14.4 million telephone connections in the fixed networks operated by DTAG competitors. With around 1.0 million connections the increase is weaker than in previous years. There was hardly any increase in the number of analogue and ISDN-PMx lines provided by alternative subscriber network operators and a drop in the number of ISDN basic access connections. In contrast, there was dynamic growth in VoIP via unbundled DSL and cable TV telephony via alternative subscriber network operators, particularly in the period from 2008 to 2009 (by a good 50 percent). The rates of growth flat lined in 2010 (by around 26 percent). At the end of 2011 the rate of increase for VoIP connections was – at around 14 percent – nonetheless significantly lower than that for access via the cable TV infrastructure which increased by an estimated 24 percent.

TABLE OF CONTENTS CHAPTER

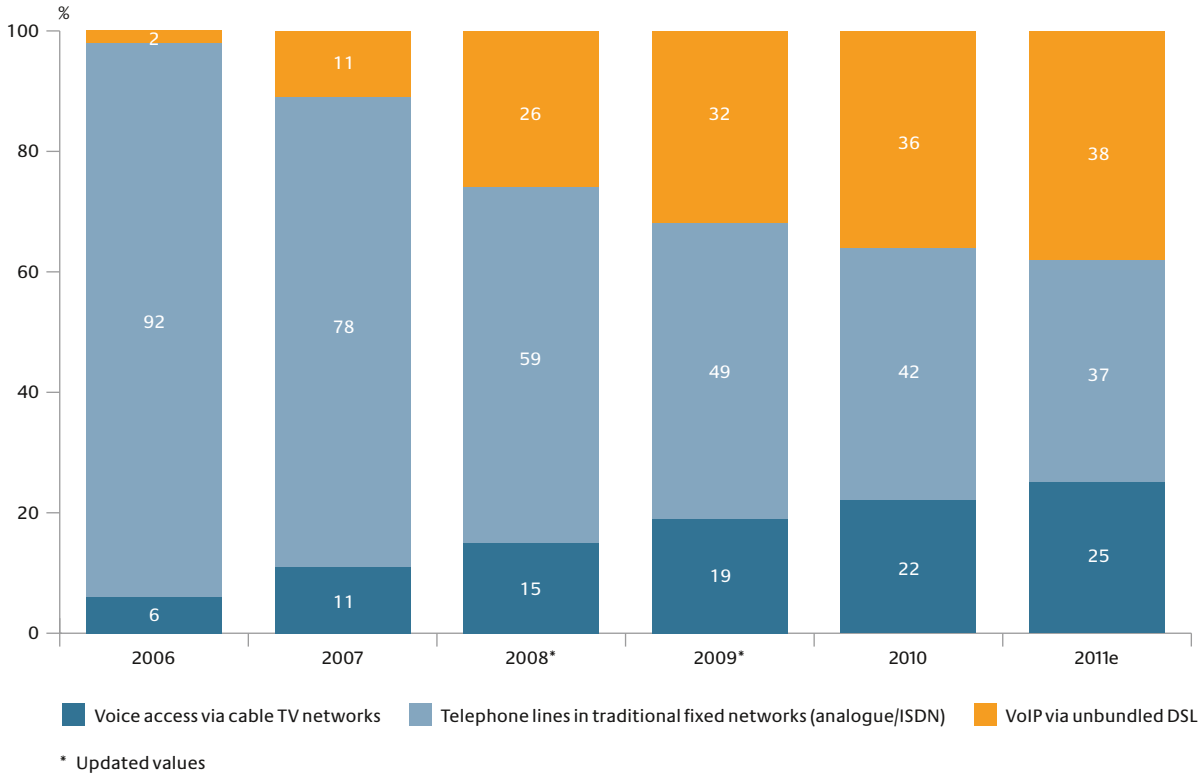
Telephone connections from alternative subscriber network operators 2005–2011



VoIP via unbundled DSL in the fixed networks of DTAG competitors accounted for approximately 38 percent of telephone lines in 2011 and, as such, exceeded for the first time the 37 percent share accounted for by traditional analogue and ISDN telephone lines. At the same time the share of VoIP via unbundled DSL was substantially greater than the share of telephone calls made via cable TV networks which nonetheless grew at a substantially higher rate. Traditional telephony via analogue/ISDN lines has become much less important for alternative subscriber network operators than VoIP and cable telephony in the space of just a few short years.

Around 150 alternative subscriber network operators were offering telephone lines at the end of 2011. Consumers were able to choose between analogue lines, ISDN lines, access to voice services via unbundled and DSL lines used for VoIP or via cable TV and fibre optic networks. The lines offered by these alternative operators were provided on the basis of contracts on access to the DTAG subscriber line or based on DTAG's "stand alone ATM/IP bit stream" and "stand alone resale" wholesale products based on their own subscriber lines or bit stream products offered by alternative carriers (bit stream or resale).

Share of telephone connections for alternative subscriber network operators according to technology 2006–2011



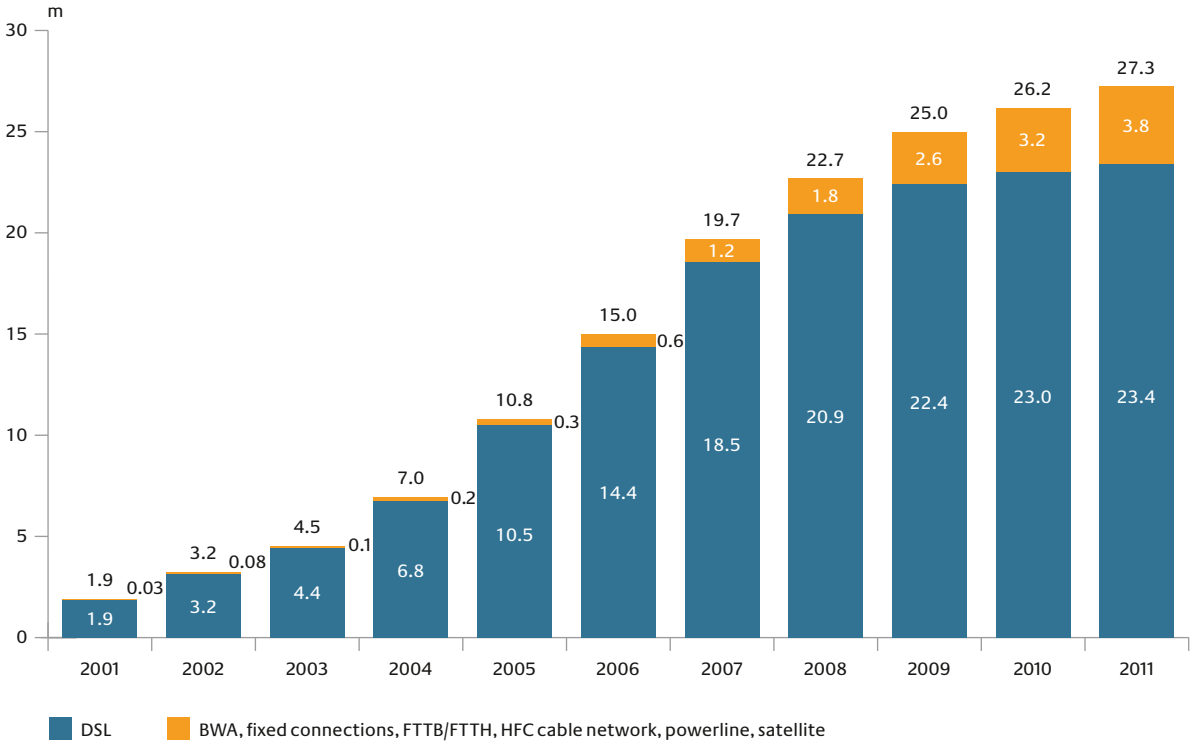
* Updated values

Broadband connections

Most broadband connections in fixed networks in Germany are based on copper lines (DSL) and the cable TV infrastructure. Other access technologies used include fibre optic, satellite, power lines and radio-based infrastructures.

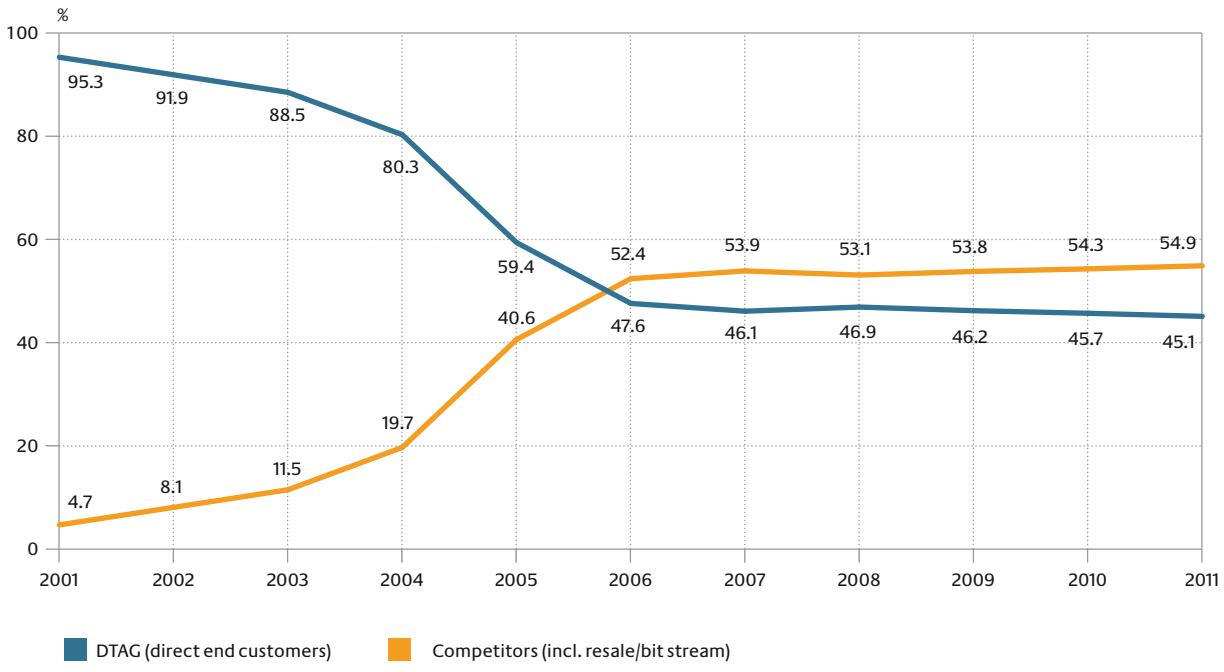
A total of around 27.3 million broadband connections were in operation at the end of 2011. With a total of 23.4 million connections and a share of 86 percent DSL remains the dominant access technology. Alternative technologies accounted for a total of around 3.8 million connections. Most of these connections (around 3.6 million) were provided by cable operators. Pure fibre optic connections are still relatively uncommon in Germany.

Broadband connections in fixed networks 2001–2011



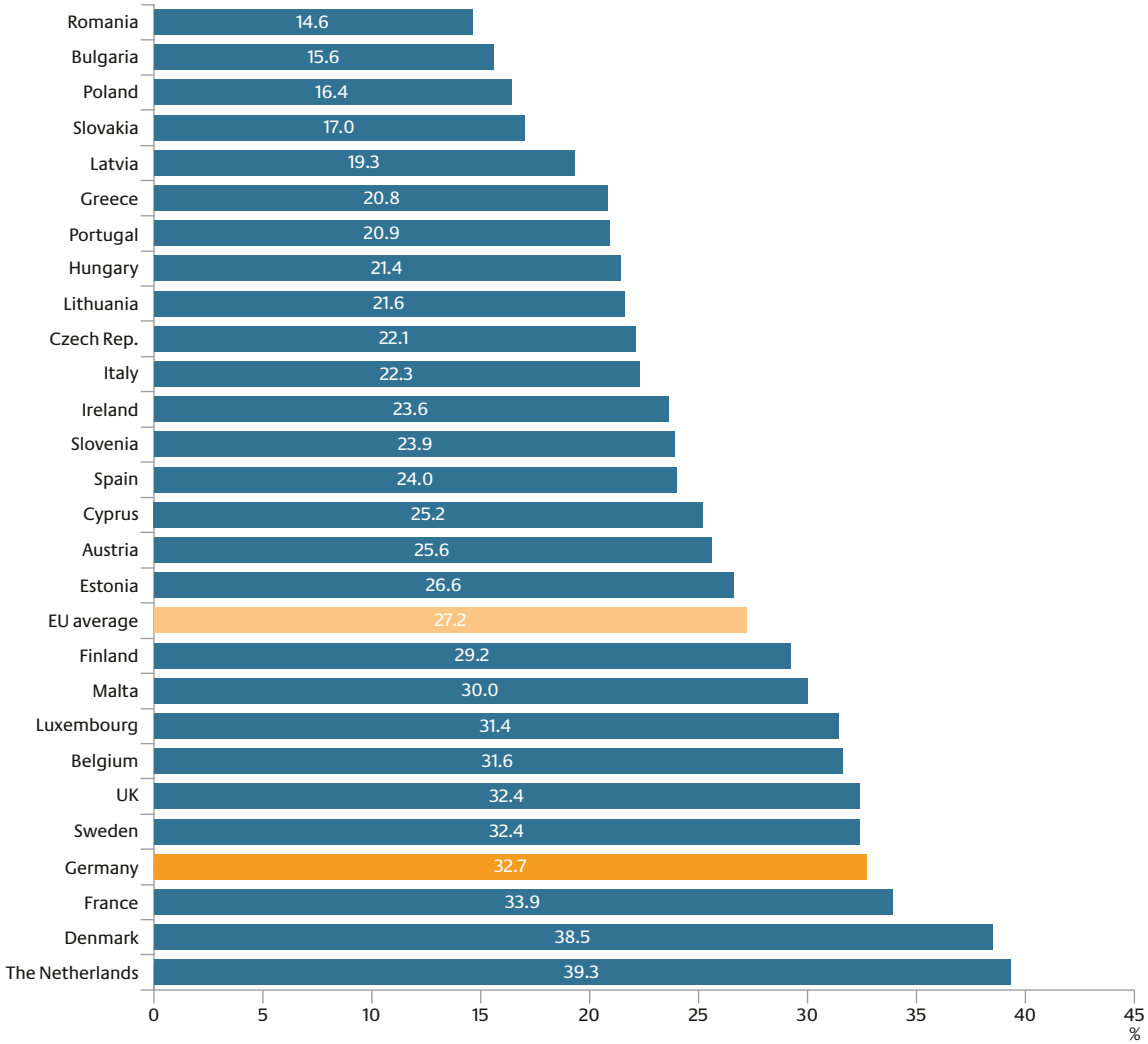
By the end of 2011 DTAG's competitors had achieved a market share of around 55 percent of the market for broadband lines.

Share of broadband connections in fixed networks 2001–2011



In a European context the broadband market in Germany continues to develop remarkably well despite a tailing away in the pace of growth. Statistics provided by the European Commission demonstrate that, in the first half of 2011, Germany has a fixed broadband penetration rate (as measured by population) of 32.7 percent, considerably higher than the average rate for all EU Member States of 27.2 percent.

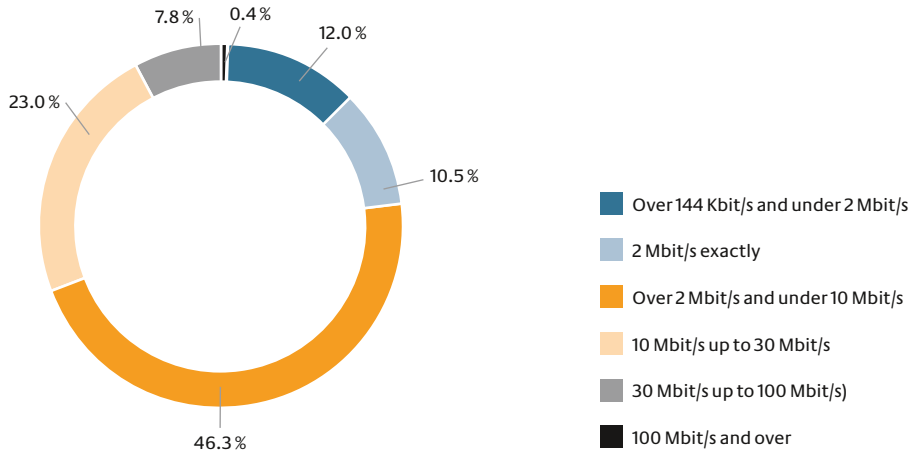
Broadband penetration in Europe via fixed infrastructure Q2/2011



Source: European Commission (COCOM 11-24)

At the end of 2011 more than two thirds of the broadband connections marketed to end customers in Germany had a bandwidth (downstream) of less than 10 Mbit/s. Although speeds of at least 16 Mbit/s or even as high as 100 Mbit/s and faster are increasingly being marketed by telecommunications companies, there is a continuing discrepancy between the range of high bit rates on offer and actual demand for bandwidth. At present, for example, only around one third of broadband customers use a bandwidth in the fixed network of over 10 Mbit/s while two thirds of households could use a nominal bit rate of over 16 Mbit/s.

Distribution of broadband connections by speed in 2011

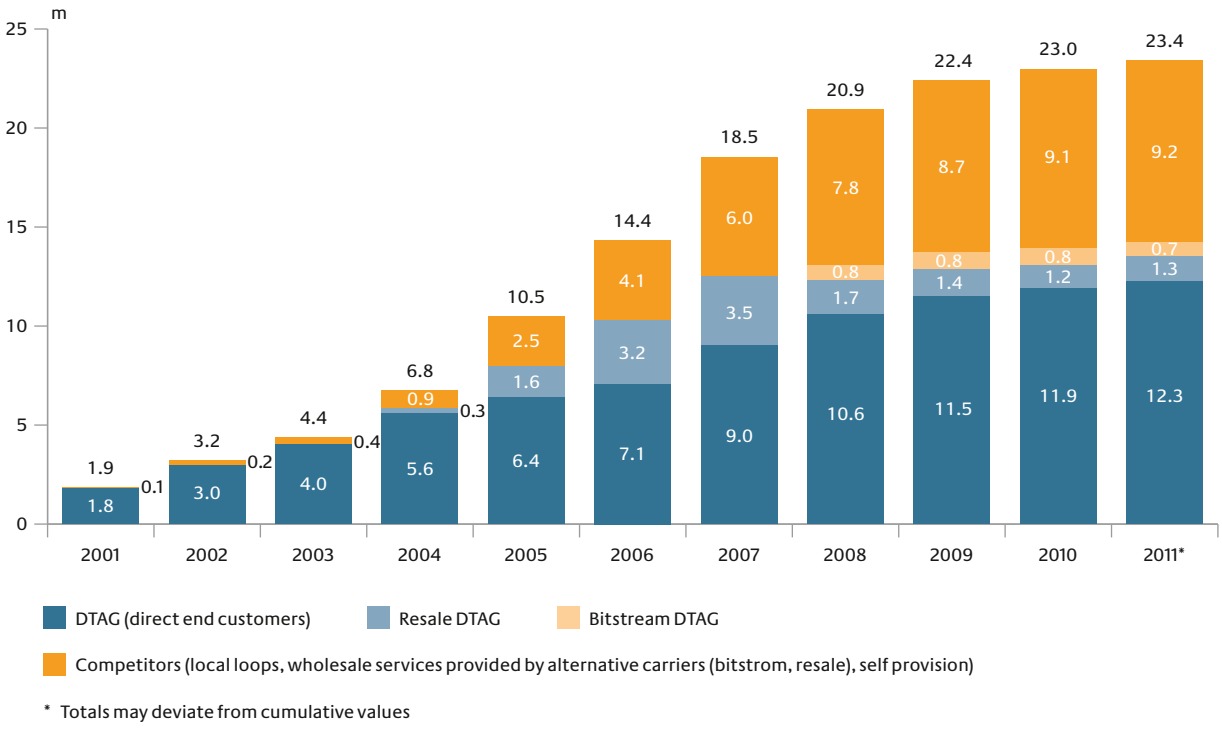


According to a study by Cullen International[3] this discrepancy exists in practically all European countries at present.

DSL connections

Around 23.4 million DSL lines were in service at the end of 2011. Of these, around 12.3 million connections were provided directly by DTAG. In comparison, around 11.2 million DSL connections were retailed to end customers by DTAG's competitors. At the end of 2011 around three percent of all DSL connections were made using VDSL technology (DTAG and competitors).

DSL connections 2001–2011



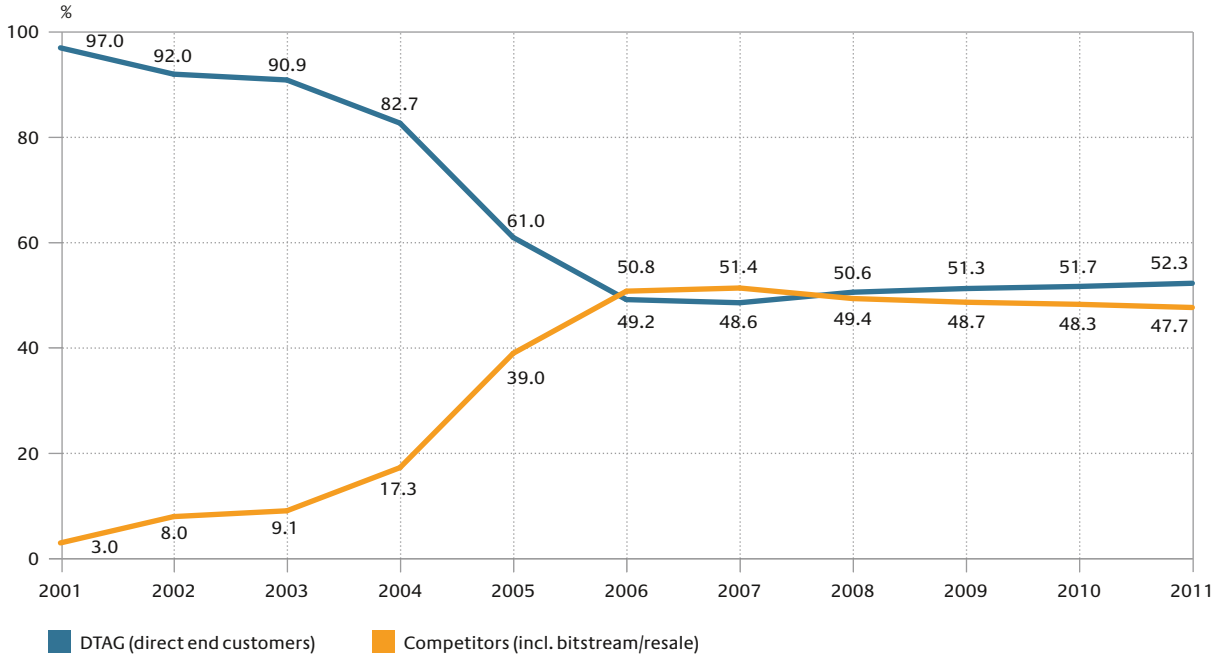
* Totals may deviate from cumulative values

[3] Cullen International, August 2011

The resale of DTAG DSL connections by alternative providers (Resale DTAG) grew slightly in importance once again in 2011. In addition, more infrastructure-intensive wholesale products are being used which, in contrast to resale, not only include providing the DSL line but the routing of data as well (eg bit stream). Wholesale products of this kind are offered by alternative carriers as well as by DTAG. By the end of 2011 around 0.7 million of the DSL lines retailed to end customers by competitors were based on DTAG bit stream products.

Alternative operators are increasingly providing special wholesale products to DTAG competitors as well as their own end customer products on the basis of access to the DTAG unbundled local loop. This field of business has grown substantially in importance in recent years. Full connections, in particular, are often provided under similar business models. These connections not only provide access to the Internet, but also handle telephone services exclusively on the basis of IP (VoIP) via DSL which does away with the need for a traditional telephone connection. At the end of 2011 DTAG and its competitors provided around 5.7 million full connections based on unbundled DSL connections.

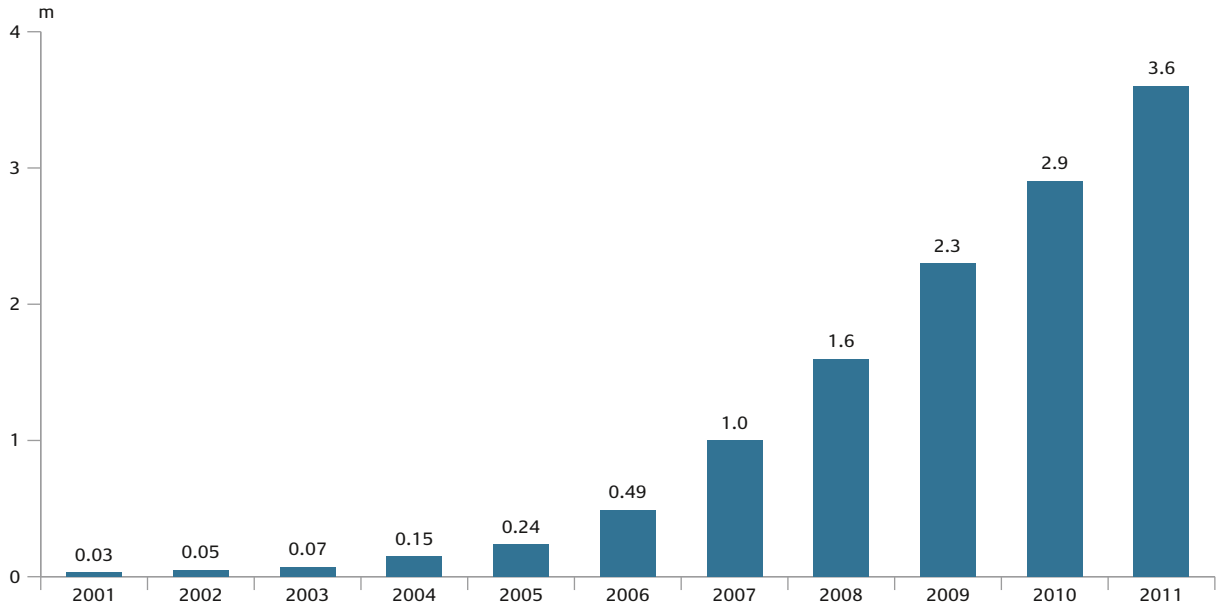
Share of DSL connections 2001–2011



Broadband lines via the cable TV infrastructure

Internet connections provided by cable network operators represent an alternative to the traditional fixed network. By the end of 2011 around 3.6 million customers had opted for this connection technology. Cable network operators held a market share of 13 percent of a total of 27.3 million broadband connections. Over 80 percent of broadband customers of cable TV providers used an Internet connection of 10 Mbit/s or over. Offering competitive prices and increasingly equipped with the DOCSIS 3.0 transmission standard the Internet connections offered by cable TV providers often deliver higher maximum possible transmission speeds than the Internet connections offered by DSL providers. Cable network operators plan to provide around 24 million households with access lines operating at up to 100 Mbit/s via their modernised fibre optic and coaxial cable networks (HFC networks) by the end of 2012. This infrastructure will enable even higher bandwidths to be delivered flexibly in the future as fibre-optic cabling can be brought ever closer to homes in a step by step process which is independent of demand. Some cable network operators are going a step further by already providing their customers with fibre to the home.

Internet access via cable network operators 2001–2011



Powerline

Internet access can also be provided using powerlines, ie transporting data on conductors used by utilities for electric power transmission. This Internet access option is still only available at a very few locations and, at the end of 2011, was being used by fewer than 5,000 customers.

Satellite

At the end of 2011 35,000 customers of around ten providers were using bidirectional means of accessing the Internet via satellite. This location-independent access option is able to provide a relatively small and yet important contribution to seamless broadband coverage in

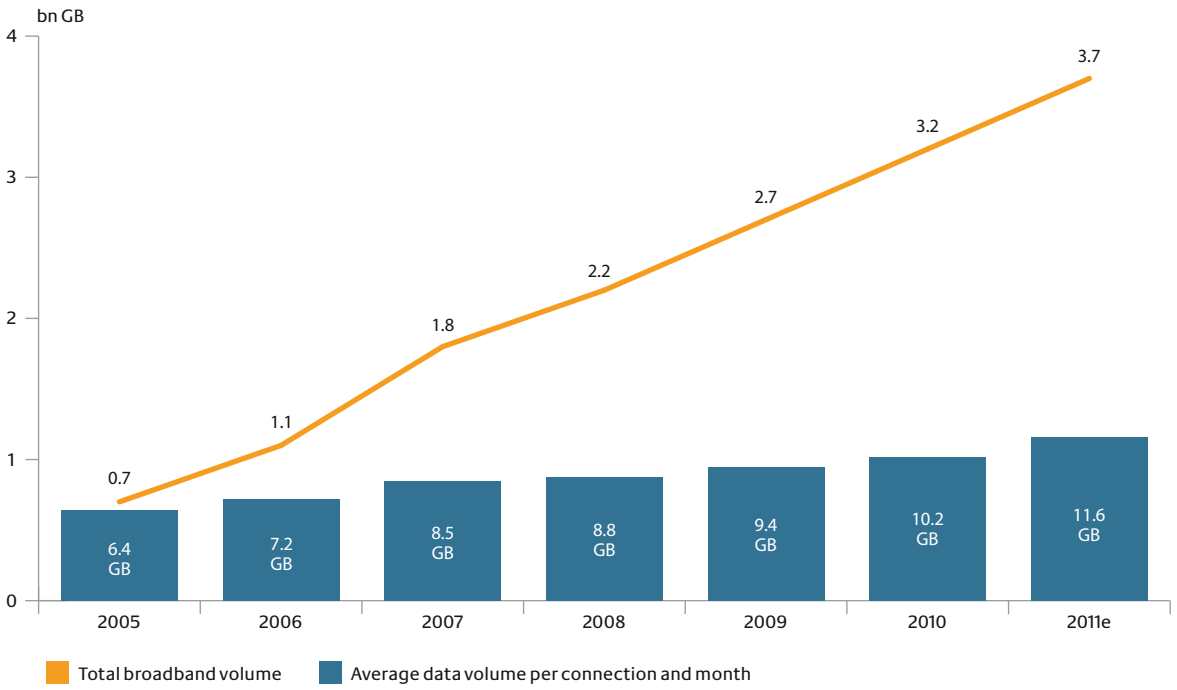
Germany.[4] While the acquisition costs and monthly charges for such services have consistently fallen in recent years, access via DSL or cable TV networks is still cheaper. The attractiveness of these access options was significantly enhanced in 2011 by the use of a new satellite technology which enables higher bandwidths to be achieved. The advantage of the multibeam technology used for this purpose is that it is possible to transmit signals in several "spot-beams" to a particular reception area on Earth with just one satellite. The ability of this technology to transmit different data signals using the same frequencies now enables customers to use bandwidths of up to ten Mbit/s for downloading and four Mbit/s for uploading. The next stage of development, which will soon be operational, even provides professional applications up to 50 Mbit/s for downloading and 20 Mbit/s for uploading.

Internet traffic based on fixed lines

Volumes of broadband traffic

Despite the increasing saturation of the broadband market the volume of traffic sent via broadband connections (incl. IPTV and VoIP) continues to grow. By the end of 2011 an estimated total of 3.7 billion GB was generated by fixed-line broadband. This is equal to an average volume of data used of almost twelve GB per month and broadband connection.

Broadband traffic volumes 2005–2011



The increase in traffic was largely attributable to data-intensive applications such as television (IPTV) or video-on-demand. In contrast, narrowband Internet use (analogue/ISDN) is becoming

[4] According to satellite operators, 250,000 customers could have made simultaneous use of Internet via satellite at the end of 2010.

less and less important. In 2010 only around 3 billion minutes of Internet use was accessed from dial-up connections.

Voice over IP

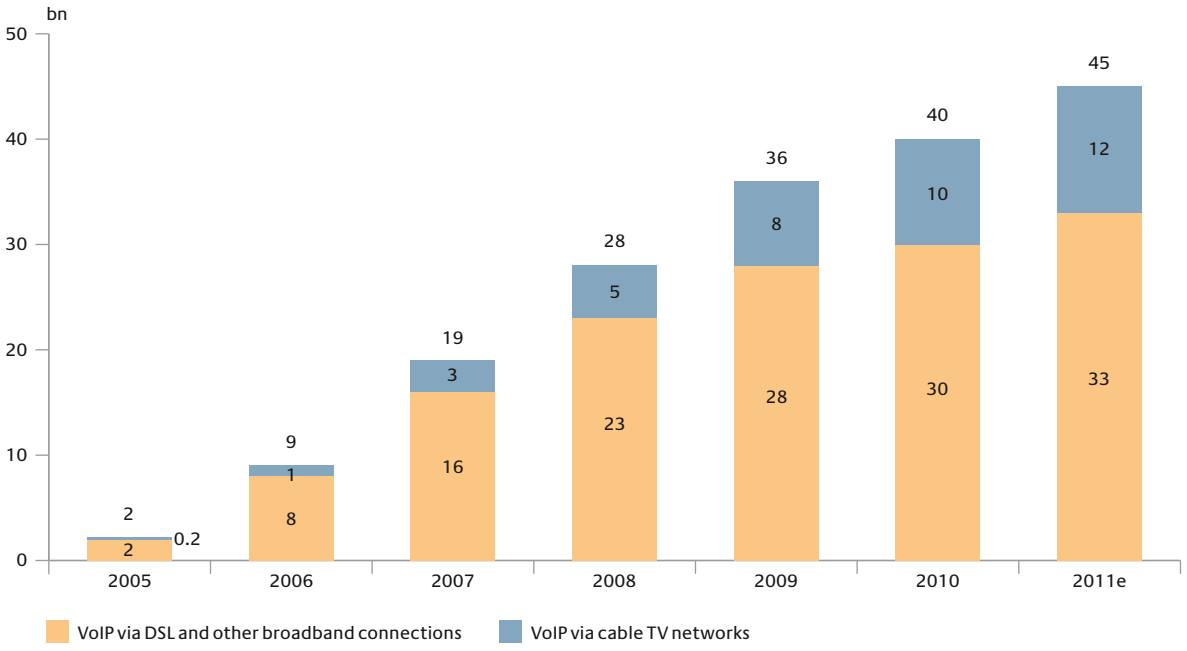
VoIP is a technology which allows a telephone service to be provided using an IP-based infrastructure and which replaces in this way conventional telephone technology (analogue/ISDN). The use of IP-based telephony generally requires broadband access to the Internet. Connections made via the IP infrastructure should guarantee specific quality requirements (eg real time).

At present the services offered by DSL providers and cable network operators are primarily geared towards full offers. A traditional telephone connection is not part of such an offer. This means that, in addition to Internet access, telephony is provided solely on an IP basis. By the end of 2011 an estimated 9.3 million customers were using full connections via TV cable and unbundled DSL connections.

In addition DSL customers whose DSL connection is linked with a conventional telephone connection are also able in some cases to use VoIP, although a special VoIP provider charging model is usually required for this purpose.

IP-based fibre services and other broadband access technologies have not as yet conquered a significant share of the telephone market.

IP-based call minutes in fixed networks 2005–2011



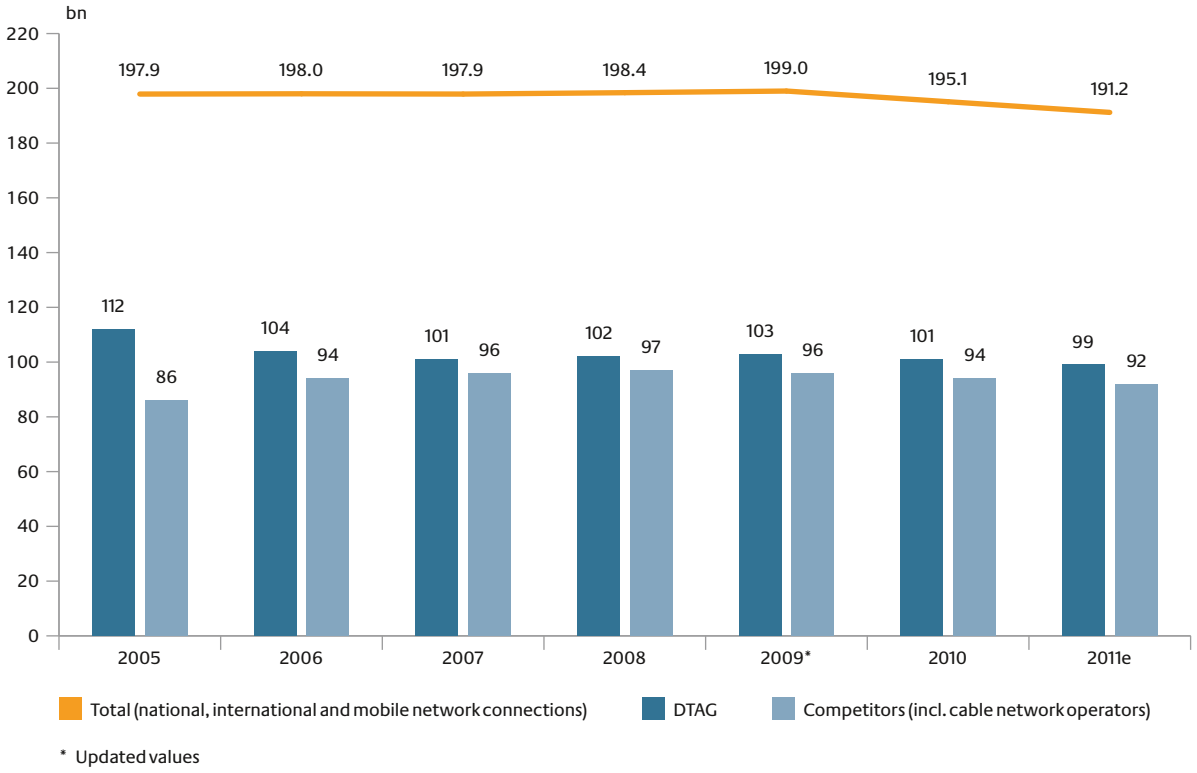
In 2011 all VoIP users generated a call volume (measured in minutes)[5] of around 45 billion minutes. Of this volume around 27 percent of call minutes were made by the telephony customers of cable network operators. With a share of well over 90 percent of call minutes, the segment of IP-based minutes is clearly assignable to DTAG competitors.

[5] Call volumes encompassed domestic calls, connections to international fixed and mobile communication networks as well as to national mobile networks. Minutes called using – in most cases free – VoIP software (such as Skype) are not included in the data.

Call minutes in fixed networks

The total volume of outgoing call minutes[6] via traditional telephone networks and IP-based networks has fallen in recent years and amounted in 2011 to a little over 191 billion minutes. Of these around 92 billion minutes were provided by DTAG competitors.

Outgoing call minutes in fixed networks 2005–2011

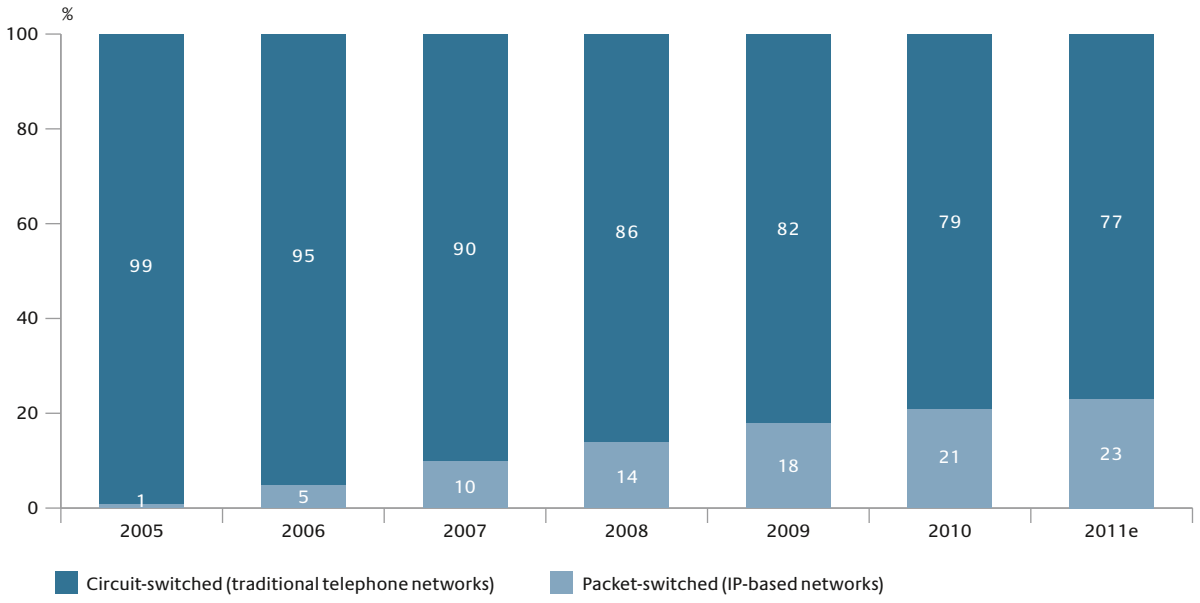


The reason for this trend towards fewer call minutes is the shift in call minutes from fixed networks to mobile networks and – in many cases – greater use of services such as Skype. The substitution effects created by mobile calls are relatively minor in international terms as intensive use is made of fixed network flat rates for call minutes charged as part of bundled products. More than half of fixed network customers now have bundled products which – in addition to the telephone or broadband connection – typically include flat rate Internet and telephony.

In fixed networks more and more telephone calls are being made via DSL or cable TV connections. Traditional analogue or ISDN connections make up an ever smaller part of the competitors' new business in particular. There has hence been a migration in traffic volumes from traditional telephone networks to IP-based networks. In 2010 an estimated 40 billion call minutes provided by fixed network competitors were handled via IP-based networks.

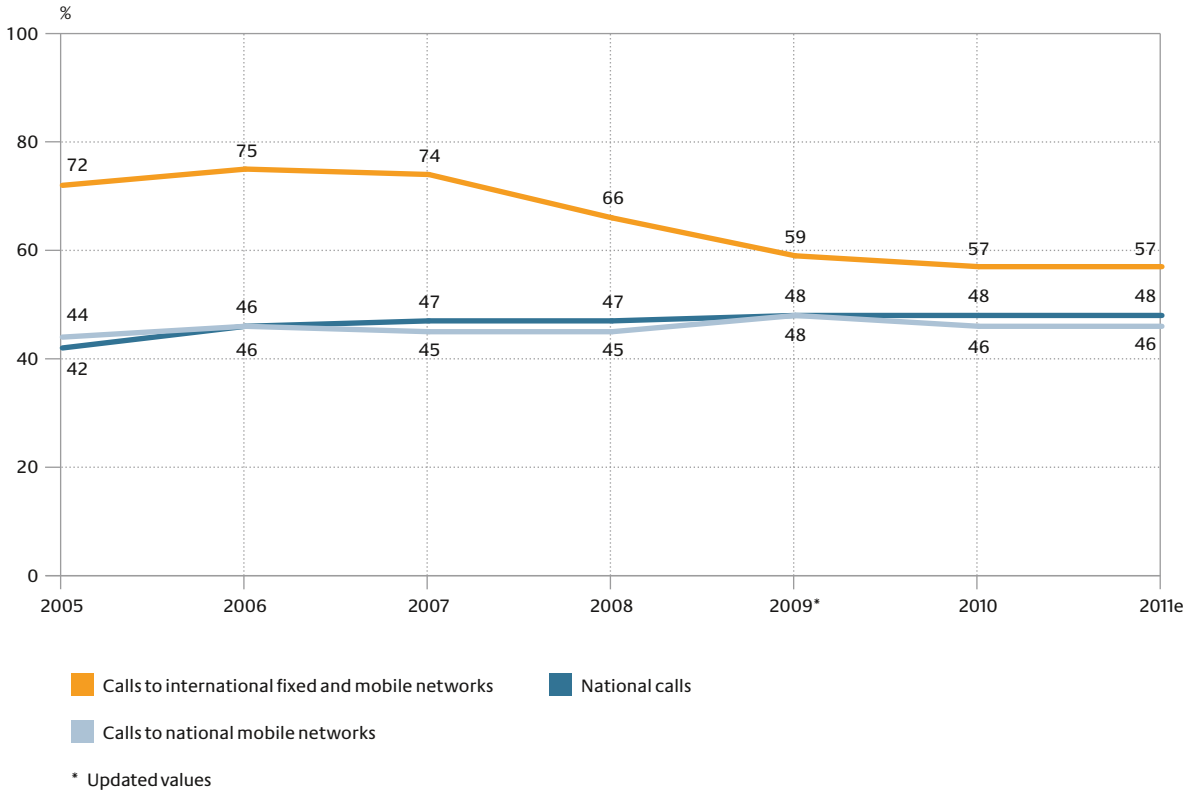
[6] Domestic and international calls as well as connections in national mobile networks

Share of switching technologies in volume of calls in fixed networks 2005–2011



In 2011, IP-based volume accounted for 23 percent of total call minutes in fixed networks. Strong growth in IP-based minutes is anticipated in the years ahead as – alongside alternative providers – DTAG is also retailing more IP-based telephone connections to new customers.

Alternative suppliers' share in volume of calls by call segment 2005–2011



The volume of indirect call-by-call or preselection calls made via DTAG competitors continues to decline sharply. While around 62 billion minutes of call-by-call or preselection calls were made in 2005 this figure fell to around 10 billion minutes in 2011. With a share of about 60 percent of indirect call minutes the volume of preselection traffic has exceeded volumes of call-by-call voice traffic for a number of years now.

Alternative providers successfully maintained their share of traffic volumes both in the domestic call and in the fixed to national mobile network segments. Almost half of all call minutes in these two segments were handled by DTAG competitors.

DTAG was able to win back some market share in international fixed and mobile networks. However, when interpreting these figures it is important to remember that the data does not include some traffic, such as traffic handled in most cases using free VoIP software via a peer-to-peer Internet connection. A not inconsiderable volume of traffic in the international call segment is likely to be ascribable to such offers[7].

Wholesale access services

In addition to self-installed subscriber lines and radio-based solutions, the majority of DTAG's competitors use DTAG's existing subscriber lines to provide telephone and broadband connections. These lines, which are usually made of copper, are leased under contractual arrangements by alternative providers as a wholesale product from DTAG.

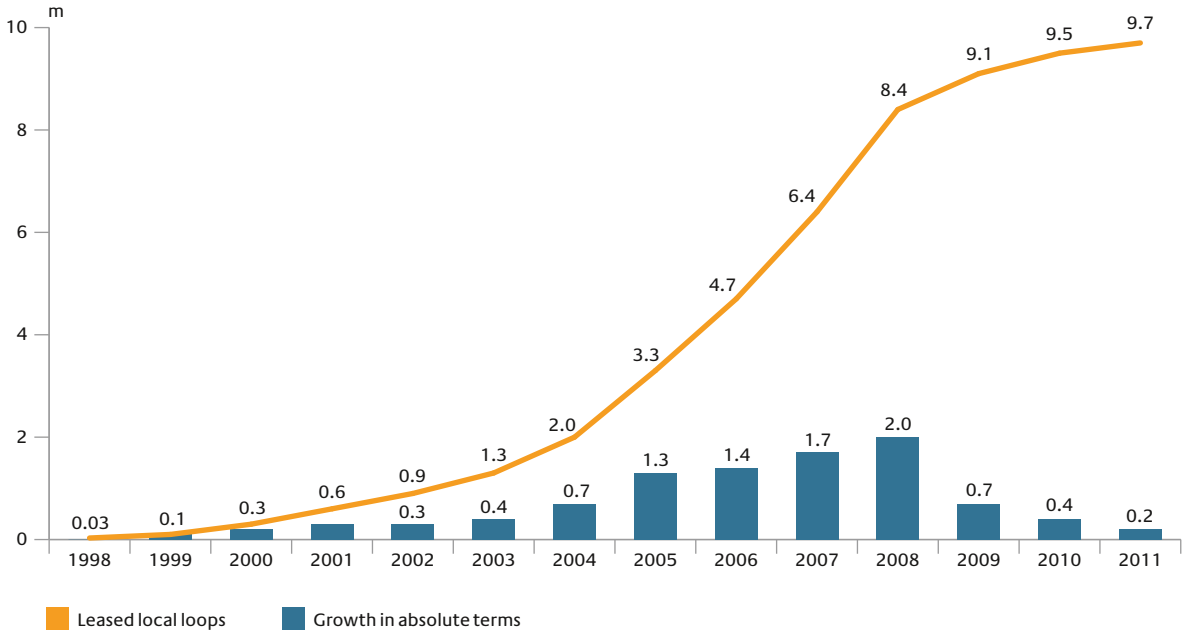
DTAG's wholesale service encompasses numerous different subscriber line products, with unbundled high-speed copper pairs accounting for the majority of leased lines. These are used by alternative operators to provide DSL connections to end customers. In addition more and more of the wholesale products and services offered by alternative carriers, such as bitstream, are based on subscriber lines.

By the end of 2011 around 9.7 million subscriber lines were being leased by DTAG's competitors. This is tantamount to a 50 percent reduction in demand for additional subscriber lines compared with the previous year.

All in all growth in demand has slowed down substantially since 2009. One of the reasons for the tailing off of growth is that regions offering favourable economies of scale have already been almost fully developed by DTAG's competitors. As a result there is little if any profit to be gained from expanding services into more areas. By the spring of 2011 competitors were already using around 3,900 DTAG main distribution frames. A further reason for weakening growth is the increasing saturation of the broadband market and the associated reduction in additional demand for high speed subscriber lines.

[7] These include providers such as Skype. However, as it was not possible to include this traffic in the Bundesnetzagentur's data survey, this effect cannot be accurately quantified.

Volume of leased subscriber lines 1998–2011

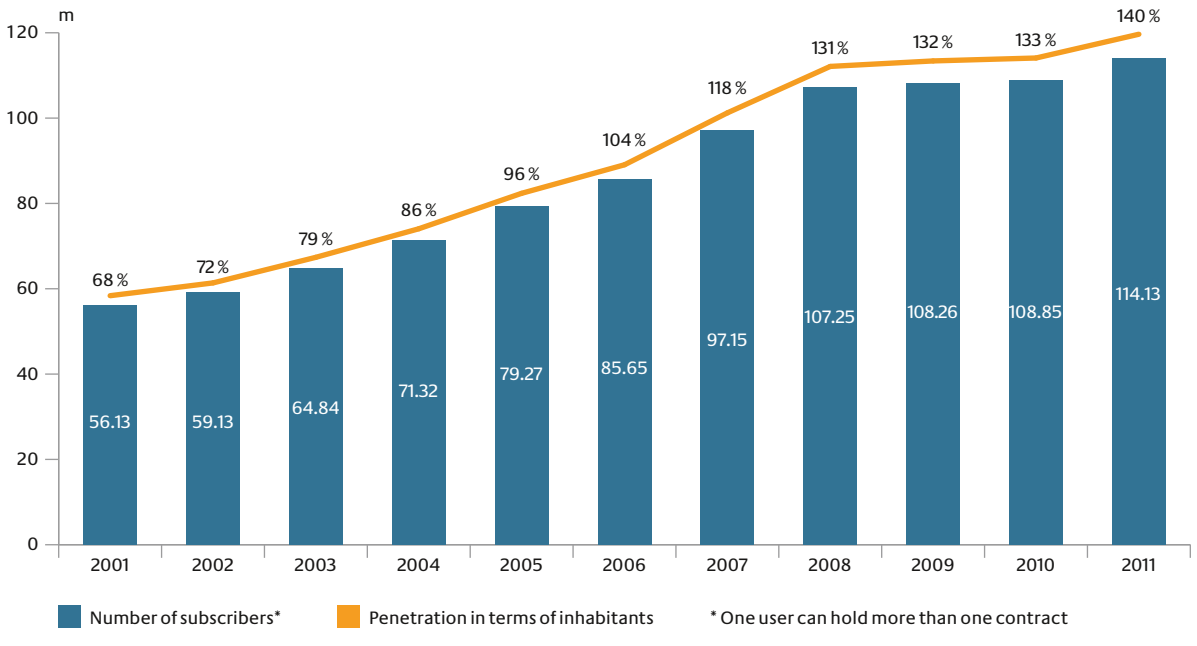


MOBILE TELEPHONE SERVICES

Subscribers

The number of subscribers has grown much more slowly in recent years. From the end of 2008 through to the end of 2011, the market grew by almost seven million SIM cards, compared with growth of almost 28 million cards between 2005 and 2008. Last year, however, the number of subscribers grew significantly again.

Subscribers and penetration in German mobile communication networks 2001–2011



Source: Network operator publications, Federal Statistical Office

It is apparent that those who are interested in using mobile services now have at least one mobile phone.[8] Since 2010 Telekom Deutschland GmbH has introduced a consistent method of counting prepaid subscribers and has deleted inactive prepaid customers. On the other hand, the increasing prevalence of secondary devices, such as USB sticks and tablets, have pushed up subscriber numbers.

The increasing number of SIM cards used to transmit data automatically from one machine to another (machine-to-machine or M2M) is also a source of potential growth. In 2010, there was still a relatively small number – 1.6 million – of such M2M cards in use.

The share of prepaid cards has remained relatively constant in recent years at around 56 percent by the end of 2011.

The subscriber market share of "E-Network operators" continues to rise steadily. E Plus and Telefónica were able to acquire more customers than "D-network operators" Telekom and Vodafone D2. The slight fall in the market share of traditional service providers whose customers also mainly use the D-networks benefited E-network operators.

Since September 2011 all operators have offered the option of calling a mobile phone with a landline number. Prior to this the number of subscribers who used landline numbers was in decline. While 7.5 million mobile subscribers were still using a landline number at the end of 2009, this figure had fallen by the end of 2010 to around 6.9 million. By the end of the first quarter of 2011 this figure had fallen to 6.5 million subscribers.

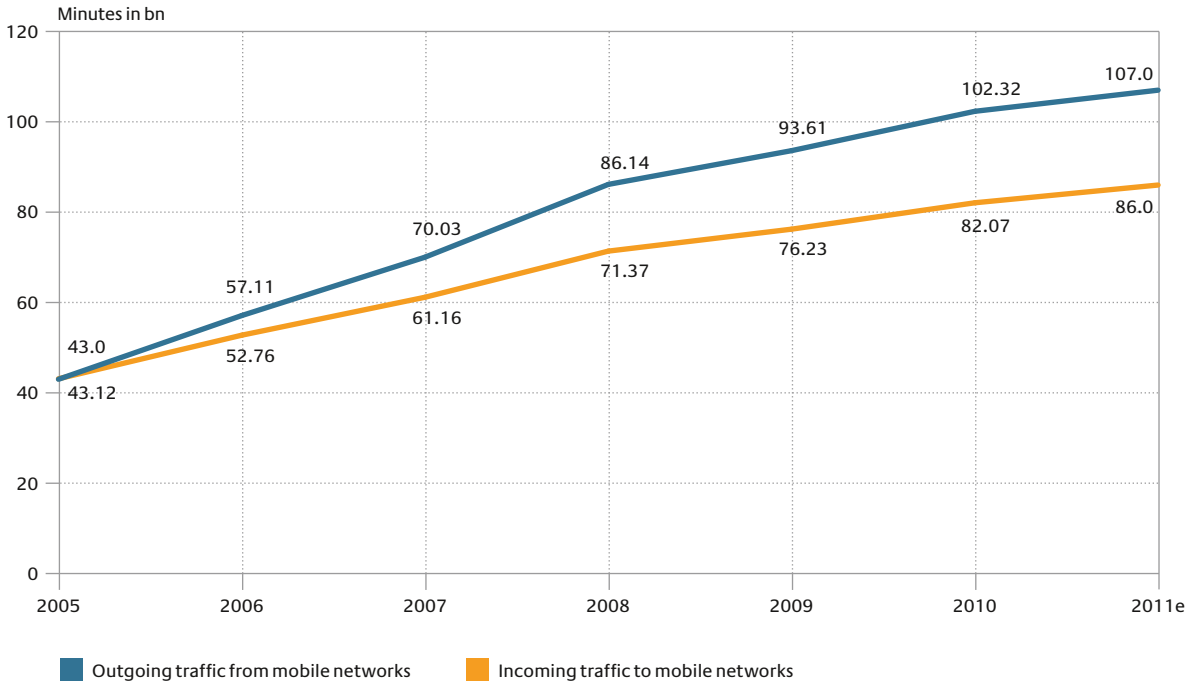
Call minutes

While fixed line telephony is declining, mobile telephony continues to grow. In 2010, the volume of outgoing calls totalled over 102 billion minutes. This volume increased in 2011 by around five percent to 107 billion minutes. In this respect there is an observable, if modest, substitution of landline calls by mobile communications.[9]

The volume of incoming mobile calls increased by almost five percent in 2011 to 86 billion minutes.

[8] According to BITKOM, 83 percent of Germans own a mobile phone (press release of 2 August 2011).
[9] At the same time, however, only twelve percent of German households have only mobile phone access while 16 percent, in contrast, have only fixed line access (Special Eurobarometer 362/ E-Communications Household Survey 2011)

Volume of mobile voice services 2004–2011

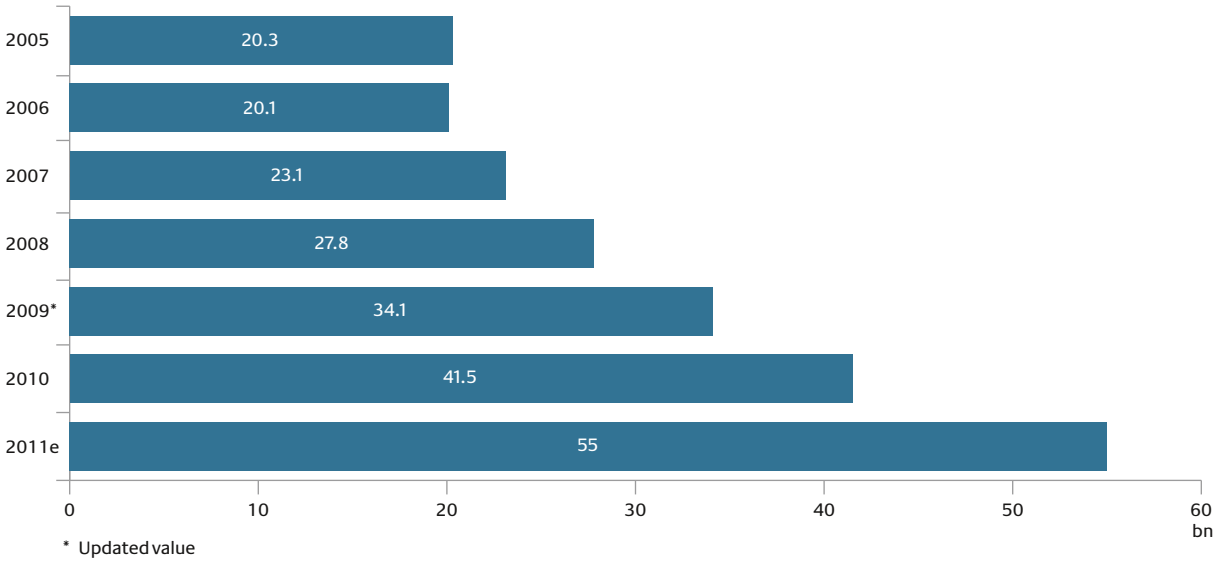


Text messaging

2011 was the first year in which more smartphones were sold than any other type of mobile telephone.[10] Smartphones make it much easier to make mobile use of the Internet. E-mail and other services provided via data connections may replace text messages in the medium term.

At present the number of text messages sent continues to grow. In 2011 around 55 billion text messages were sent within Germany. This is an increase of over 30 percent in comparison with the previous year. This large rise is largely due to the intensive use of flat-rate pricing models.

SMS sent 2005–2011

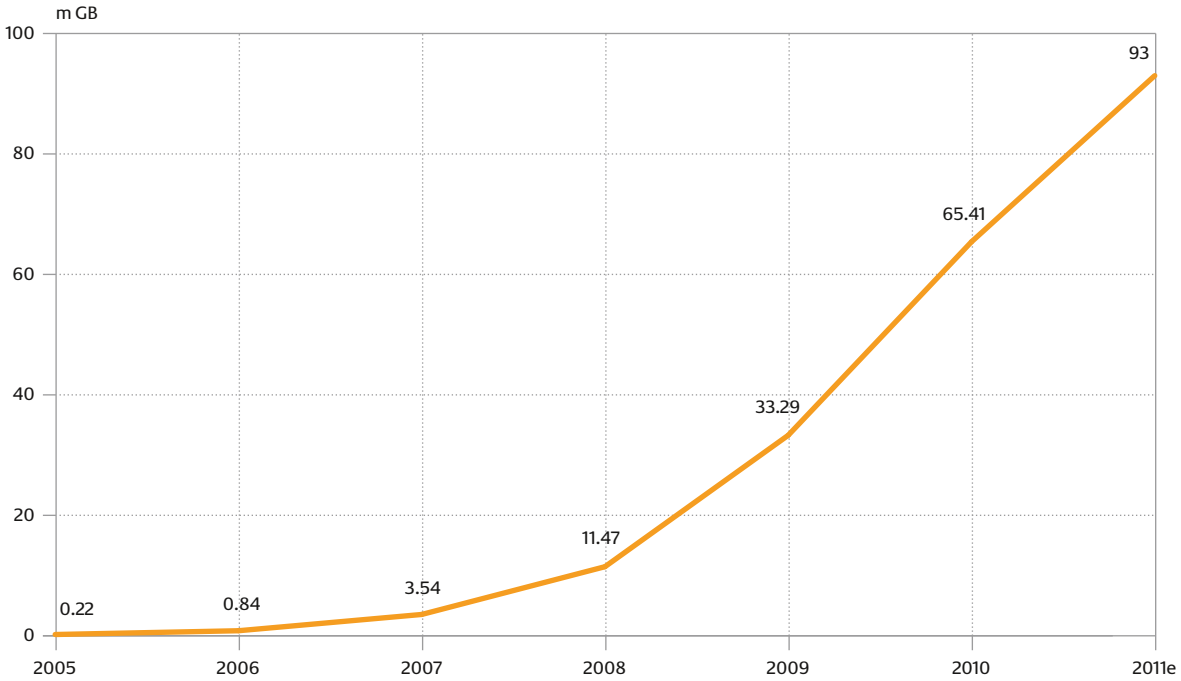


[10] Source: Consumer Electronics Marktindex Deutschland

Mobile broadband

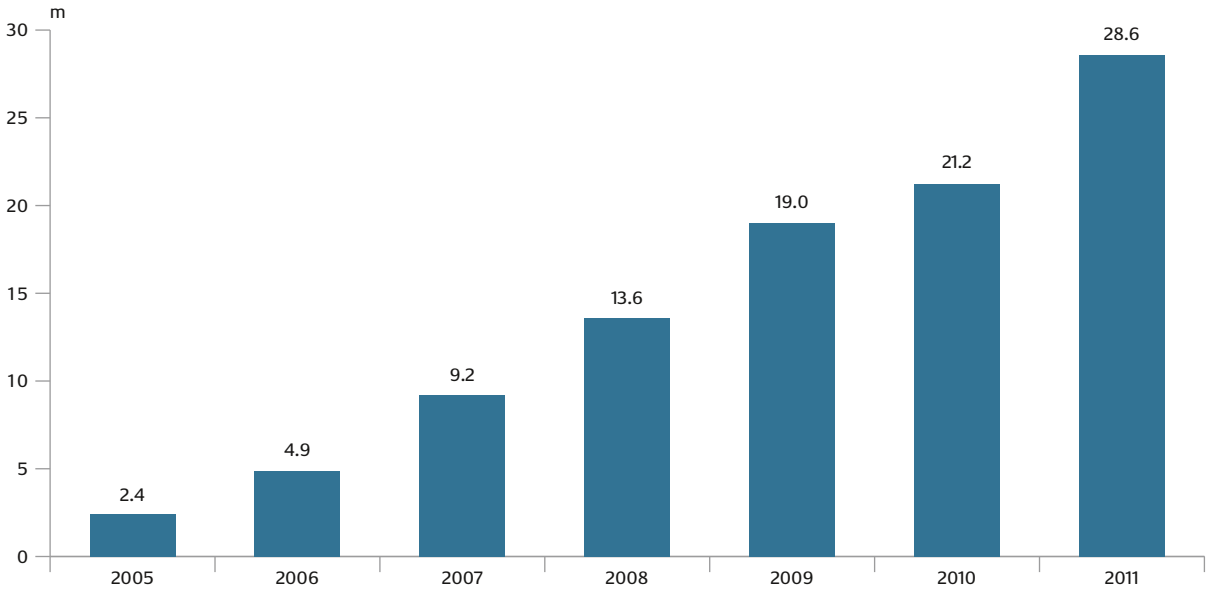
Mobile data volumes continue to increase, although the rate of this relative growth is beginning to slow down. The threshold of 100 million GB was probably not quite reached in 2011.

Mobile data volumes in Germany 2005–2011



There was another substantial increase in the number of regular 3G service users[11] in 2011 use of LTE or 4th Generation (4G) mobile telecommunications technology does not as yet play a significant role.

Number of regular UMTS users 2005–2011



[11] Used at least once during the previous three months

The infrastructure will need to be developed to serve the steady rise in users and data volumes generated. While there were just about 107,000 mobile base stations at the end of 2009, this number had risen by the end of the first quarter of 2011 to almost 126,000. The share of UMTS base stations remained relatively constant at 38 percent during this period. At the same time, UMTS network coverage in relation to population increased for all operators. While this was between 62 and 82 percent in 2009 coverage had risen by the end of the first quarter of 2011 to between 70 and 84 percent. Geographical UMTS network coverage in 2009 was between 19 and 49 percent and increased to 23 to 53 percent in the first quarter of 2011.

"Digital dividend" spectrum was auctioned in May 2010. This and other frequency bands are used by operators to offer LTE in urban and rural areas. Rollout requirements have now been met in seven German states where LTE may now also be offered in the 800 MHz band in urban centres. Around 3,000 base stations were suitable for LTE at the end of 2011.

INTERNET USE

According to a survey undertaken by the Federal Statistical Office in the spring of 2011 around 58.5 million people aged ten years and older had used the Internet from home, their place of work or elsewhere during the previous three months.

The 2011 ARD/ZDF online study conducted in the spring of 2011 found that 51.7 million people in the population group 14 years and older used the Internet at least occasionally. A survey by the (N)Onliner Atlas 2011 identified 52.7 million users. According to the ARD/ZDF online study, there were 2.7 million more users than the previous year; this increase was ascribable almost entirely to the 40 plus age segment. The same study showed that, on average, people used the Internet for 137 minutes every day. Duration of use had not changed in comparison with the previous two years. There was also an increase in registrations for the use of moving images in parallel to "conventional" TV. In early 2011, around 20 million online users watched moving images on the Internet every week, three million more than last year. Considerable use is also made of Internet radio broadcasts. 14 million people listen to radio live on the Internet occasionally, 2.5 million listeners daily.

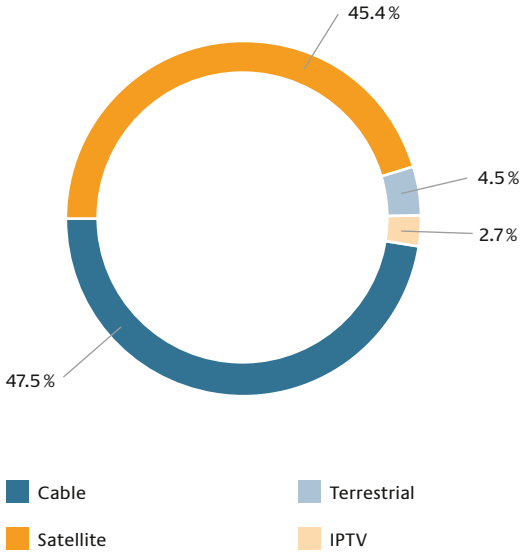
A rising share of Internet use is now by mobile access. According to the ARD/ZDF online study, in 2011 10.3 million people aged between 14 and 69 used the Internet by mobile access, 8.3 million on mobile phones, smartphones and organizers and one million on tablet computers. The ACTA 2011 (Allensbacher Computer- und Technik-Analyse) produced similar findings.

BROADCASTING

According to market figures produced by Société Européenne des Satellites (SES), 47.5 percent of the around 38 million German households with television received their signal via cable in mid-2011 (this figure also includes households which use shared satellite systems without their own satellite receiver). 45.4 percent received their signal from their own satellite dish and 4.5 percent used DVB-T. Television services delivered via a DSL line (IPTV) were received by 2.7 percent of viewers. In recent years there has been an observable and continuing trend towards reception by satellite and Internet television;

cable TV continues to decline. Terrestrial television (DVB) is also losing market share.

Infrastructural connection of households with TV 2011



Source: SES/ASTRA

TV reception is now overwhelmingly digital. While 43 percent of viewers using cable TV received digital broadcasts in mid-2011, 85 percent of satellite TV viewers opted for digital reception. The agreement reached by state media authorities (Landesmedienanstalten) with broadcasters to cease broadcasts of analogue programmes by satellite by the end of April 2012 will mean that the digitalisation rate for reception by satellite will reach 100 percent. In contrast to satellite broadcasting it will still be possible for a longer period in the future to receive digital and analogue programmes in cable networks.

TABLE OF CONTENTS CHAPTER

KEY FIGURES AND COMPETITORS' SHARES IN THE GERMAN TELECOMMUNICATIONS MARKET

Key figures	2009	2010	2011e
Revenues (€bn)	60.4	59.2	58.4
Investments (€bn)	6.1*	5.9	6.0
Employees	184,200*	176,900	176,000
Telephone lines/access points (m)	38.5*	38.2	38.0
– Analogue/ISDN (incl. public telephones)	32.3*	30.4	28.7
– Voice access points via cable TV networks	2.3	2.9	3.6
– Voice access points via unbundled DSL connections (VoIP)	3.9*	4.9	5.7
Total broadband connections (m)	25.0	26.2	27.3
Broadband penetration rate (in terms of households)	62.2 %	65.3 %	67.7 %
– DSL	22.4	23.0	23.4**
> DTAG	11.5	11.9	12.3
> Competitors	10.9	11.1	11.2
of which			
• Local loops, wholesale services provided by alternative carriers, self-provision	8.7	9.1	9.2
• Bitstream (DTAG)	0.8	0.8	0.7
• Resale (DTAG)	1.4	1.2	1.3
– Cable network operators (competitors)	2.3	2.9	3.6
DTAG subscriber lines (m)	9.1	9.5	9.7
Mobile subscribers (contracts in m)	108.3	108.9	114.1
Mobile penetration rate (in terms of inhabitants)	132.3 %	133.1 %	139.6 %

Competitors' shares	2009	2010	2011e
Revenues	54 %	54 %	55 %
Investments	52 %	53 %	50 %
Telephone lines/access points	31 %*	35 %	38 %
Broadband connections	54 %	54 %	55 %
DSL (incl. bitstream/resale)	49 %	48 %	48 %

* Updated values

** Totals may deviate from rounded cumulative values

Ruling Chamber decisions

Examination of frequencies distribution completed – Identification of demand in GSM bands launched – Regulatory order on local loop access issued – Model contract for local loop access on a distribution cabinet stipulated – New interconnection rates approved

RULING CHAMBER 1

Examination of frequencies distribution

The President's Chamber of the Bundesnetzagentur ruled in 2011 (BK 1-11/001) that frequency assignments within the 900 MHz band will remain unchanged. Re-assignment by the end of the period on 31 December 2016 is not necessary. Performance of the examination of frequencies distribution was based on European law and Art. 1(2) of Directive 87/372/EEC as amended by Directive 2009/114/EC (amended GSM Directive). When implementing the amended GSM Directive Member States were required to examine whether the existing assignment of the 900 MHz band to mobile operators was likely to lead to distorted competition.

The four mobile telecommunications companies Telekom Deutschland GmbH, Vodafone D2 GmbH, E Plus Mobilfunk GmbH & Co. KG and Telefónica Germany GmbH & Co. OHG were parties in the examination proceedings. The ruling was preceded by the publication of a study on the distribution of frequencies by the Vienna University of Technology and a public hearing of the President's Chamber on 4 April 2011. The President's Chamber subsequently submitted a draft of the ruling for public consultation on 6 July 2011. The final ruling was issued on 21 November 2011.

In its ruling the President's Chamber concluded, after extensive examinations, that the existing assignment of spectrum was unlikely to result in competitive distortions. The current distribution of mobile frequencies is the result of open, transparent and non discriminatory award proceedings. In contrast to other European countries all the operators in Germany have frequencies at their disposal which enable them to provide both cost effective basic services to all customers throughout the country as well as capacity to meet rapidly increasing demand for broadband data traffic in centres of population. The study did not find either that mobile operators which provide broadband services experience any cost and efficiency disadvantages compared with other competitors.

Identification of demand within the GSM frequency bands

Frequencies within the 900 MHz and 1,800 MHz bands are currently only assigned for a temporary period under GSM licences until

31 December 2016. These frequencies will be available for wireless access as of 1 January 2017.

Parallel to the examination of frequencies distribution the President's Chamber also launched a procedure to clarify the use of particularly valuable 900 and 1,800 MHz frequencies with the aim of providing all market players planning and investment certainty at the earliest possible time. In this respect the President's Chamber first defined the key elements of formal demand identification proceedings for consultation. This provided all the relevant stakeholders the time they needed in advance to prepare to take part in the announced demand identification proceedings.

After evaluating all the submissions made to it, the President's Chamber initiated proceedings on 21 November 2011 to determine the demand for spectrum in the 900 MHz and 1,800 MHz bands for wireless network access to offer telecommunications services from 1 January 2017 (BK1-11/003). All interested companies were requested to submit – by 16 January 2012 – their forecasts of their need for spectrum usage rights in these bands from 1 January 2017.

RULING CHAMBER 2

Access regulation on leased lines

DTAG charges for access to terminating segments of leased lines at wholesale level are currently regulated at transmission rates of 2 Mbit/s to 622 Mbit/s. In this respect the company submitted a rates proposal in good time in August 2011. Charges must be notified nationally and then EU wide. Preliminary approval of the charges was therefore given for the period 1 November 2011 and applies until such time as a ruling made following conclusion of the consultation and consolidation procedure takes effect. The intention is subsequently to approve the charges until 31 October 2013 unless it becomes apparent from the consultation and consolidation procedure that a different ruling is required.

A new regulatory order will be issued in 2012 based on the market analysis of terminating segments of leased lines received in late 2011.

Procedure under section 126 of the Telecommunications Act (TKG)

DTAG and its affiliated companies, including Congstar GmbH, were required by regulatory order BK2c 09/002 of 25 January 2010 to, amongst other things, enable call-by-call and preselection. After DTAG failed to comply in time with the requirement for the fixed network connections marketed by Congstar GmbH, the Ruling Chamber instigated proceedings under section 126 TKG to enforce compliance by DTAG.

DTAG's initial response was to make the investments necessary to create the required technical preconditions to enable call-by-call and preselection. The Ruling Chamber remains in ongoing contact with DTAG throughout the current procedure to ensure that call-by-call and preselection really can be used by Congstar GmbH customers.

Dispute resolution procedure under section 133 of the Telecommunications Act (TKG)

Under the dispute resolution provisions of section 133 TKG, Mobile Extension GmbH petitioned the Ruling Chamber to oblige Telefónica Germany GmbH & Co. OHG to hand over telecommunications traffic which is to be terminated in the petitioner's network with the right CLI (calling line identification or call number) in the future and without distorting or falsifying the DTMF dial tones (dual-tone multi-

frequency or dual tone multiple frequency). In addition, calls should be neither blocked nor throttled.

The petition was not granted: although the company is required to ensure that nationally significant call numbers are transmitted in full under section 66j TKG, this obligation does not automatically give rise to a competitor's subjective right. The provision does not protect third parties. The ruling stated for the petitioner that the procedure under section 133 TKG does not constitute an objective complaints procedure and the petition was therefore dismissed as inadmissible. However, the Bundesnetzagentur did respond to the complaint by assessing whether official action may be required to ensure that the relevant obligations imposed by the TKG are complied with.

RULING CHAMBER 3

Mobile termination rates finally approved

On 24 February 2011, the Bundesnetzagentur announced its final rates approvals for call termination in the mobile networks of the four German mobile network operators, known as mobile termination.

This means that the following mobile termination rates now apply retrospectively since 1 December 2010:

Telekom Deutschland GmbH	3.38 ct/min
Vodafone D2 GmbH	3.36 ct/min
Telefónica O2 Germany GmbH & Co. OHG	3.39 ct/min
E-Plus Mobilfunk GmbH & Co. KG	3.36 ct/min

The mobile termination rates were initially approved at the end of November 2010 on a provisional basis as a national consultation procedure needed to be performed and a statement then issued by the EU Commission before a final decision was taken.

These rates are limited until 30 November 2012.

Regulation order on local loop access

In its ruling of 21 March 2011 the Bundesnetzagentur informed Telekom Deutschland GmbH about its renewed regulatory order on access to the local loop, referred to as the "last mile". The ruling obliges the company to grant access to the established copper loop, to provide co-location, to provide access to multifunction street cabinets and empty cable ducts, to ensure non-discrimination and to submit signed local loop access agreements to the Bundesnetzagentur. Charges for access to the copper loop are still subject to approval from the Bundesnetzagentur on the basis of the costs of efficient service provision.

In addition Telekom Deutschland GmbH has also been required to grant its competitors non-discriminatory access to its newly laid fibre loops. Under the new regulatory order the applicable rates are initially subject to ex-post control under the anti-competitive conduct provisions of section 28 TKG. The Bundesnetzagentur takes the view that ex-post control of prices is an appropriate way of achieving the regulatory aims outlined in section 2(2) TKG – which include that of ensuring non-discriminatory competition and promoting investments – in terms of the purely fibre optic local loop. In fact, Telekom Deutschland GmbH is subject to effective rates regulation under section 38 in conjunction with section 28 TKG which also avoids the costs of efficient service provision being exceeded. In contrast to other markets,

the provisions of section 28(1) TKG provide an appropriate means of preventing the costs of efficient service provision being exceeded. Assessments of margin squeezes are particularly important in this respect and the connection and monthly charges for the fibre loop must also fit into the chain of wholesale and retail prices charged.

In the light of the provisions of section 28 TKG there is limited scope available for price setting. Owing to regulatory stipulations or market processes the other (wholesale and retail) prices along the value chain are closely tied to an efficient cost level. This means that – with the charge for copper loops based on the cost of efficient service provision on the one hand, and the charges for bitstream products and retail charges for connections operated on the basis of fibre loops on the other – the Ruling Chamber has appropriate evidence on which to carry out in-depth assessments. It is particularly important in this context to remember that, from the point of view of the end user, fibre optic and copper lines are interchangeable for the period under consideration. Copper-based connections consequently have a disciplining impact on the prices charged for fibre optic connections.

Notification of bitstream charges assessed

In a letter dated 29 April 2011 Telekom Deutschland GmbH notified the Bundesnetzagentur that it planned to introduce new charges for bitstream access from 1 July 2011. The Ruling Chamber's assessment did not identify any evidence that these charges were obviously anti-competitive. The Ruling Chamber had also called on Telekom Deutschland GmbH to notify relevant users of the planned charges before introducing them. The Ruling Chamber did not receive any complaints or information from competitors about the intended charges within the time limit of two weeks. The Ruling Chamber notified Telekom Deutschland GmbH of the findings of this anti-competitive test on 13 May 2011.

In a second notification of charges made on 31 August 2011 Telekom Deutschland GmbH informed the Ruling Chamber that it intended to roll out its new "IP-BSA-VDSL16" VDSL bitstream variant on 1 November 2011 and thus intended to bill new charges for this bitstream access from this date. This anti-competitive test did not identify any evidence that charges were anti-competitive.

Model contract for access to the local loop on a distribution cabinet

In May 2011 the Bundesnetzagentur stipulated a model contract (so-called reference offer) for use by Telekom Deutschland GmbH for access to the local loop on a distribution cabinet. The reference offer sets out the specific terms and mutual obligations under which competitors will be able to access Telekom Deutschland GmbH's main cable to a newly installed distribution cabinet in the future. It will enable competitors to conclude specific distribution cabinet access agreements with Telekom Deutschland GmbH without having to engage in time-consuming negotiations or, where disputes arise, having to submit a complaint to the Bundesnetzagentur. The reference offer makes it much easier to develop broadband services in regions which have so far only received a low level of service or none at all.

The reference offer contains clear rules on the conditions on which Telekom Deutschland GmbH is now required to install a new distribution cabinet for a competitor. The technical or other reasons for rejecting the installation of distri-

bution cabinets are also more precisely defined. In the past differences frequently arose between Telekom Deutschland GmbH and consumers in this respect. The information and provisioning periods have also been tightened up and contractual penalties, such as in cases in which periods are not complied with, included in the model contract.

Telekom Deutschland GmbH is not allowed to amend the reference offer stipulated by the Bundesnetzagentur until the end of May 2013.

New rates for leasing local loops

The Bundesnetzagentur published new rates for the leasing of local loops on 17 June 2011. After this date Telekom Deutschland GmbH will be required to allow its competitors to use the local loop for a charge of 10.80 euros a month retrospectively from 1 April 2011. The company applied to the Bundesnetzagentur in mid-January for an increase up to 12.90 euros. In line with this ruling Telekom Deutschland GmbH is entitled to charge 7.17 euros for access to the local loop on a street cabinet.

The Ruling Chamber determined the authoritative cost of efficient service provision by drawing on cost statements provided by Telekom Deutschland GmbH, as in previous approval rounds, on the cost model developed by the WIK (Wissenschaftliches Institut für Infrastruktur und Kommunikationsdienste) and on the current replacement costs of installing an efficient access network. In the process the Bundesnetzagentur adhered to the well-established approach it has adopted for the past ten years of calculating rates on the basis of the current replacement costs. This is the best way of creating incentives for investments in modern networks. The period of approval expires on 30 June 2013.

New charges for access to the local loop on a distribution cabinet were also announced on 1 April 2011. After this date, the monthly rate for shared access to the local loop on a distribution cabinet will be 8.01 euros. The ruling also stipulates flat-rate charges for the key components and assembly work involved in installing a distribution cabinet.

The assessment of charges produced additional insights from the gratifying increase in distribution cabinets now being provided since the last ruling on charges. These were taken into account when stipulating charges. The charges make access to the local loop on distribution cabinets, and the development of so-called “white spots”, more attractive for competitors.

New interconnection rates approved

On 20 September 2011, the Bundesnetzagentur approved new interconnection rates backdated to 1 July 2011. The newly determined charges are based on a European benchmarking study.

Telekom Deutschland GmbH may charge 0.45 ct/min to competitors for the “call originating” and “call termination” services required to put calls through its network in the most important charge zone I (where calls are put through at the lowest tier of the network) on work days from 9 a.m. to 6 p.m. (peak rate). During the remaining period, as well as on Saturdays, Sundays and national public holidays (off-peak rate) the company can charge 0.32 ct/min.

In charge zones II and III the only interconnection rates which are now subject to approval are those which are payable for the “call originating” services needed for call by call and preselection calls which originate in the Telekom Deutschland GmbH network and are handed

over to competitor networks in particular. If these calls are handed over at a higher network tier and if more Telekom Deutschland GmbH network elements are used as a result (charge zone II), future peak and off-peak rates will be 0.69 ct/min and 0.46 ct/min respectively. Where calls are transferred at the highest network tier (charge zone III) Telekom Deutschland GmbH will be allowed to charge a peak rate of 1.04 ct/min and off peak rate of 0.69 ct/min in the future.

In addition to this basic charge for termination and originating services, the ruling also includes charges for the resulting "optional and additional services". These include call origination to premium rate services, transit between different networks or origination of narrowband Internet traffic.

New rates for services relating to interconnection lines

The ruling of 30 November 2011 primarily concerned rates for the provision and lease of "intrabuilding sections in the framework of interconnection lines (ICAs) which include the switching and transmission systems which are required at the network interconnection points. Compared to previously approved rates, the provisioning charges for customer sited and physical co location ICAs have risen only marginally and can therefore be considered relatively stable. This is due to the fact that the provision of ICAs was based on processes which have been introduced over a period of years and which have been verified in several procedures and that further boosts in efficiency – including the declining importance of PSTN-ICAs – were not apparent to the Ruling Chamber.

In contrast, there were substantial falls in monthly charges. These arose from the need to modify capacities to reflect lower demand in the framework of stipulating investment values and from efficiency-oriented cost reductions in specific calculation elements which exceed capital costs.

These rates expire on 30 November 13.

New rates for the provision and lease of ICAs and for loop-related co-location services

The ruling of 30 November 2011 concerned in particular the prices for planning, project design, provision, lease and dismantling of co-location spaces – as well as, for the first time, the street cabinet supply cables – the technical equipment which may be required (such as air ventilation, low voltage supply and connecting cables) and incurred ancillary costs. As the rental costs were not clear from the cost information submitted by Telekom Deutschland GmbH, they were determined again, as in the past, by resorting to the 2011/2012 version of the IVD property tables. The market development of leases selected as benchmarks resulted in several cases in reductions in previously approved rates as well as in increases in one or two cases.

These rates are limited until 30 November 2013.

Further decisions

Intensive discussion of net neutrality – NGA forum publishes service description of a level 2 bitstream access product – Flexibilisation of existing frequency usage rights – Infrastructure atlas

NET NEUTRALITY

Net neutrality was a topic of intensive debate in Germany and at the European level in 2011. The Bundesnetzagentur was very much involved in this discussion. In 2011, the network neutrality debate focused to a much greater degree on aspects such as transparency, quality of service and the relationship between best effort services and possible defined quality transport classes.

With the comprehensive use of IP networks – not just for Internet but also for other services, some of which place high demands on the quality of the network transport – some network operators regard the introduction of tiered transport classes as a way of transferring defined quality services and of avoiding what they regard as latent capacity bottlenecks. They also argue that content providers should make a financial contribution towards the financing of the requisite infrastructure costs.

The introduction of transport classes could maximise welfare provided that such a system offers choices to end customers. It is critically important, however, that users are not only able to decide which services and applications they wish to use, but also in what quality. At the same time this should not lead to restrictive discrimination whereby various users of one and the same transport class are treated differently.

If network operators introduced transport classes of this kind, this should not be to the detriment of the best effort Internet. Bearing in mind both the projected growth in the number of broadband connections as well as the increase in the volume of data per connection this will require ongoing dynamic development in the future.

The European regulatory framework and its (extended) transparency obligations, as well as the possible introduction of minimum quality, offers a broad –based range of instruments suitable for securing net neutrality in addition to competition. Both aspects were also taken up in 2011 in the framework of BEREC reports. The reports describe issues about which customers should be transparently informed (eg product scope or limitations) and how and in what form this transparency can be achieved. A framework for quality of service is also sketched out in the context of net neutrality which examines various concepts which are relevant to quality of

service (such as traffic management) and presents possible ways and means of assessing the implementation of quality of services in IP networks.

NGA FORUM

The Bundesnetzagentur founded the NGA Forum in May 2010 to promote dialogue between the Bundesnetzagentur, network operators, manufacturers, the federal states and local authorities. The forum will discuss specific topics relevant to the rollout of high-performance broadband networks.

The future market and competition landscape for Next Generation Access (NGA) is characterised by an increasingly heterogeneous multi-carrier environment with several different technologies. The NGA rollout will not be implemented by a single company in Germany. On the contrary, the local fibre optic networks of local and regional authorities as well as of energy utilities will also make an important contribution. This variety of business models and multiplicity of actors results in a larger number of potential suppliers and consumers at the wholesale level.

As the development of NGA networks thus requires the coordination of numerous actors in the telecommunications industry, interoperability is a key component in the success of open access. Open access and interoperability are consequently a central focus of the NGA Forum.

There is, above all, consensus that standardised interfaces and processes are required for open access in order to be able to provide cross-network services. A policy paper published in May 2011 ("Technical and operational aspects of access to fibre optic networks and other NGA networks") includes a compendium-like description of both the relationships between network segments, possible network access and wholesale products as well as the technical options available for the development of NGA structures. Architectures and technologies are presented in neutral form and foreseeable medium-term developments also considered.

A service description of a level 2 bitstream access product (LS-BSA) published in October 2011 also addresses the framework specification and process definition of the policy document which are then used as the template for a specific description of an L2-BSA wholesale product. This provides a detailed definition of the technical and operational interfaces, the key business processes required for interoperational purposes as well as the requirements for the relevant technical interfaces.

In terms of interoperability this was a decisive breakthrough for planning certainty and additional investment in new broadband networks. With the adoption of the two documents the NGA Forum has made a fundamental contribution to the implementation of the federal government's broadband strategy. This was achieved thanks to a deep matter-of-fact and compromise-based consensus between numerous actors in the telecommunications industry. For the first time there are therefore grounds for hope that the broadband communication market of the future, which is so important for Germany, can be shaped on the basis of voluntarily agreed principles.

NUMBERING

The operation of telecommunications networks and the provision of telecommunications services requires the provision of various number resources. The Bundesnetzagentur ensures that all resources required on the liberalised telecommunications market are available on a non-discriminatory basis, in good time and in sufficient quantities. It also determines the purposes for which, and the framework conditions under which, each type of number is to be used and allocates numbers in blocks or individually to providers and end users. Given the ceaseless, dynamic development of technologies and business models on the telecommunications market, the Bundesnetzagentur reviews on a regular basis whether existing arrangements need to be adapted, new number resources need to be created or terms of use modified in order to promote competition and technological developments and to protect consumers' interests.

Allocations made in 2011

In the range of local numbers and national numbers (number range (0)32), allocations developed as follows in the years up to 2011:

Year	Assignment of blocks of 1,000 local numbers	Total assignment of blocks of 1,000 local numbers	Number of assignees at end of year
2008	11,995	160,198	99
2009	15,445	175,643	103
2010	27,195	202,838	110
2011	35,135	237,973	102

In terms of the most important service telephone numbers, allocations developed in the same period as follows:

Service	Number range	Assignments in 2008	Assignments in 2009	Assignments in 2010	Assignments in 2011	Total numbers allocated
Freephone services	(0)800	16,105	9,512	8,699	13,579	192,078
Shared cost services	(0)180	9,564	13,561	6,662	16,908	147,289
Premium rate services	(0)900	5,819	6,737	4,756	2,206	87,831
Personal numbers	(0)700	1,774	2,042	915	2,191	101,463

Central 115 phone number for government agencies

Administrative bodies in Germany can be reached via the 115 call number assigned to the Federal Ministry of the Interior (BMI). Simple matters of recurring interest can be dealt with on first contact; more complex issues can be forwarded to the responsible bodies via service centres at the various administrative levels. The final consumer price for a connection is defined by the caller's provider.

Customers who used a pilot scheme complained that they were unable to reach a service centre in a specific local network and that the prices charged by providers were inappropriately high. In response to these complaints the terms of use were amended in line with the rules on local numbers. It will now be possible to prefix an area code and the telephone charges paid by users in the future will be equal to the price for a call by a subscriber in the same local network area. The new rules may be put into force from 1 January 2012 and must be applied by 1 March 2012 at the latest. Telecommunications companies have two months within which to make the necessary changes.

Enquires about number administration

In 2011, the Bundesnetzagentur number administration call centre in Fulda handled 24,355 enquiries, the majority of which concerned the allocation of telephone numbers. Most queries were to do with local numbers and premium rate numbers. A large number of enquiries were also received about number fees.

Issue	Number of enquiries 2010	Number of enquiries 2011
Allocation of numbers	16,729	21,124
Allocation charges	572	553
Other issues	1,452	2,678
Total	18,753	24,355

FREQUENCY REGULATION

Study of competition for mobile services in Germany

After undertaking wide-ranging investigations, and on the basis of a scientific study produced by the Vienna University of Technology focusing on the economic and technical aspects of frequencies, the Bundesnetzagentur has concluded that the four mobile network operators active on the German market have competitive spectrum at their disposal. They are in a position to operate high-performance broadband wireless infrastructures in accordance with their business models. No competitive distortions could be identified, either when considering the 900 MHz band in isolation or all the frequencies assigned to the operators for wireless access for the purpose of offering telecommunications services. The Bundesnetzagentur consequently decided that frequency assignments within the 900 MHz band should continue to exist and should not – as requested by two mobile operators – be reassigned before the end of the period on 31 December 2016 to rectify any competitive distortions arising as a result of flexibilisation.

Further use of GSM frequency bands from 2017

The Bundesnetzagentur has launched a needs assessment to provide the companies affected clarity about the further use of frequencies from 2017 onwards in good time before the expiry of the GSM frequency usage rights. The objective of the identification of demand is to determine possible excess demand as the basis of a forecast of whether there are likely to be more applications than available frequencies. Needs could be notified to the Bundesnetzagentur up to 16 January 2012.

Flexibilisation of existing frequency usage rights

Based on the flexibilisation ruling of 12 October 2009 (BK1a-09/001) it was possible to flexibilise frequency assignments within the 450 MHz, 1.8 GHz, 2 GHz, 2.6 GHz and 3.5 GHz bands in 2010 at the assignees' request. In 2011 the limitation to the GSM standard could also be lifted for assignments in the 900 MHz band as applied for.

As early as mid-December 2010 E-Plus Mobilfunk GmbH & Co. KG was initially granted flexible use of 900 MHz frequencies at locations for which specific applications had been made. As a result it was possible in 2011 to stipulate the technology-neutral use of frequencies at these locations. Following the conclusion of the examination of frequencies distribution (BK1-11/001) in December 2011 the company's application for nationwide flexibilisation of 900 MHz frequencies was finally approved. This meant that the frequencies in what is known as the GSM core band can be used nationwide by the company with broadband radio technologies, such as UMTS/HSPA or LTE, and that consumers in rural areas can be provided broadband Internet access. In this way flexibilisation contributes to the achievement of the objectives of the broadband strategy.

Spectrum auction 2010

In the spring of 2010 the Bundesnetzagentur auctioned frequency spectrum in the ranges 800 MHz, 1.8 GHz, 2 GHz and 2.6 GHz for approximately 4.4 billion euros. The successful bidders, the four nationwide mobile network operators, have subsequently continuously expanded their networks, also to accommodate the fast growing demand for broadband.

In this context the network operators Telefónica Germany GmbH & Co. KG, Telekom Deutschland GmbH and Vodafone D2 GmbH are subject to the obligation to provide services to "white spots" for frequencies in the 800 MHz spectrum which will initially limit the free use that can be made of these frequencies. The companies are accordingly required to meet phased broadband rollout requirements for towns and districts at each priority stage in 13 federal states. Towns and districts with less than 5,000 inhabitants must first be supplied with mobile broadband (priority stage 1). Bigger towns will follow suit in the subsequent stages. After meeting coverage obligations holders of assignments can use the 800 MHz spectrum in the federal states in any way they see fit.

In 2011 mobile operators continued the work they had begun on rolling out networks shortly after the assignment of frequencies. The Bundesnetzagentur has carefully evaluated the relevant reports produced by network operators on the status of coverage in the various federal states taking account of data from the broadband atlas and made sample measurements to check the information provided by network operators. The assessment of whether coverage

requirements are met takes into account services by other providers or technologies with the same or higher value broadband solutions.

The coverage obligations were first met in August 2011 in North-Rhine Westphalia and in September in Baden-Württemberg, Bavaria, Hesse, Rhineland-Palatinate and the Saarland. By the end of the year Schleswig-Holstein was the seventh of 13 federal states to have met requirements. This means that innovative broadband mobile network access for consumers has been made quickly available in rural areas, in particular. In addition to the imposed coverage obligations further work on extending networks has also been undertaken in towns and cities previously underserved with broadband.

The flexibilisation of rights of use also acts as an incentive for mobile operators to make large-scale investments in their networks. The Bundesnetzagentur concluded coordination agreements with Denmark, France, Liechtenstein, the Netherlands, Austria, Poland, Switzerland and the Czech Republic designed to promote the economic success and efficient use of spectrum across the entire country, including in border regions.

The use of the 800 MHz spectrum continues to require coordination with broadcasting under 790 MHz. The Bundesnetzagentur uses an advanced computer-assisted process to assess each individual application made by network operators for the determination of site-related frequency usage parameters to ensure that DVB-T reception is adequately protected. This procedure has ensured that interference to broadcasting services has been largely precluded and account taken of public interest in interference-free broadcast reception.

European and international harmonisation and preparations for the World Radiocommunication Conference in 2012

The Bundesnetzagentur frequency management function plays an active role in harmonising the use of frequencies in Europe in the corresponding bodies of the European Conference of Postal and Telecommunications Administrations (CEPT). CEPT's Electronics Communication Committee (ECC) is also responsible for radio and frequency issues in 48 European countries. The Bundesnetzagentur manages and provides the secretariat of the ECC.

The following key topics were dealt with in 2011: the future reorganisation of the L-bands in the 1452-1492 MHz band, spectrum for broadband public protection and disaster relief (PPDR) applications both below and above 1 GHz, the amendment of spectrum plans for the 3400-3800 MHz band to comply with the requirements of international mobile telecommunications systems (IMT), the rules for specific ultra-wideband (UWB) applications and the possible dedication of additional spectrum for wireless microphones and inclusion of this spectrum in Annex 10 of the ERC Recommendation 70-03.

The Bundesnetzagentur promotes European policy objectives by taking part in the European Commission's Radio Spectrum Committee (RSC) and the Radio Spectrum Policy Group (RSPG). The RSPG provides the European Commission advice on current topics relating to radio spectrum policy; RSPG opinions should be largely adopted in EU activities. In 2011 the RSPG issued opinions on the EU's radio spectrum policy programme, on cognitive technologies and on the World Radiocommunication Conference 2012 (WRC-12). Reports on improving broadband coverage, on the collective use of spectrum

and on the future of broadcasting were also adopted. The RSC finally adopted decisions on the 900/1800 MHz bands (spectrum for electronic communications services), on 24 GHz band (spectrum for automotive short range radar) and on the amendment to the decision on short range devices (SRD).

In 2011 particular emphasis was placed on the conclusion of the preparatory studies for the WRC 12. The WRC 12 is the sole body with responsibility for making relevant changes to Radio Regulations and reaching key decisions concerning the global use of spectrum. National positions on specific items of the WRC 12 agenda were coordinated in the WRC-12 National Coordination Group under the lead management of the Federal Ministry of Economics and Technology. The actual detailed work on preparing positions was in fact undertaken by three working parties chaired by the Bundesnetzagentur.

Frequency usage plan

Under section 54 of the TKG the Bundesnetzagentur is responsible for drawing up a frequency usage plan on the basis of the National Table of Frequency Allocations (FreqBZP) in compliance with the procedures set down in the Frequency Band Allocation Ordinance (FreqNPAV). The frequency usage plan (April 2008) was updated in 2011. This took account of international decisions adopted by the ITU, CEPT and EU and the subsequent amendments to the Frequency Band Allocation Ordinance to meet urgent national planning requirements as well as proposals from third parties. The updated frequency usage plan was published in August 2011.

Experimental radio

Based upon section 58 of the TKG, approximately 800 frequency assignments were issued in 2011 for developing and testing new technologies and as part of frequency research projects. Deviations from the National Table of Frequency Allocations (FreqBZP) and the frequency usage plan are permitted for frequency asignments to provide innovative radio service. However, the radio services and frequency uses entered into the plans must not be affected. New developments in 2011 focused on LTE base stations, including in particular in the 800 MHz, 1.8 GHz and 2.6 GHz bands, GSM software developments and telemetry systems in the 5.15 GHz band.

Trunked mobile radio

There is still need and demand for assignments of frequencies for narrow band trunked mobile radio which is mainly used for intra-company communications. As the relevant frequency assignments to date were only limited until 31 December 2015, the Bundesnetzagentur decided in 2011 that, in the future, applications for first-time assignment of analogue trunked radio frequencies will be limited until 31 December 2020 and for digital trunked radio frequencies up to 31 December 2025. Applications may be made to extend old assignments of narrowband trunked radio made up to 31 December 2015.

The applicants' main interest is in frequencies for the use of TETRA technology. The main user groups are large transport managers, energy utilities, large-scale undertakings such as chemicals, refineries, pharmaceuticals, vehicle manufacturer and airport companies as well as public sector bodies.

Satellite radio

The Bundesnetzagentur filed four satellite systems with the ITU in 2011. The Bundesnetzagentur also submitted 305 coordination requests on behalf of German satellite operators

to the ITU for hundreds of occupations of frequencies in the orbit. This resulted in bilateral negotiations with other countries and their satellite operators aimed at guaranteeing interference-free operation of all satellite systems.

Short-term assignments

In 2011, the Bundesnetzagentur issued a total of 1,439 short-term assignments providing a total of 8,439 frequency uses in extremely varied frequency ranges between 40 MHz and 22 GHz for 1,036 events. Most of these short-term assignments were made for motor sports events (such as Formula 1 and DTM) and the FIFA Women's World Cup 2011. To ensure interference-free and efficient use of these frequencies, Bundesnetzagentur staff and monitoring vehicles were present at 97 events.

General assignments

Pursuant to section 55(2) of the TKG, general frequency assignment represents the norm. General assignments or basic adjustments were in 2011, for example, for multiple gigabit WAS/RLAN systems (MGWS), medical radio applications, ground probing radar (GPR), CB radio and for the wireless connection of hearing aids.

Analogue private mobile radio

During the period under review the trend towards digitalisation in analogue PMR continued and the volume of data transferred also increased. Private mobile radio is used for in-house communication in the industrial and commercial sector, for instance, by transport and logistics companies and in the field of administration. Other important areas are, for instance, radio microphones and outside broadcasting (wireless microphones, wireless cameras) as well as mobile data services, telemetry and telecommand (remote control of machinery, remote data retrieval, traffic management systems, alarm systems). 7,642 operations were processed in analogue PMR in 2011.

Amateur radio

In 2011, 62 amateur radio examinations were conducted and 731 amateur radio certificates issued. 1,331 amateur radio licences and additional call signs were also issued.

Point-to-point radio relay

Under section 55 of the TKG the Bundesnetzagentur, upon request, assigns frequencies for the operation of radio-relay systems on a competition-neutral basis, thereby ensuring that frequencies are used efficiently and without causing interference. Various frequencies above 4 GHz are available for radio relay systems. Radio relay bands are used by a large number of mobile and other operators, such as the Federal Agency for Digital Radio (Bundesanstalt für den Digitalfunk) of the authorities and organisations concerned with public safety.

Currently there are around 1,000 assignment holders for radio relay uses in Germany. An ever increasing number of radio relay links implies a continually growing expenditure of effort on interference analysis to ensure interference-free frequency usage. Currently a total of around 105,000 active frequency assignments for point-to-point radio relay are administered by the Bundesnetzagentur.

In 2011, the Bundesnetzagentur received a total of 28,584 applications for the assignment of radio relay frequency. This is equivalent to an increase of around 30 percent over 2010 following on from a comparable increase from 2009 to 2010. This increase reflects the growing connection of mobile base stations with the expansion of LTE.

Discussions were held with mobile operators in mid-2011 on the possibilities of speeding up the processing of applications. In addition to the prioritising of applications by mobile operators, further specific measures were identified (such as procedures when certain frequencies for which applications have been made are not available) which have resulted in time-consuming inquiries about applications with operators being reduced. As a result significantly more applications were handled much more quickly. A total of 20,390 frequency assignments (new assignments and technical changes) were made in 2011 – 4,631 frequency assignments more than last year.

The Bundesnetzagentur also takes part in the planning and approval procedures in the framework of building and emission control law, including as a public agency. This participation involves drafting statements on interference in radio relay links in connection with the planned installation of wind power plants or other higher constructions (radio masts and towers, chimneys, high-rise buildings). The Bundesnetzagentur handled a total of 950 participatory procedures or requests for official assistance and information in 2011.

TECHNICAL COMPATIBILITY AND STANDARDISATION

Electromagnetic compatibility (EMC) and standardisation

In 2011, CENELEC (European Committee for Electronical Standardization) submitted a draft European harmonised EMC product standard for PLC products (Powerline Communication) for home networking. This meets almost all the demands made by the Bundesnetzagentur and to all intents and purposes ensures interference-free short-wave radio reception. This was made possible by binding requirements for adaptive power management of the transmit level of PLC products in the cable and an additional, autonomous cognitive decrease in this transmit level on frequencies which are locally occupied by wanted radio signals.

With regard to voltage quality and security of supply in European smart grids the Bundesnetzagentur contributed to the updating of the (EN) 50160 European standard which is regarded as the yardstick for the regulation of EMC in the energy field. The standard will be reissued in autumn 2011.

Smart metering and smart grids

Smart metres and smart grid depend on the interplay of the energy supply and telecommunications infrastructure domains. The contribution made by telecommunications is becoming increasingly important as the components of the energy infrastructure must be capable of communicating with each other.

The protection of data belonging to the participants in the energy market, secure means of communication for handling business processes and the secure operation of energy and telecommunications structures have all assumed greater importance in public discussions over the last year. Together with the Federal Office for Information Security (BSI) and the Federal Institute for Physics and Technology (PTB), the Bundesnetzagentur has therefore maintained pressure for the ongoing development of security and data protection measures and their implementation in technical guidelines.

Intellectual property rights

In late 2010 the European Commission added criteria for particular forms of cooperation between companies operating at the same level of market to the amended Horizontal Guidelines. A whole chapter of the Guidelines is dedicated to cooperation in standardisation organisations. The Bundesnetzagentur's participation in standardisation organisations is based on these guidelines. This applies in particular to the Bundesnetzagentur's work in the IPR groups of ITU, ETSI and the Digital Video Broadcasting consortium (DVB) which aims at producing IPR guidelines for the standardisation organisation which ensures equitable competition and the promotion of sustainable competitive markets.

Key issues addressed in the ITU and ETSI in 2011 include the amendment of the Software Copyright Guidelines and their integration in existing guidelines. The DVB consortium devoted considerable time to the revision of the Memorandum of Understanding. In the field of IPR rules this concerned the stipulations on "Transfer of essential IPRs" and "Disputes among Members" in particular.

Descriptions of radio interfaces

The Bundesnetzagentur drew up or updated eleven descriptions of radio interfaces for the radio field in 2011. Interface descriptions are based on section 4 Radio Equipment and Telecommunications Terminal Equipment Act (FTEG) for radio equipment operated in frequency bands the use of which has not been harmonised throughout the EU. They include all the information which is required to enable manufacturers to carry out, at their discretion, assessments of the basic requirements for radio equipment.

Notification procedures in the telecommunications field

The notification procedure is performed in accordance with the Europe-wide information procedure in the field of technical standards and regulations (Directive 98/34/EC). Under this Directive the Member States of the European Union are required to provide the European Commission and other Member States with information about all draft technical standards and regulations (such as interface descriptions) on Information Society products and services before they are transposed into national law. The objective is to assess whether such draft rules promote the ongoing development of the internal European market or might create barriers to trade. In 2011 the other Member States submitted more than 370 notified drafts of technical regulations relating to telecommunications and radio services: in total the Bundesnetzagentur evaluated 3,100 pages of such notified material.

EMC of cable television networks and broadcast receivers

The use of former broadcasting frequencies in the 790 MHz to 862 MHz band for mobile radio purposes has implications for the electromagnetic compatibility of cable TV networks and broadcast receivers and mobile base stations. The interference-free use of broadcasting and mobile services must be safeguarded.

At the European level CENELEC has produced draft standards on "Sound and television broadcast receivers and associated equipment – Radio disturbance characteristics – Limits and methods of measurement" and on "Cable networks for television signals, sound signals and interactive services; Part 2: Electromagnetic compatibility for equipment".

At the national level the Bundesnetzagentur's Committee on Technical Regulation in Telecommunication (ATRT) completed its "Assessment of EMC scenarios for cable/radio arising from mobile applications in the 470-862 MHz frequency range". ATRT is comprised of representatives of equipment manufacturers, mobile operators, TV cable network operators and broadcasters. The final report contains a series of proposals which are intended to optimise the compatibility situation.

Wide band radio applications in the ISM band

Work on the revision of the ETSI EN 300 328 standard has now been largely completed. The scope of application, which previously extended solely to the use of unlicensed and globally available ISM bands (2.4 GHz) for RLANs with a maximum transmitting power of 100 mW, has been extended to other applications. The European Commission has made the extended scope of application contingent on the relevant equipment being fitted with automatic spectrum access mechanisms which guarantee the non-discriminatory and efficient use of the frequency band. During the period under review possible mechanisms were considered within ETSI and added to the ETSI EN 300 328 standard with the support of the Bundesnetzagentur.

Emergency Calls Technical Directive

As part of the continued implementation of section 108(3) TKG and the Ordinance on Emergency Calls (NotrufV 2009) the Emergency Calls Technical Directive was published following the evaluation of the public consultation in June 2011. EU-wide notification did not lead to any further amendments.

The Emergency Calls Technical Directive stipulates the description of catchment areas for emergency service centres and initiates the changeover from the routing of emergency calls based on the local network instead of on administrative borders. It describes the technical characteristics of emergency numbers using ISDN technology and also includes rules on establishing, transmitting and formatting location data as well as the requirements for emergency calls in traditional, circuit-switched networks. Rules have also been specified for the forwarding of emergency calls.

Information about the location from which a call is being made – regardless of whether the caller or another person requires emergency assistance – is given high data protection priority, both in terms of receipt of such information and its transfer. It was possible to find a solution in this case which met with the approval of the Federal Commissioner for Data Protection and Freedom of Information (BfDI) while providing location information from the moment an emergency call is made.

It is also important to emphasise that – after an implementation period of 18 months – mobile operators must provide the public safety answering point (PSAP) with information about the location from which a mobile emergency call is being made right down to the cell site where the caller is. Providers of telephone services which use packet-switched transmission and switching technology – in other words, VoIP providers – must enable their customers to make emergency calls in the way defined. National surveys of PSAPs show that emergency calls from VoIP customers do not always reach the answering point with local responsibility.

On the initiative of the Bundesnetzagentur and following consultation in the responsible

committee, the European Commission issued the M/493 standardisation mandate in May 2011 for the development of the necessary standards on the provision of accurate location information because existing international concepts and specifications do not sufficiently cover existing provider structures and the legal environment. ETSI commenced the studies in October 2011 with the participation of CEN.

Calculation of call charges and billing accuracy

Under section 45g of the TKG telecommunications providers are required to demonstrate the proper functioning of billing systems once a year. Since the year 2000 evidence has been provided for time and distance-based charges for call services made available by over 240 providers.

While traditional, line switched call services are mostly billed based on time and international calls also based on distance, volume based billing is suitable for packet-switched telecommunication networks. Here, the actually transmitted call volume is recorded and billed to the end customer. The volume is also recorded in the case of "unreal" flat rate offers so that, if a contractually determined threshold is reached, reducing influence can be exercised or the volume which has exceeded the threshold can be billed in detail.

The publicly appointed and sworn experts for the calculation of call charges began to assess the billing systems of providers who charge on the basis of volumes in the spring of 2011. Several expert reports are now available.

RADIO MONITORING AND INSPECTION SERVICE

In the area of frequency regulation, the radio monitoring and inspection service (PMD) prepares and supports decisions in numerous ways. Measurements are used generally and in specific cases to safeguard efficient and interference-free use of frequencies and to support important decisions on frequency development. Knowledge of the actual use made of frequencies and their technical characteristics is the basis for ongoing frequency spectrum development.

Protection of safety services

Especially equipped monitoring vehicles were deployed all year round to facilitate the interference-free use of aeronautical radio frequencies. These vehicles travel through large conurbations and record the locations (coordinates) of cable systems which emit unintended signals which could interfere with aeronautical radio and other safety services (emergency rescue services, police) in the 118-174 MHz frequency range. This information was passed on to cable network operators who then assumed responsibility themselves for carrying out a detailed search in the relevant buildings for leaky or faulty stretches of the cable network and performing the necessary repairs. More than 10,000 "leaks" were identified by this monitoring and inspection service in 2011.

LTE emissions in the 800 MHz band

Frequencies now assigned for frequency blocks around 800 MHz as part of the "digital dividend" are subject to a frequency usage condition which stipulates coverage obligations. These include a multiple phase rollout obligation in the towns and cities designed by the federal states, the so-called "white spots".

Network operators are required to submit quarterly reports to the Bundesnetzagentur on the current status of the rollout. In the context of reviewing such reports the Bundesnetzagentur's monitoring and inspection service examined the reception of emissions in the 800 MHz frequency range in selected constituent communities (white spots) in 2011. In this process a total of 125 receivable emissions were documented in 87 constituent communities in federal states of Baden-Württemberg, Bavaria, Hesse, North-Rhine Westphalia, Rhineland-Palatinate, Saarland and Schleswig-Holstein. Technical measurements confirmed the reported rollout in these constituent communities in every case.

Interference in digital GSM-R railways radio communications

Since the launch of the extended GSM mobile frequency band the operating frequencies of public mobile services and of digital rail communications (GSM-R) have moved closer together. This led to more interference in radiocommunications for railways. A total of 37 interference locations were reported to the Bundesnetzagentur last year alone (82 in 2010).

Monitoring frequency uses

In 2011, the PMD again checked approximately 6,000 frequency assignments for a variety of radio applications in order to ascertain whether operators were complying with the provisions on the assignment of frequencies. Monitoring is to cover a representative profile of all radio services. In addition to traditional, private mobile radio services, public mobile networks (GSM/UMTS), broadcasting assignments, radio relay assignments and maritime radio assignments were also reviewed.

Protection of amateur radio against interference from abroad

In order to protect frequency bands allocated to the amateur radio service, some of them on an exclusive basis, around 20 interference reports were sent to foreign administrations in the course of the year on whose territory interfering transmitters were detected. In some cases transmitters causing interference were shut down or repaired in the interest of radio amateurs.

International cooperation

As radio waves do not stop at national frontiers, the PMD's work also has an international component. Cooperation with other radio monitoring services includes dealing with cross-border interference, developing measuring methods and coordinating organisational and operational approaches. Numerous contacts are maintained at the bilateral level with the radio monitoring services of Germany's neighbouring countries.

In the framework of international collaboration measurements are also made for the International Telecommunication Union (ITU). These measurements and observations of the short wave band will be used both by the Bundesnetzagentur for further plans and as the basis for frequency assignment and will be made accessible to and published by the ITU in accordance with an international agreement. The Bundesnetzagentur's monitoring service contributed to the measurement of the frequencies of short range devices in the framework of an international measuring campaign. The measurements allow conclusions to be drawn on the current occupancy of this frequency band and on the need for changes in the allocation of frequencies to the individual applications.

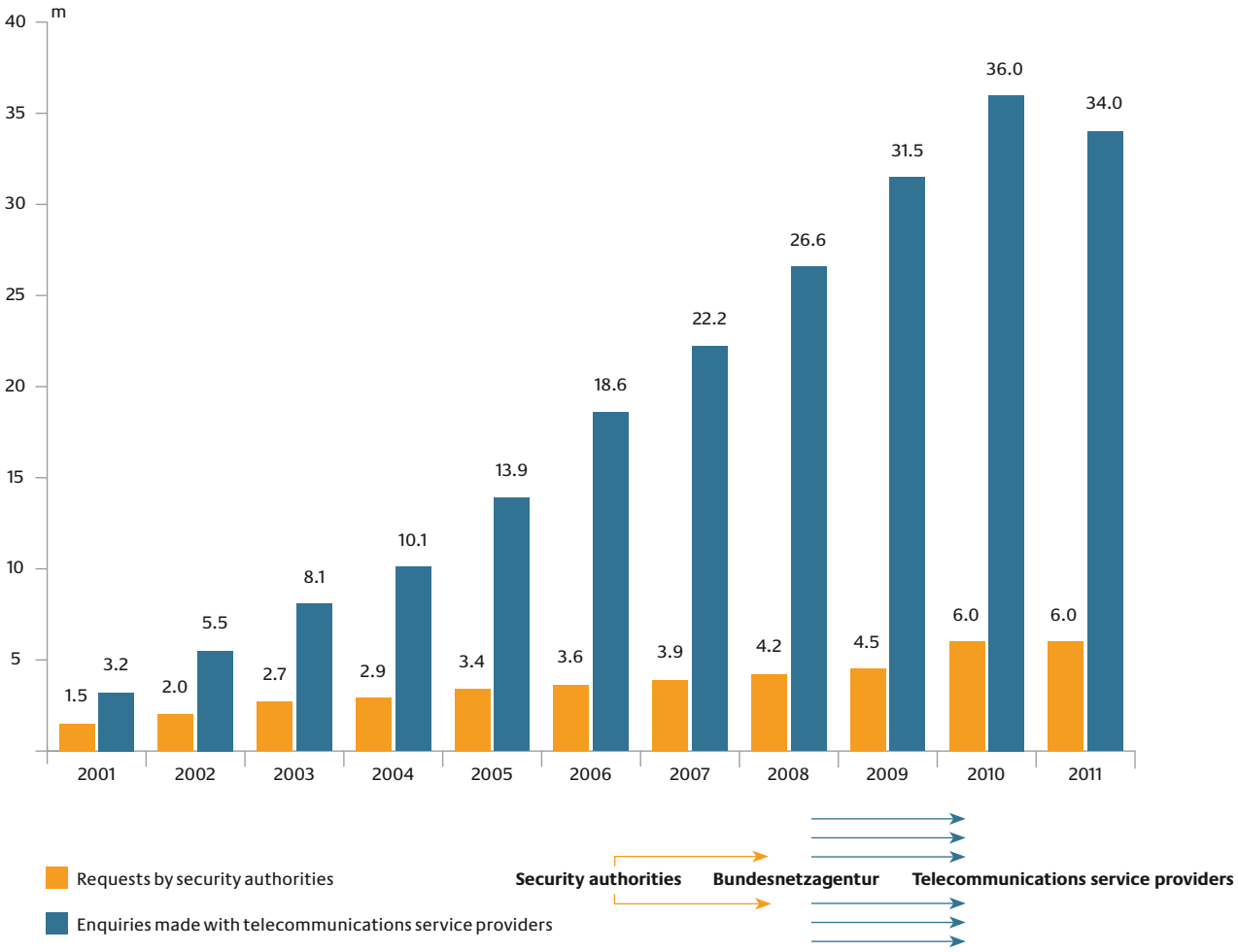
Representatives from the Bundesnetzagentur also sit in "radio monitoring" bodies at the European level in the CEPT and internationally in the context of the ITU. The ITU Handbook Spectrum Monitoring was revised in 2011 thanks in particular to the contribution made by the Bundesnetzagentur. This manual is used by radio monitoring services as a reference work for the fields of organisation, measurement methods, measuring technology and procurement measures.

PUBLIC SECURITY

Automatic information procedure under Section 112 of the TKG

To assist the security authorities in the performance of their statutory duties, telecommunications companies provide information from their customer files about the names and addresses of individuals with telephone numbers to the authorities via the Bundesnetzagentur. At present, around 250 authorities registered with the Bundesnetzagentur are able to access customer data from 140 telecommunications companies. The number of enquires received remained at a similar level to the previous year.

Information requests made by security authorities and enquiries made with telecommunications service providers



Technical implementation of intercepts and provision of information pursuant to section 110 of the Telecommunications Act (TKG)

In carrying out its duties in relation to the technical implementation of intercepts, the Bundesnetzagentur makes an important contribution to maintaining public security in Germany. In particular, the Technical Directive pursuant to section 110(3) TKG is an important basis for the development of interception technology by the telecommunications companies, manufacturers and security authorities involved. The Directive is amended to take new telecommunications technologies into account whenever it becomes necessary to do so.

The new Law Ensuring the Provision of Postal and Telecommunications Services (PTSG) of 24 March 2011 came into force on 1 April 2011. The old PTSG of 14 September 1994 and the ordinances issued on the basis of the PTSG ceased to be effective at the same time. The Bundesnetzagentur sent 23,500 letters to priority telecommunications users, companies and authorities to inform them about the new regulations and transitional rules.

Qualified electronic signature

The Bundesnetzagentur is the competent authority under the Electronic Signatures Act (SigG). Through its work supervising certification service providers (CSP) in 2011 the Bundesnetzagentur has also contributed to ensuring that existing secure structures in this field continue to be optimised. In its function as the national root certification body the Bundesnetzagentur issued the qualified certificates which all accredited CSPs need for their activity and kept a record of them in a directory service that is open to the public.

There was a further increase in the amount and scope of advisory services provided in 2011 for business and industry, public authorities and citizens concerning the qualified electronic signature at the national and international level. This is partly due to major projects undertaken by the national German government, such as the (electronic) identity card and the electronic waste verification procedure. The electronic waste verification procedure met with a particularly positive response.

At the EU level interest has grown considerably in integrating the qualified electronic signature in national applications and using these on a transnational basis. For this reason work undertaken in international bodies and forums in 2011 concentrated to a much greater extent on processing and summarising information from the Member States on the national implementation of the Electronic Signatures Directive. In this context the work of the Bundesnetzagentur was not limited to participating in bodies and forums – the Bundesnetzagentur provided one of the three board members of the Forum of European Supervisory Authorities for Electronic Signatures (FESA). At the same time work began in the framework of technical re-standardisation on revising all existing European standards and redesigning them for the purpose of achieving the interoperability of products for qualified electronic signatures.

The trusted list for the Federal Republic of Germany (Trusted List, TL), a collection of information on CSPs, was maintained and added to. This list and the list of all EU Member States represent important contributions on the way to achieving the international verifiability of qualified electronic signatures.

At the national level the Bundesnetzagentur continued to cooperate successfully with CAST e. V., a competence centre for IT security in Darmstadt, and other bodies. This included the annual CAST workshop on public key infrastructures which the Bundesnetzagentur helps to organise and run. The Bundesnetzagentur also chaired regular meetings of the Association of Accredited Evaluation and Certification Bodies (AGAB) in 2011, thereby providing a platform for the coordination and development of work processes used by the evaluation and certification bodies.

In 2011, the Bundesnetzagentur complied with its statutory obligations to publish product certifications for qualified electronic signatures, manufacturers' declarations that comply with the Electronic Signatures Act and the relevant Ordinance as well as suitable algorithms and the associated parameters for qualified electronic signatures.

INFRASTRUCTURE ATLAS

Since December 2009 the Bundesnetzagentur has kept a national infrastructure atlas. The infrastructure atlas is a geoinformation system (GIS) which comprises data on the existing infrastructure in Germany which can in principle be used to expand broadband. The atlas includes data on fibre-optic cables, ducts, main distribution frames, street cabinets, transmitter masts, antennae sites and other suitable infrastructure.

The data itself is obtained from infrastructure owners who have voluntarily participated in the development of the infrastructure atlas, as well as from regional and local public authorities. The data can be used by regional and local authorities, telecommunications companies and planning offices which are involved in broadband expansion projects.

The infrastructure atlas is a highly effective planning tool for the rollout of broadband services and also enables synergies to be exploited in the shared creation and use of infrastructure. This enables the costs of broadband rollout work to be reduced thereby making expansion more cost effective even in more sparsely populated regions.

The infrastructure atlas implements part of the federal government's broadband strategy and is being introduced in several phases. The first phase involved representatives from the federal states, districts and self-governing towns – all of which are authorised users – making applications to the Bundesnetzagentur to use the infrastructure atlas. Municipalities which belong to a district, telecommunications firms and planning offices are entitled to use the infrastructure atlas. They can also make inquiries with the Bundesnetzagentur via the inquirer authorised for the region.

The second phase of the infrastructure atlas was launched by the Bundesnetzagentur on 4 October 2011. The principal change is that data about the geographical location of infrastructure can now also be disclosed to authorised recipients in the form of electronic map sections.

As well as facilitating contacts the second phase of the infrastructure atlas also enables initial rough planning on the relevant broadband rollout project. Details of shared use as well as the exact location of the infrastructure may then be the subject of continuing negotiations between infrastructure holders and applicants.

What is more, in addition to the parties entitled to make inquiries referred to above, municipalities which belong to a district are now also entitled to apply directly to the Bundesnetzagentur for information from the infrastructure atlas.

The launch of phase 2 continues to guarantee higher data protection requirements, including the encrypted transmission of information and the use of digital watermarks on created maps which ensure that documents can be traced. Procedures needed to be changed in order to implement improvements. A one-off contract must be concluded by the Bundesnetzagentur and the relevant authorised inquirer or user before information can be provided.

The response to the launch of phase 2 has so far been positive. Information provided from the infrastructure atlas is based on data provided by around 250 voluntarily participating infrastructure owners (as at January 2012). More than 100 contracts on the use of the national infrastructure atlas have so far been agreed with authorised inquirers and users. A total of 30 applications for use of the infrastructure atlas had been made and processed by 31 December 2011 since phase 2 was launched. The geographical areas about which information has been provided in 2011 represent around nine percent of the total area of the Federal Republic of Germany inhabited by around 6.1 million people.

Court proceedings

In 2011 most legal disputes again concerned frequency regulation. At the same time several rulings in the field of market regulation were issued at the highest judicial level which provide final and absolute legal settlement of important regulatory issues relating to the scope for interpretation available to authorities in the definition and analysis of markets, the scope for interpretation allowed in determining investment value in the framework of rate approval decisions for access to the local loop and on the possibility of retrospectively imposing regulatory obligations.

Overall 80 principal proceedings and 18 summary proceedings challenging decisions taken by the Bundesnetzagentur in the telecommunications field were brought before administrative courts in 2011. 123 principal proceedings and 23 summary proceedings were ruled on; some of these decisions related to proceedings pending in previous years. The Bundesnetzagentur won 98 principal proceedings and 22 summary proceedings.

REVOCATION OF A UMTS MOBILE RADIO LICENCE AND FREQUENCY ASSIGNMENT NOTICE

In its ruling of 17 August 2011 (6 C 9.10) the Federal Administrative Court (BVerwG) rejected an action against the revocation of a UMTS licence allocated by auction in 2000 and of a frequency assignment notice as well as for refunding of the auction price. In this respect the court upheld the decisions reached by lower courts (Cologne Administrative Court, ruling of 25 April 2007; 21 K 3675/05/OVG NRW, ruling of 30 June 2009; 13 A 2069/07).

The plaintiff took part in an auction for UMTS/IMT 2000 licences in the year 2000 in which it was awarded a national mobile radio licence for the period up to 31 December 2020 and two frequency blocks for a price of around 8.4 billion euros. Under the frequency usage terms attached to the licence document the plaintiff was required to provide a degree of coverage of the population of at least 25 percent by 31 December 2003 and of at least 50 percent by 31 December 2005. The licence made provision for a revocation in the event of failure to fulfil the obligations.

The plaintiff subsequently abandoned its mobile telephone operations and made the majority of its employees redundant. Measurements made by the Bundesnetzagentur in 2004 failed to find any transmission activities in the frequency spectrum assigned to the company. The licence rights and frequency assignment notice granted

to the company were thereafter revoked. The price paid in the auction was not repaid.

The Federal Administrative Court upheld the legality of the revocation of the licence and assignment of frequencies owing to the operator's failure to meet the attendant obligations. The frequency usage terms attached to the licence document stipulated that the relatively scarce spectrum available for UMTS at that time should be used efficiently and the preconditions and technical requirements for the launch of mobile services met by the licensee as soon as possible.

The Federal Administrative Court also ruled that the plaintiff was not entitled to repayment of the award price. The award price was not paid for the specific benefits accruing to the licence holder throughout the entire period of the licence but for abstract potential uses which the award would make possible for the licence holder provided the latter were to act in accordance with the imposed duties. If the licence holder is responsible for the premature withdrawal of the licence owing to its own conduct, such loss does not as such lead to a disturbance of the equivalence relationship.

FREQUENCY SHIFTS

In its ruling of 26 January 2011 (6 C 2.10) the Federal Administrative Court dismissed a third party action to set aside the frequency shift notices issued on 3 February 2006. The notices assigned GSM frequencies to E network operators as part of the GSM concept and in exchange for the ending of their existing use of specific radio frequencies in the 1,800 MHz spectrum – without the launch of award proceedings. In this respect the Federal Administrative Court confirmed the previous rulings of the North Rhine Westphalia Higher Administrative Court (OVG NRW) of 26 May 2009 (13 A 424/08) and of the Cologne Administrative Court (VG Köln) of 30 November 2007 (11 K 5392/06).

The court ruled that, under section 55(9) sentence 1 of the TKG, it lies within the Bundesnetzagentur's discretion to award spectrum in the context of a frequency shift. This is subject to a prior Ruling Chamber decision under section 132(1) TKG.

The third party action for the setting aside of frequency assignments granted by way of frequency shifts is only admissible if the third party bringing the action personally fulfilled the conditions for assignment at the relevant time of assessment (last administrative decision). A declaration of intent to apply for these frequencies when award proceedings are started is not sufficient.

The plaintiff has since referred a constitutional complaint to the Federal Constitutional Court (BVerfG) with the reference number 1 BvR 1100/11.

SPECTRUM AWARDED FOR WIRELESS ACCESS

The ruling of the President's Chamber of 12 October 2009 initiated the award proceedings for frequencies in the 800 MHz ("digital dividend"), 1.8 GHz, 2.0 GHz and 2.6 GHz bands. Several companies have appealed against this ruling in principal and summary proceedings – unsuccessfully in all cases to date.

In 2011, the ruling of the President's Chamber was also the subject of a number of Federal Administrative Court (BVerwG) rulings. In some cases the court has not yet been able to

reach a final decision, in other cases it upheld the ruling by the President's Chamber.

Rulings of the Federal Administrative Court (BVerwG)

In its ruling of 23 March 2011 (6 C 6.10) the BVerwG responded to an appeal by a mobile operator by setting aside a ruling by the court of first instance, the Cologne Administrative Court, of 17 March 2010 (21 K 7769/09) and referred the matter back to the Cologne Administrative Court for a renewed court hearing and decision. The case is due to be heard by the court under the reference number 21 K 3150/11.

On the basis of the declarations made to date by the Cologne Administrative Court the BVwerG does not as yet wish to issue a final ruling on whether the conditions which the law attaches to the issue of orders for award proceedings are met. In particular this applies to the required spectrum scarcity.

The Cologne Administrative Court must now consider whether requirements notices going back to the year 2005 are stable and to what extent additional spectrum under 1 GHz (digital dividend) impacts assumed excess demand for frequencies higher than 1 GHz. In this context the court may draw on knowledge obtained at a later date, such as that concerning the actual course and results of the auction where these suggest that there was excess demand at the time that the order for award proceedings was issued.

The Federal Administrative Court did not reach a final decision on whether the auction itself is a suitable way of achieving the regulation objectives. The court did, however, regard the restriction in the auction rules on bidding rights designed to safeguard the regulatory objective of fair competition as admissible. In the view of the BVerwG the assessments undertaken by the Bundesnetzagentur have all the hallmarks of a coherent action concept which prioritises efficient frequency usage ahead of other conflicting concerns.

In four other decisions of 22 June 2011 (6 C 3.10, 6 C 5.10, 6 C 40.10 and 6 C 41.10) the BVerwG upheld and elaborated on its judicial decision of 23 March 2011.

The plaintiff in this court case operates its own wireless network based on frequency usage rights assigned from 1999. The total of 36 regional assignments in the 2.6 GHz band entitle the plaintiff to operate point-to-multi-point radio relay systems in the fixed radio service. The plaintiff only uses relatively few of these assignments. The frequencies are not used in the other regions. The assignments were time limited until 31 December 2007 but can continue to be used by the plaintiff transitionally on the basis of a court settlement.

The BVerwG remarked that it is no more possible to set aside a Ruling Chamber decision solely for a specific frequency band (in this case 2.6 GHz) – and even less so for the specific frequencies assigned in the past to the plaintiff from this band – than it would be to separately annul the specific part of the order for award proceedings.

What is more, the stipulation of award proceedings does not need to be preceded by official proceedings for identifying demand and a public call for requirements for particular frequencies to be notified within a reasonable period of time. This is not required under the law. A party which has not participated in a Ruling Chamber

procedure may not invoke the fact that oral proceedings were not held prior to the issue of an order for award proceedings. The court did not decide whether oral proceedings under section 135(3) TKG must precede the issue of an order for award proceedings.

The cases against the order for combined proceedings and of the award proceedings (6 C 3.10) as well as against the order of an auction (6 C 5.10) were referred back to the court of first instance (Cologne Administrative Court) for further clarification where they are due to be heard under reference numbers 21 K 4413/11 and 21 K 4414/11.

The actions against the award conditions (6 C 40.10) and the auction rules (6 C 41.10) were dismissed. The BVerwG held that the Bundesnetzagentur is entitled to exercise (and has legitimately exercised) a margin of appreciation in defining award conditions and auction rules which is open to only limited review by the courts.

Rulings of the Cologne Administrative Court (VG Köln)

In its rulings of 9 February 2011 (21 K 8146/09, 21 K 8147/09 and 21 K 8148/09) the Cologne Administrative Court (VG Köln) dismissed actions brought by broadcasting corporations against the way in which 790-862 MHz radio frequencies (known as the 800 MHz band) were awarded to mobile telecommunications companies in the ruling of the President's Chamber of 12 October 2009.

The plaintiffs feared that the envisaged use of frequencies in the 790-862 MHz band for wireless communication – in particular for LTE technology which enables high-speed Internet access – could result in interference to digital broadcast reception, from the use of terminal equipment and base stations. In this context the plaintiffs requested that the Bundesnetzagentur carefully identify potential interference before awarding frequencies for mobile services, that it should define the frequency usage conditions in a way which would resolve any ensuing and anticipated conflicts and that it should issue binding provisions on how such interference problems should be dealt with.

The court noted that the contested parts of the general administrative order did not violate the rights, or did not violate the immediate rights, of the plaintiffs as parties not addressed by and not participating in the award procedure. In the view of the court this also applied to the frequency usage conditions for the 800 MHz band. The radio interference feared by the plaintiffs does not occur – if it occurs at all – at the time the frequency usage conditions are determined under section 61(4) para. 4 TKG, but only subsequent to the award proceedings when the frequencies are assigned and put to use.

Neither do the frequency usage conditions have the legal impact of an assurance of later frequency assignment subject to auction award under these conditions as these provisions are explicitly provisional in their application to the 800 MHz band and as such an official intention to create a binding effect is not given. What is more, the general administrative order also contains the proviso of subsequent changes in frequency usage conditions.

Nor have the plaintiffs' subjective and protective rights guaranteeing that correct consideration be given to their concerns in the planning process been infringed. The right, based on planning permission regulations, to fair consideration of

interests does not arise from section 61(4) TKG either. The decisions reached in the general administrative order will not be taken in the framework of a formal planning approval procedure. They are not independent planning decisions relating to the protection of conflicting frequency uses in the framework of which third parties have a subjective right to demand that fair consideration be given to their interests.

The plaintiffs are not able either to invoke a direct infringement of their broadcasting freedom. The feared impairments are not by the nature of their quality or extent likely to jeopardise the free, individual and public formation of public opinion which broadcasting freedom is intended to promote. While it is true that frequencies can be used in ways which may lead to temporary interference with reception, technical fixes are available which would allow such interference to be avoided or at least significantly reduced.

The plaintiffs are continuing to seek relief in their appeal against the judgement (21 K 8146/09). The appeal (6 C 13.11) will be heard by the Federal Administrative Court.

In its ruling of 14 September 2011 (21 K 8149/09) the Cologne Administrative Court also dismissed an action brought by a broadcast transmitter network operator. This operator had also appealed against the award of frequencies in the 790-862 MHz band on the grounds that it still held frequency assignments in this band and that it feared that future use would interfere with broadcast transmitter operations.

In its decision the court held that the Bundesnetzagentur was entitled to include the 800 MHz band in the award proceedings. In its projection decision made under section 55(9) TKG and subsequent award the authority is entitled to include frequencies other than those which were actually available for assignment at the time the projection was made. The authority must also take into account frequencies which it was foreseeable would be available for later assignment, even if rights to use these frequencies are still being held at the time award proceedings are ordered. This not only applies to frequencies which will become available once again as a result of expiring time limits on rights of use, but also for those which – owing to quite other circumstances, such as anticipated returns of spectrum or planned revocations – are likely to become available to be awarded anew.

The court also denied a claim to a guarantee of complete freedom from interference arising from later additional uses of spectrum. The Cologne Administrative Court weighed up the interests involved and took the view that there is only a right for measures to be taken which deal with unreasonable impairments.

The decision by the Bundesnetzagentur to make the frequencies in the 800 MHz band available for award prior to the final assessment of the interference scenarios while defining merely tentative frequency usage conditions was made without any error of assessment. In a situation in which different frequency uses are fundamentally compatible but in which there is a danger that interference might occur when frequencies are used at a later point in time, it lies in the discretion of the authority to award the relevant frequencies subject to the proviso of a subsequent change in the conditions of use.

The plaintiff has lodged an appeal against the decision. The case (6 C 36.11) is due to be heard by the Federal Administrative Court.

In its rulings of 7 December 2011 (21 K 8194/09 and 21 K 8195/09) the Cologne Administrative Court also dismissed actions brought by two cable network operators against the ruling of the President's Chamber. The cable network operators feared that the envisaged use of frequencies in the 790-862 MHz band for wireless services could interfere with their cable-based applications and, in particular, with the cable modems and set top boxes used by their customers. They therefore petitioned for the withdrawal of the general administrative order or, alternatively, for the Bundesnetzagentur to be required to supplement the general administrative order for the 790-862 MHz band with additional provisions or in any other suitable manner which would exclude the unacceptable interference feared and ensure that the networks are to a certain extent immune to interference.

In this respect the court held in its rulings of 9 February 2011 that the plaintiffs' rights were not directly affected by the frequency usage conditions – which were explicitly temporary in nature – stipulated in the general administrative order for the 800 MHz band. The feared interference to the technical infrastructure does not yet occur – if it occurs at all – when the frequency usage conditions are determined under section 61(4) para. 4 TKG but only once frequencies have been assigned under section 55 TKG and thereafter put to use. In the event that the interference feared by the plaintiffs does in fact occur, the court takes the view that the plaintiffs are at liberty to demand from the defendant that official action be taken against the parties causing the interference and to apply for the relevant frequency usage conditions to be subsequently changed.

These rulings are not yet final.

RULINGS ON THE INTERPRETATION OF SECTION 28(2) OF THE TELECOMMUNICATIONS ACT (TKG)

In its rulings of 4 April 2011 (21 K 568/08 and 21 K 1408/08) the Cologne Administrative Court upheld the actions brought by DTAG against notices BK 2c-07/004 of 21 January 2008 and BK 2b-08/004 of 20 February 2008. The substance of the actions concerned in particular the interpretation of section 28(2) TKG, the question as to how replicable bundled products are and what measures should be used to determine this, as well as the definition of efficient competitor as used in section 28(2) para. 3 TKG.

The Bundesnetzagentur had notified the plaintiff that the charges agreed on the basis of a framework agreement for the provision of bundled products are anti-competitive under section 28(2) para. 3 TKG because efficient competitors are not in a position to replicate the bundled products on comparable terms. New charges were then submitted by the company which were qualified in a notice of 20 February 2008 (BK 2b-08/004) as rectifying the violations of section 28 TKG.

The court explained its decision with reference to the failure by the Bundesnetzagentur to take sufficient account, when assessing the replicability of the challenged bundled product under section 28(2) para. 3 TKG, of either the circumstance that competitors of the plaintiff are able to reproduce components of the bundled product themselves or of the cost savings which it is usually possible to achieve by means of bundling. The court took the view that overhead surcharges may not be made for elements of the bundled product; in this respect it is appropriate to apply the yardstick of section 28(2) para. 1 TKG

whereby the reasonable return on capital employed applied in respect of efficient competitors does not necessarily have to be identical with the return applied in respect of the company with significant market power in the framework of approving (wholesale) charges. Where efficient competitors depend on the full or partial procurement of wholesale services in order to offer the bundled product the court takes the view that an assessment of replicability under section 28(2) para. 3 TKG should also take account of the fact that wholesale services may not only be procured from the company with significant market power, but also from other competitors at prices which may be lower than those of the SMP undertaking.

As the court also set forth, an assessment under section 28(2) para 3 TKG must also take account of the fact that the bundling of products by providers usually leads to synergy effects or economies of scope in terms of production, marketing and customer support. Uncertainties and imponderables arising from the assessment under section 28(2) para 3 TKG are accounted for in the form of general surcharges or discounts. In the case under review, the court considered that a reduction in favour of the plaintiff by a safety margin of ten percent of the costs determined for the efficient competitors would be appropriate. The court believes this margin would eliminate the determined failure to cover costs. The decisions are final.

REFUSAL OF LEAVE TO APPEAL AGAINST JUDGEMENTS OF THE COLOGNE ADMINISTRATIVE COURT ON THE REGULATORY ORDER ON CALL TERMINATION IN THE FIXED NETWORK

In two identical rulings of 8 April 2011 (BVerwG 6 B 48.10 to 54.10 and 60.10) the Federal Administrative Court dismissed the appeal against denial of leave to appeal made by alternative competitors. The matter in dispute at the court of first instance was the regulatory orders BK 3d-08-055 and others issued on 7 September 2009 on market no. 3 (call termination on individual public telephone networks provided at a fixed location) in Commission Recommendation 2007/879/EC on which the plaintiff and complainant exercise significant market power. The companies had petitioned for the imposition on themselves of an obligation to grant other undertakings access under section 21(3) TKG. The Cologne Administrative Court dismissed the obligation actions and did not give leave for appeal.

The companies then challenged the decision of the Cologne Administrative Court not to allow an appeal. They requested clarification from the Federal Administrative Court of whether section 21(3) TKG also has a subjective legal protective effect for the operator of a public telephone network which exercises significant market power. The question also arose as to whether the imposition of an interconnection obligation, including the obligation to provide interconnection services and co-location under section 21(3) paras 2 and 4 TKG, can simultaneously be both an onerous and beneficial administrative act which may concede a claim to imposition of this access obligation on all interconnection parties.

The Federal Administrative Court basically held that neither the wording nor the purpose of section 21 TKG founded a claim by a SMP undertaking that it should itself be required to provide access and in particular interconnection and co-location. The court took the view that competing companies and consumers are worthy of protection but not, however, the SMP undertaking itself. The substantial legal interests of the regulated undertaking consequently extend and are limited to the requirement that the obligations imposed on it are not disproportionate.

REGULATORY ORDER ON LOCAL LOOPS OF 27 JUNE 2007

In several rulings of 13 April 2011 (21 K 3061/07 and others) the Cologne Administrative Court dismissed actions brought by DTAG competitors against the regulatory order of 27 June 2007 where actions were not already inadmissible and/or had not been withdrawn in the oral hearing. Within the framework of the regulatory order the plaintiffs petitioned for the imposition of further obligations vis-à-vis the SMP undertaking, including the granting of access to the local loop, even if capacity needs to be rolled out for this purpose or if existing copper cables need to be replaced by fibre optic connections. In addition, they also called for the obligation to keep separate accounts for activities in connection with the provision of access to the local loop and to publish a reference offer for access to the dark fibre.

In its ruling, which is consistent with previous case law, the court stressed that the Bundesnetzagentur has very wide margins of appreciation in deciding which regulatory obligations should be imposed on the SMP undertaking and in what form and combination. Judicial control of the regulatory decision is limited to the review of errors of judgement for which, however, the Cologne Administrative Court found no evidence. The appeal is not admissible in any of the cases. The decisions are final.

RULING OF THE EUROPEAN COURT OF JUSTICE ON SUBSCRIBER DATA

In its ruling of 5 May 2011 (Case C-543/09) – regarding a request for a preliminary ruling from the Federal Administrative Court – the European Court of Justice (ECJ) held that legal acts of the Union do not conflict with section 47 TKG. Pursuant to section 47 TKG the Bundesnetzagentur ordered DTAG to make available to a provider of directories the data relating to DTAG's own subscribers as well as the data in its possession relating to the subscribers of third-party telephone service providers (carrier data). In the subsequent proceedings before the administrative court the telecommunications company as applicant claimed in particular that the obligation to pass on the carrier data infringed the Universal Service Directive (USD).

In its ruling the Court of Justice emphasised that Article 25(2) of the Universal Service Directive does not effect full harmonisation regarding whether additional data ought to be made available to third parties. This means that Member States retain competence for extending the obligation to make external data available beyond the scope defined in this Directive. The Court also held that the provisions of section 47 TKG do not in any way affect the powers of the Bundesnetzagentur arising under Article 16 of the Framework Directive and Article 17 of the Universal Service Directive.

ONE-OFF CHARGES FOR LOCAL LOOPS 2003

In its rulings of 25 May 2011 (21 K 4637/03, 21 K 4996/03, 21 K 4997/03, 21 K 4999/03, 21 K 5000/03, 21 K 5001/03, 21 K 5002/03) the Cologne Administrative Court (VG Köln) overturned the notice approving one-off charges for local loops, issued to the plaintiffs on 30 June 2003 (BK 4a-03-023 / E 30.04.03). The Cologne Administrative Court thereby stated that the notice was unlawful because the Bundesnetzagentur did not have correct information about hourly rates and overhead surcharges. In all its rulings the court dismissed the appeals with the argument that the case concerns expired law and is consequently no longer of fundamental significance. The decisions are final.

MONTHLY LOCAL LOOP CHARGES 2001

In its rulings of 23 November 2011 the Federal Administrative Court dismissed the appeals by the Bundesnetzagentur and DTAG (6 C 11.-13.10) against the previous rulings issued by the Cologne Administrative Court of 27 August 2009 (1 K 3427/01, 1 K 3479/01 and 1 K 3481/01). The matter in dispute was the monthly rates charged for access to the local loop which the Bundesnetzagentur had approved for 16 access variants (including for two fibre optic variants) in its notice of 30 March 2001 for the period 1 April 2001 through to 31 March 2003.

The Federal Administrative Court had ruled that the disputed approval of the monthly charges is not unlawful because the regulatory authority had assessed the investment value solely on the basis of current replacement prices, in other words according to the current value principle, and not additionally according to historical acquisition and production costs. On the contrary, the court takes the view that the value of the assets may be calculated in different ways: based on historic costs minus depreciation, based on replacement costs in the form of net or gross replacement costs, based on an actually existing network or a network with the same function which would be put in place in accordance with the state of the art at the time the assessment is made. According to the Federal Administrative Court there are no binding provisions in European law requiring the regulatory authority to combine both methods of calculation or to apply a historic approach to acquisition and production costs which have already been incurred and, in contrast, to use the projected costs for the long-term development and improvement of the infrastructure.

In its finding that none of these methods may be regarded as the exclusively admissible method the court referred to the ruling of the Court of Justice of 24 April 2008 (Case C 55/06) which has bindingly defined the provision for the relevant Article 3(3) of Regulation (EC) No. 2887/2000 (Unbundled access to the local loop). Under Article 3(3) of this Regulation rates for access to the local loop are to be set on the basis of cost orientation. The Federal Administrative Court interprets the ruling of the Court of Justice such that the replacement value can only be understood as the net replacement value.

The approval of the monthly charges for all types of access was only regarded as unlawful by the Federal Administrative Court because the Bundesnetzagentur did not exercise its discretion correctly in relation to cost orientation as referred to in Article 3(3) of the Regulation. With regard to the weighing up of conflicting regulatory objectives in European law, the

existing margin of discretion is very similar in nature to regulatory discretion. In the view of the court, the Bundesnetzagentur should have included the methods referred to under "historic costs" or "anticipated costs" in its consideration and should not have assessed the cost of efficient service provision solely from the perspective of an analytical cost model. It should have included methodological consideration of historic costs in terms of the pros or cons of one or the other method of calculation for achieving the regulatory aims. Thereafter the different issues should have been considered separately and an explanation given of why the authority had come to the conclusion that there were overwhelmingly good reasons for calculating the investment value on the basis of a gross replacement at new current prices.

The Federal Administrative Court took the view that it is immaterial whether such considerations form the tacit basis of the challenged rate approval given that the efficient judicial control of discretion is fundamentally limited to those considerations on which the authority has stated it has based its decision.

MONTHLY LOCAL LOOP CHARGES 2003

The Cologne Administrative Court upheld the actions of several competitors against the approval of monthly local loop charges in 2003 (decision of 29 April 2003; BK 4a-03-010/E 19.02.03) and overturned the decision in the rulings of 7 December 2011 (21 K 3259/03, 21 K 3434/03, 21 K 3374/03, 21 K 3327/03). The charges had been given part approval on the basis of the inadequate cost documentation for the SMP undertaking. The network infrastructure costs had been determined using an analytical cost model ("WIK model"), while the other relevant cost elements (operating, rental and overhead costs as well as the costs of product management, fault clearance and billing) had been determined on the basis of the cost documentation produced by the SMP undertaking. The evaluation of the results also included a comparison of international rates which confirmed the results.

The court based its decisions solely on operating, rental and overhead costs. The court ruled that – in the framework of the acknowledged margin of appreciation when reviewing whether the charges comply with the requirement for a cost orientation – the findings underlying the decision were in error for lack of correctly specified facts. In the view of the court the Bundesnetzagentur failed to take sufficient account of the criticism made by the specialist department in the audit report of the cost documents for rental and operational costs submitted by the SMP undertaking. The same applies in the view of the court for overhead costs of which account could also be taken. The decisions are final.

SUMMARY PROCEEDINGS ON MOBILE CALL TERMINATION CHARGES

In rulings 1 L 797/11, 1 L 793/11, 21 L 335/11 and 21 L 478/11 the Cologne Administrative Court dismissed in four summary proceedings in December 2011 the petitions filed by the four mobile network firms operating in Germany (petitioners) under section 35(5) TKG in conjunction with section 123(1) of the Rules of the Administrative Courts (VwGO) for higher charges than those approved.

In all its rulings the court stated that the approach taken by the Bundesnetzagentur whereby the costs for the acquisition of the UMTS licence were based on forward-looking

costing – including with regard to the ruling of the Federal Administrative Court of 23 November 2011 (monthly local loop charges 2001) – is above reproach. Nor did the criticism from the petitioners about use of the results of the LTE spectrum auction to determine the replacement values justify applying the historic UMTS costs instead, in the view of the court. As far as determining the return on capital is concerned, the court decided that the Bundesnetzagentur is entitled to exercise discretion with regard to the method it chooses to use to determine the appropriate return on capital employed.

With regard to the attempt made by two petitioners to assert capital tie-up costs for the UMTS licence from the time of its procurement in August 2000 through to May 2005 when it became commercially usable, the court supported the arguments of the Bundesnetzagentur whereby this period of time had already been taken explicitly into account in the form of a shorter economic period of utilisation and consequently higher eligible capital costs. The court also held that the corresponding "idle period risk" attached to the licences in the first few years following their acquisition ultimately represented an entrepreneurial risk which must in principle be priced into the imputed interest charge.

The shortcomings regarding the electronic proof of costs which several petitioners complained about (no basis for authorisation, methodological errors in switching between different efficiency benchmarks) did not, in the view of the court, support a claim for approval of higher rates either.

FEDERAL CONSTITUTIONAL COURT CONFIRMATION OF THE MARGIN OF APPRECIATION IN THE CONTEXT OF MARKET DEFINITIONS AND ANALYSES

In its rulings 1 BvR 1932 to 1935/08 of 8 and 21 December 2011 the Federal Constitutional Court (BVerfG) dismissed the constitutional complaints brought by four mobile network operators against the regulatory orders on mobile termination (BK 4c-06-001-004/R of 29 August 2006) and the rulings adopted on the same by the Cologne Administrative Court (1 K 3918/06 of 8 March 2007) and the Federal Administrative Court (6 C 16.07 of 2 April 2008).

In their appeal to the BVerfG the complainants stated that the measure of judicial control applied by the Federal Administrative Court, including in particular in the market definition and market analysis under sections 10 and 11 TKG (margin of appreciation which is open to only limited review by the courts), and the assessment of the regulatory order in this specific case did not fulfil the guarantee of effective legal protection provided by the Constitutional Court. They also claimed that the fundamental right to choose any occupation under Article 12(1) of the German Basic Law had been disproportionately interfered with.

The BVerfG did not find that the rights guaranteed in Article 19(4) sentence 1 and Article 12(1) of the Basic Law had been infringed. With reference to its previous rulings on the constitutional requirements for effective legal protection arising from Article 19(4) sentence 1 of the German Basic Law, the court stated that the assumption by the Federal Administrative Court of a margin of appreciation for the Bundesnetzagentur which completely encompasses market definition and

analysis is not unconstitutional in terms of guaranteed legal protection.

Lawmakers had good grounds for reducing the extent of judicial review. The definitional elements of section 10(2) sentence 1 TKG (three criteria test to determine the need for regulation) and of section 11(1) TKG (market analysis) thus include evaluative and projective elements and elements based on economic assessments which do not allow an assumption to be judged "right" or "wrong" in all details. The BVerfG therefore judged that the obvious difficulties entailed in full judicial review of these definitional elements probably therefore motivated lawmakers to grant the Bundesnetzagentur a corresponding margin of appreciation.

The BVerfG also decided that the criteria used by the Federal Administrative Court to assess the margin of appreciation available to public authorities (compliance with applicable procedural regulations, correct understanding of the applicable legal concept, comprehensive and accurate identification of the material facts, compliance with generally applicable valuation standards, no violation of the principle prohibiting arbitrariness) provide specialised courts with sufficient options, while leaving the obligation, for substantial control of the acts of public authorities.

With regard to the complainant's fundamental right to occupational freedom the court held that while the imposition of regulatory obligations does indeed interfere with this right, such interference is nonetheless justified. The reason for this is that telecommunication markets are primarily regulated in order to protect consumers' interests and guarantee important general welfare objectives of fair competition and, in the case of the regulatory order challenged here, such regulation is reasonable.

RETROSPECTIVE IMPOSITION OF REGULATORY OBLIGATIONS ON THE MARKET FOR IP-BIT STREAM ACCESS

In its ruling of 14 December 2011 (6 C 36.10) the Federal Administrative Court (BVerwG) explicitly confirmed the option of a retrospective imposition of regulatory obligations, specifically in those cases in which a previously imposed obligation had been overturned for formal reasons or owing to errors in assessment. The ruling was based on the action brought by DTAG to challenge the ruling BK 3d-09-009 of 3 June 2009 with which the Bundesnetzagentur retrospectively added to the regulatory order issued for the field of IP bit stream access (BK 4a-06-039 of 13 September 2006) the obligation to submit rates for approval and the obligation to publish a reference offer.

The BVerwG held that an obligation to have its rates approved can be imposed retrospectively on the SMP undertaking if the relevant requirements were met in the past, the retrospectively ordered obligation can still be legally effective and retrospective application would not be ruled out by the principle of protection of legitimate confidence. The court held that the requirements for the imposition of the obligation to have rates approved are met.

The court also held that, when retrospectively imposing a regulatory obligation for a period of time in the past, the Bundesnetzagentur must determine and assess the facts for the period in the past on the basis of the information available to it at the time it makes its decis-

ion. However, in this particular case, in which the regulatory order (again) complemented an order which had already been issued, the Bundesnetzagentur may not exclude any information which may have come to light since the first regulatory order was issued. The fact that the obligation to have rates approved can be imposed retrospectively back to the point in time at which the regulatory order was issued does not, in the view of the BVerwG, in itself mean that the lawfulness of the retrospectively imposed obligation must be evaluated exclusively according to the information available at the time the original regulatory order was issued.

As the approval requirement for rates which was ordered again with the regulatory order of 3 June 2009 not only relates to a period in the past but equally to one in the future, the court holds that the retrospective nature of the regulatory order does not justify referring exclusively to the facts which applied at the time the original regulatory order was issued and ignoring later market data entirely regardless of whether rates regulation in the sense of an obligation to approve in advance according to the yardstick of the costs of efficient service provision is necessary or whether checking for misuse would be sufficient on its own.

As far as the re-imposition of the obligation to make a reference offer is concerned the court doubted that this obligation can be imposed retrospectively at all or whether this regulation can in fact have any retrospective regulatory impact. It is not apparent, according to the court, what legal impact could still be achieved if the legal foundations – which since no longer apply – of a reference offer published by the plaintiff in the past are subsequently re-established. Ultimately, the BVerwG did not finally decide on this issue and also refers in this context to any changes in material circumstances of which the court believes account should be taken.

TABLE OF CONTENTS CHAPTER

TABLE OF CONTENTS

Post

TABLE OF CONTENTS CHAPTER

TABLE OF CONTENTS CHAPTER

Market watch

Recently postal markets have benefited from a general growth in the economy. Volumes and revenues have grown overall. The parcel market, in particular, has developed and now offers consumers a variety of alternative options. The letter market is stable overall, while demand for licences has declined.

POSTAL MARKETS CONTINUE TO DEVELOP POSITIVELY

In 2010 postal markets benefited from the overall positive state of the economy. Volumes and revenues stabilised and in some areas even rose above prior-year levels. The figures for the first half of 2011 indicate that this improvement may be sustainable.

After a difficult economic period in 2009 the market for postal services not requiring a licence appeared to have recovered in 2010. Thanks to competition in this market consumers now have access to a broad variety of high-quality postal services. More recently, the parcel market has also developed very encouragingly. Double-digit growth rates in mail order and e-commerce have led to a strong increase in parcel volumes. In other words, the parcel market remains a reliable growth driver for the entire postal industry.

From the consumer's perspective the positive impact of competition in the postal market is already easily recognisable. Consumers nationwide have long had a choice between Deutsche Post (DHL)'s services and those of other operators, who have gradually added more outlets all over the country in close proximity to their customers. The growth in parcels and general goods transportation demonstrates how a wide variety of services in a growing market can also function as a trigger for more competition.

As for letter services, strong competition has yet to develop. The market share occupied by Deutsche Post AG (DPAG)'s competitors has risen slightly to just above 10%, counteracting a generally stagnating market trend. The letter market is less dynamic than the parcel market and continues to be characterised by structural factors. In its current state there is still much potential for development, particularly for private and commercial small-scale senders who, although they are competitors, may form alliances.

On the provider side the letter market is continuing to consolidate, a trend that began years ago. In addition, a rising number of competitors have formed partnerships primarily to achieve nationwide service coverage and assert their interests more effectively.

NEW GROWTH OPPORTUNITIES IN A CHANGING LETTER MARKET

New opportunities in the letter market are anticipated, for instance due to rising demand for hybrid letter services. In recent years these have also become available to senders of individual items.

The De-Mail Act came into force on 28 April 2011, creating a statutory framework for legally enforceable purely electronic letters. Some services are already being offered now, and others are in the pipeline. This may inspire growth in the letter market and encourage new competitors, such as portal operators, to enter the market. Competition would also be encouraged by improved legislation, for instance a more effective set of regulatory instruments.

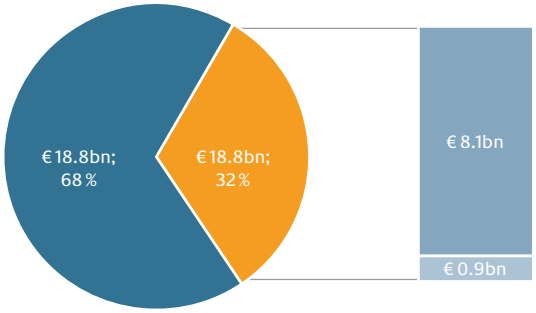
German postal service providers may also be able to grow internationally. The third Postal Directive 2008/6/EC required that almost all of the old EU Member States open their markets in full by 1 January 2011. In the remaining Member States the monopolies on letter services that are still held by national incumbents will fall at the latest in 2013. The Directive's transposition in the other Member States is being monitored closely.

The main concern is to continue implementing competition-friendly regulation in order to bring about further improvements in a changing letter market, provide consumers with a satisfying range of alternatives, and allow them to benefit from the efficient provision of letter services at favourable terms.

THE GERMAN POSTAL MARKET IN 2010: FACTS AND FIGURES

In 2010 the German postal market generated total revenue of €27.8bn. Postal services not requiring a licence and post-related conveyance services accounted for €18.8bn; the remaining €9bn were generated in the licensed letter sector.

German postal market 2010



Total revenue: € 27.8bn

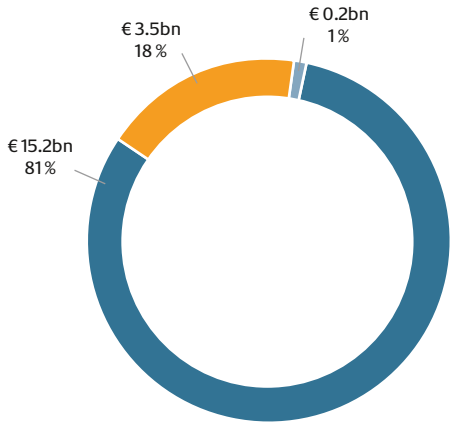
- Postal services not requiring a licence and post-related conveyance services up to 20kg
- Licensed letter sector up to 1,000g
- Deutsche Post Group revenue in letter sector up to 1,000g
- Competitor revenue in letter sector up to 1,000g

Source: MRU 2011, Bundesnetzagentur

Postal services not requiring a licence and post-related conveyance services

Revenue generated in the market for postal services not requiring a licence and post-related conveyance services – that is, parcels and goods up to 20kg, books, catalogues (including advertising brochures), newspapers and magazines, unaddressed advertising, and letter items over 1,000g – amounted to €18.8bn. In the years prior, total revenue (excluding press wholesale) reached approximately €16.4bn (2009) and €17.4bn (2008), respectively. Should the revenue trend from the first half of 2011 (€9.7bn) continue into the second half of the year, revenues will have undergone an upward development in 2011, too.

Revenue from postal services not requiring a licence and post-related conveyance services in 2010



Total revenue: € 18.8bn

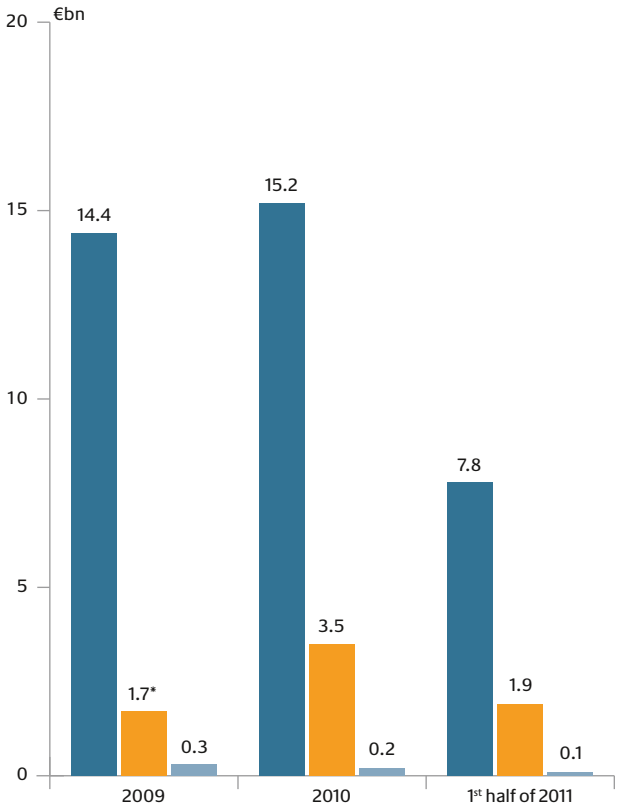
Parcels and goods up to 20kg

Books, catalogues (including advertising brochures), newspapers and magazines, unaddressed advertising

Letter items over 1,000g

Rounding differences
Source: MRU 2011

Revenue by segment 2009–2011



Parcels and goods up to 20kg

Books, catalogues (including advertising brochures), newspapers and magazines, unaddressed advertising

Letter items over 1,000g

* without press wholesalers
Source: MRU 2011

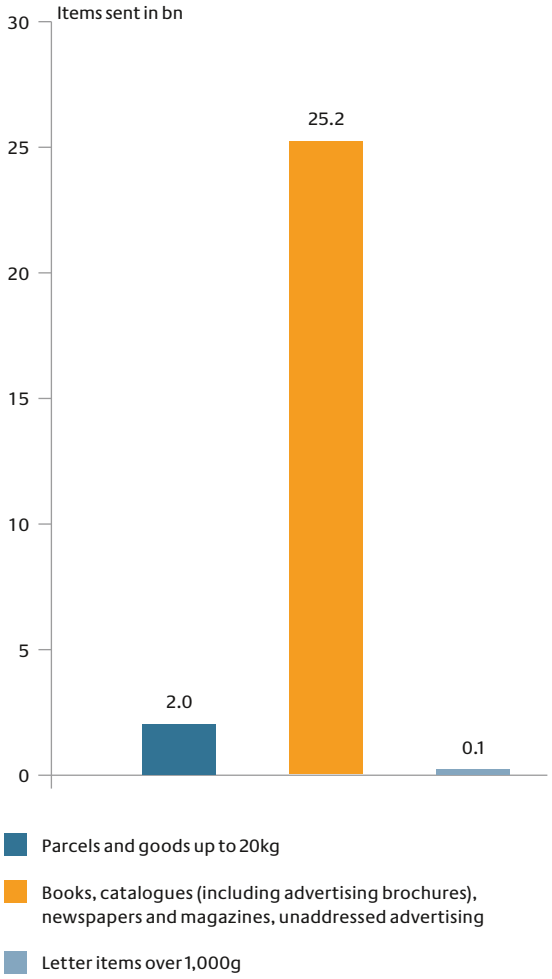
In 2010, parcels and goods up to 20kg accounted for just under 81% of revenue and hence occupied by far the largest part of the market for postal services not requiring a licence and post-related conveyance services. Books, catalogues (including advertising brochures), newspapers and magazines and unaddressed advertising accounted for some 18% of revenue. The contribution from letter items over 1,000g was negligible at just 1%.

Assuming that the revenue in the first half of 2011 will have risen to the same extent in the second half, revenue generated with parcels and goods up to 20kg is expected to have increased by approximately 3% year on year, while revenue in the segment for books, catalogues (including advertising brochures), newspapers and magazines and unaddressed advertising will have risen by around 9%.

The providers of postal services not requiring a licence and post-related conveyance services that generate most of this revenue are companies offering primarily parcel services. In 2010 the three largest providers in this segment were responsible for just under one third (29%) of total revenue. According to a survey commissioned by the DVV Media Group and conducted by Fraunhofer Institute in 2011 among markets and companies in the CEP (courier, express and parcel services) market, in 2011 the three largest providers were Deutsche Post DHL, United Parcel Service Deutschland (UPS) and Dynamic Parcel Distribution (DPD).

The following mail volumes were generated in the market for postal services not requiring a licence and post-related conveyance services in 2010:

Mail volumes by segment in 2010



Source: MRU 2011

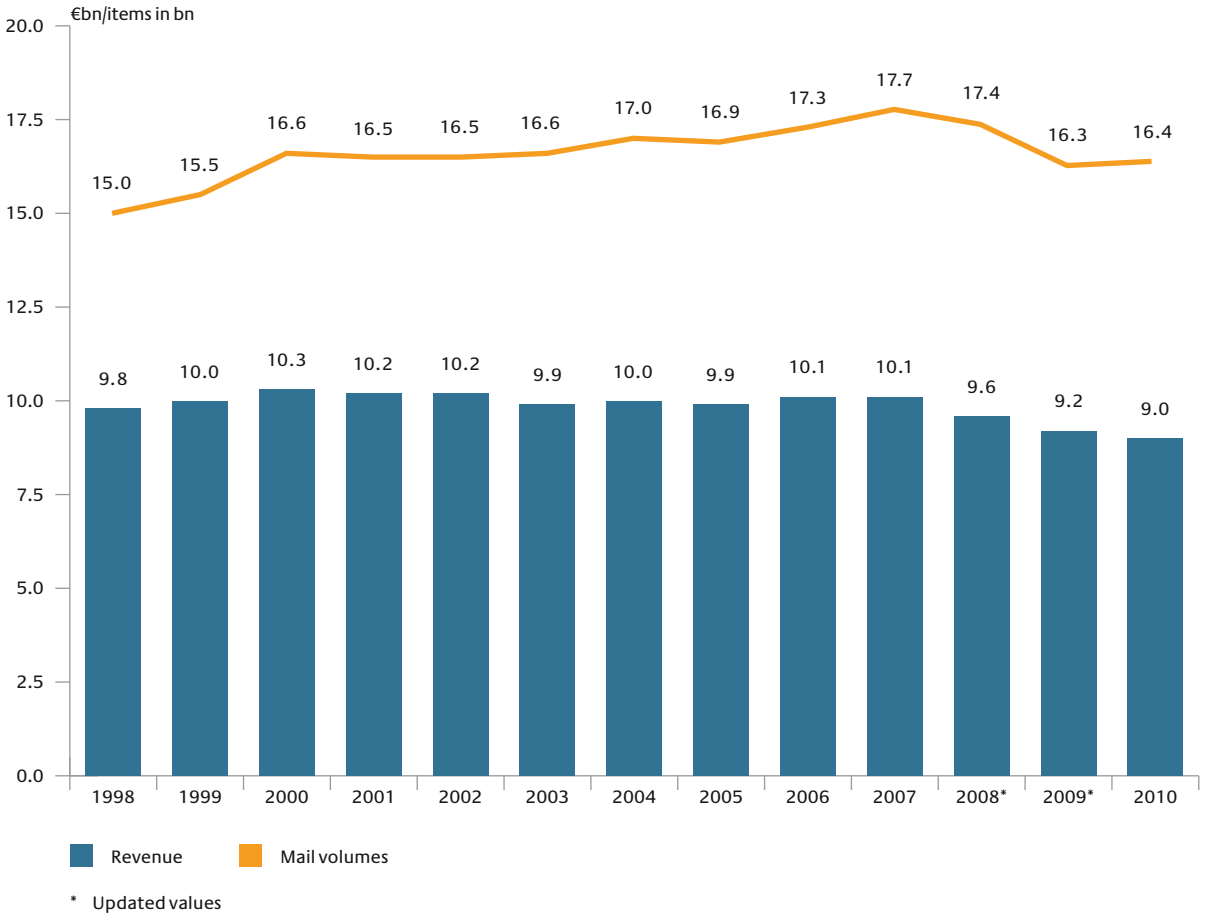
In 2010, a total of 27.3bn mail items were transported in the German market for postal services not requiring a licence and post-related conveyance services; the corresponding figure in the first half of 2011 was 14.3bn. At approximately 92%, the share of books, catalogues (including advertising brochures), newspapers and magazines and unaddressed advertising occupied the largest part of the market for postal services not requiring a licence and post-related conveyance services. In total, 25.2bn items were transported in 2010 (including press wholesale). The figure for the first half of 2011 was 13.3bn.

The second-largest segment was parcels and goods up to 20kg, which accounted for just over 7%, most of the remainder of this market. In 2010 2.0bn items were transported in this segment; the corresponding figure in 2009 was 1.9bn. In other words, volumes in this segment grew 5% year on year. The smallest volumes in the non-licensed and post-related segment in 2010 were accounted for by letter items over 1,000g (0.1bn).

Licensed letter services

Since the letter market was fully liberalised on 1 January 2008 volumes in the segment for items up to 1,000g have developed as follows: In 2008 volumes stood at 17.4bn, declining – mainly owing to the economic crisis – in 2009 to 16.3bn before levelling out at 16.4bn in 2010. In the same period revenue declined from €9.6bn in 2008 to €9.2bn in 2009 before reaching €9.0bn in 2010.

Revenue and volumes in licensed sector 1998–2010



Contrary to the market trend, revenue generated by competitors of Deutsche Post Group rose from somewhat over €0.8bn in 2008 to over €0.9bn in 2010. Of the approximately 10.9bn downstream access items that DPAG transported in 2010, just over 1.6bn items were posted by competitors. In fact, the number of downstream access items posted by competitors has grown significantly since 2008. In 2008 and 2009 the figure only stood at around 1.2bn.

In 2010 Deutsche Post Group generated approximately €4.8bn in revenue with downstream access services including preparatory services. Between 2008 and 2010 the preparatory services performed by its competitors in this segment amounted to approximately €0.1bn per annum.

The number of items conveyed by Deutsche Post Group, including end-to-end national letters plus the service of documents and incoming and outgoing international items, reached approximately 3.8bn in 2010. The associated revenue was around €3.2bn.

In 2010 Deutsche Post Group's competitors conveyed just under 1.7bn items in this segment, a considerable increase after volumes of approximately 1.4bn in 2008 and around 1.5bn in 2009. Expressed in revenue, in 2010 the competitors generated somewhat over €0.8bn in this segment, while in 2008 and 2009 revenue amounted to around €0.7bn per annum.

In 2008 and 2009, 45% of the total volumes of Deutsche Post Group's competitors were handed over as downstream access items for processing in DPAG's network. In 2010 this figure rose to 49%.

Market shares in terms of revenues and volumes 2008–2010

	Revenue			Mail volumes*		
	2008	2009	2010	2008**	2009**	2010
Deutsche Post Group***	91.5%	90.7%	89.6%	91.9%	90.8%	89.8%
Competitors	8.5%	9.3%	10.4%	8.1%	9.2%	10.2%

* Worksharing volumes are included under Deutsche Post Group

** Updated values

*** Including subsidiaries (DHL, First Mail Düsseldorf, DP Com and Williams Lea)

WORKFORCE DEVELOPMENT

Among the market players in the licensed area (Deutsche Post Group and competitors) providing services under their own name to end consumers, the number of employees (converted to full-time equivalents) declined from almost 179,000 in 2008 to just under 176,000 in 2009 and then again to just over 172,000 in 2010, a decrease of around 4%.

Contrary to market trends, the number of FTEs employed by the competitors rose by approximately 2% in the same period, from just over 16,000 in 2008 to just under 17,000 in 2010.

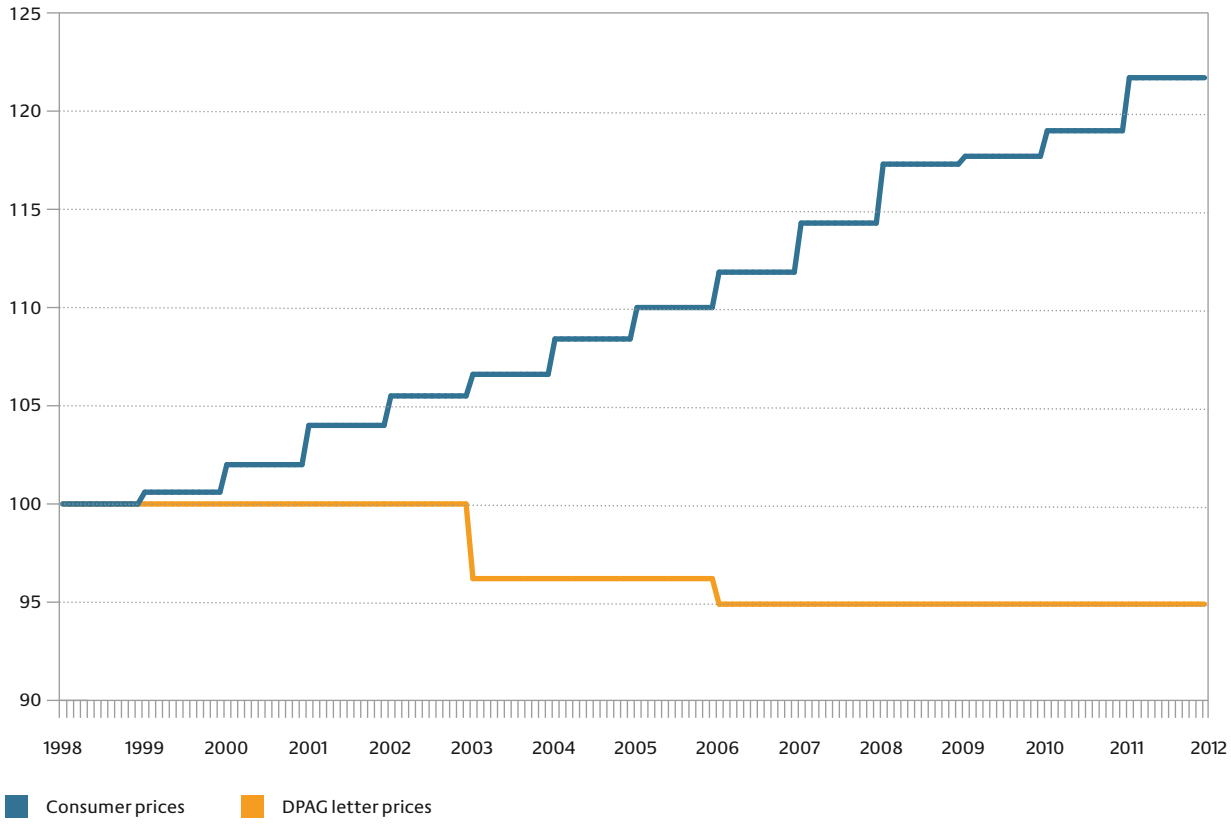
The number of Deutsche Post Group employees in this segment (expressed in FTEs) dropped from just over 162,000 in 2008 to just under 159,000 in 2009 and again to just over 155,000 in 2010.

PRICE LEVELS

Prices in Germany

Since the Postal Act came into force in 1998 prices for single national letter items (eg postcards, standard and compact letters) have either declined or remained stable, thanks to intervention from the Bundesnetzagentur, whose rates regulation is based on the cost of efficient service provision and prescribes productivity gains under the price cap rates approval procedure. Adjusted for inflation, real prices for letter services dropped more than 20% between 1998 and 2011.

General price development and DPAG letter prices 1998–2012



January 1998 = 100

Consumer price index 2011: as of January 2012

International letter prices

To compare letter prices internationally, a basket of products offered by the incumbents in the countries under review was used, a method that largely eliminates the systematic distortion of results that would occur if only a single product, such as standard letters up to 20g, were compared. The comparison covered the prices charged by the incumbent postal operators in all 27 EU Member States. The products in question corresponded as far as possible to DPAG's national postcard, standard, compact, large and maxi letter products.

As for quality, the comparison included the fastest conveyance option available through the regular postal service for which, like DPAG, the operators do not guarantee a certain delivery time; instead, they indicate a probable transit time.

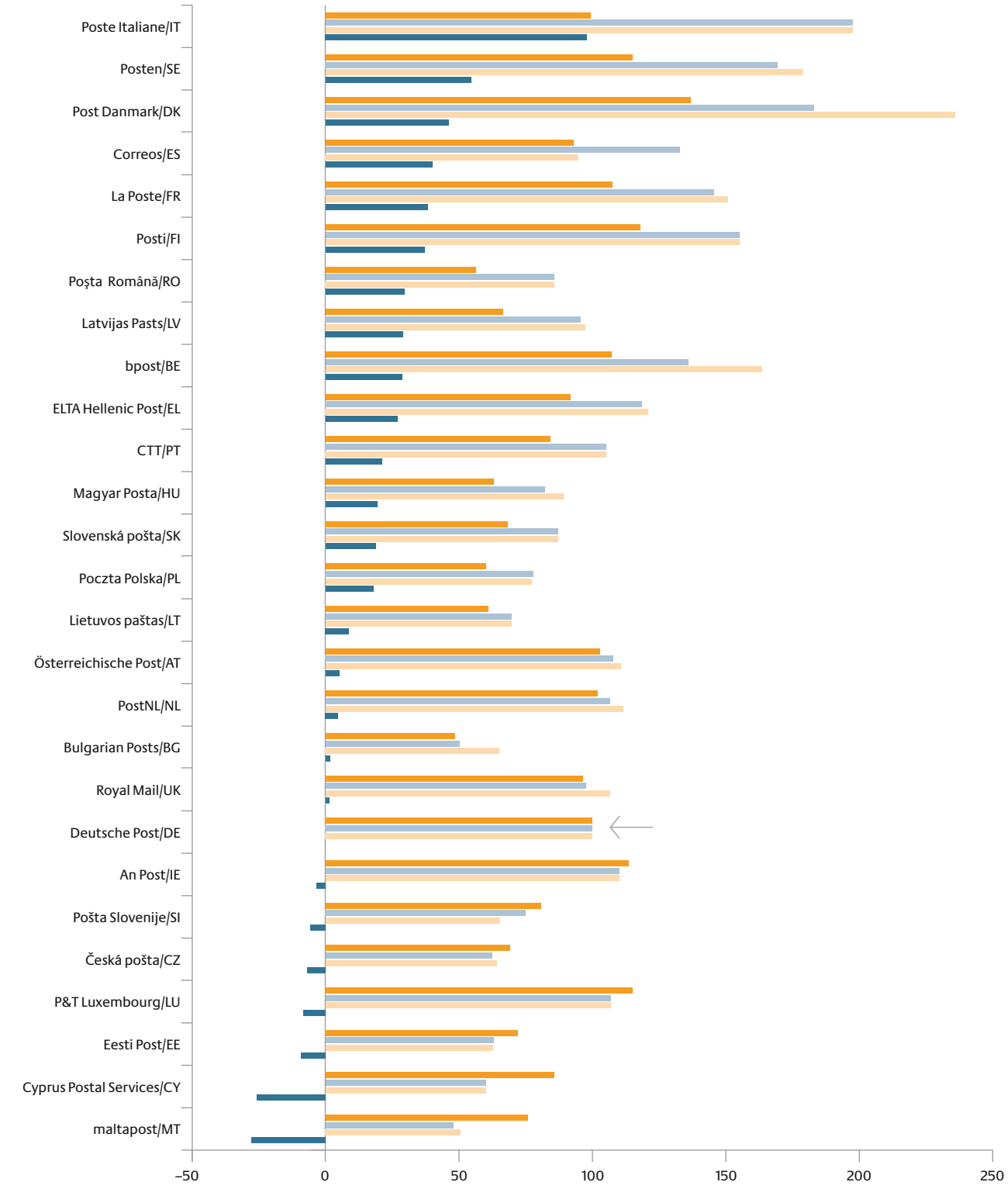
The prices for these selected products in the national currencies were established and given a standardised weighting regardless of provider. The sum total of these individual weighted prices represents the price level in the respective national currency. These amounts were then converted to euros where necessary using Eurostat's average exchange rates for the year under review.

The cost of living was compared on the basis of Eurostat's comparative price levels of final consumption by private households. These price levels are calculated based on defined household consumption expenditure.

TABLE OF CONTENTS CHAPTER

Letter prices and cost of living in the 27 EU Member States

Index: Deutsche Post AG = 100%; Germany = 100%



Cost of living index 2010 (expenditure on products in private household's basket of goods)

Letter price index 2010 (weighted prices for postcards and standard, compact, large and maxi items)

Letter price index 2011 (weighted prices for postcards and standard, compact, large and maxi items)

Difference between letter price index and cost of living index 2010

DOWNSTREAM ACCESS AND ACCESS TO P.O. BOXES AND CHANGE-OF-ADDRESS INFORMATION

Downstream access

A downstream access service is a service that is normally offered as a full conveyance service minus those parts that are rendered by the requesting provider or customer. Under section 28 of the Postal Act, the incumbent in a market for postal services subject to licence (in this case DPAG) is required to offer parts of its overall conveyance offering separately. This entails granting access to DPAG's network at the same terms and conditions to both postal service providers and end users.

The following tables provide an overview of the downstream access (worksharing) agreements for access to outbound (BZA)[1] and inbound (BZE)[2] mail sorting centres that were signed in the years in question.

"Access to mail sorting centres" worksharing agreements in 2011

	Type of item			
	Individual items		Infopost	Total
Point of access	BZA	BZE	BZE	BZA/BZE
Contracting party				
End users	80	114	15	209
Competitors	18	23	5	46
Total	**98**	**137**	**20**	**255**

As of 31 December 2011

"Access to mail sorting centres" worksharing agreements 2007–2011

	2007	2008	2009	2010	2011
	Total	Total	Total	Total	Total
Point of access	BZA/BZE	BZA/BZE	BZA/BZE	BZA/BZE	BZA/BZE
Contracting party					
End users	288	436	243	150	209
Competitors	37	121	66	58	46
Total	**325**	**557**	**309**	**208**	**255**

As of 31 December 2011

Encouragingly, the total number of new downstream access agreements rose again in 2011 after a decline in the prior years which is, however, exclusively due to a rise in the number of agreements with end users.

[1] BZA: mail sorting centre where outbound mail is posted that is destined for conveyance and delivery to recipients in other regions
[2] BZE: mail sorting centre where inbound mail is posted that is destined for delivery to recipients in that region

P.O. boxes

A dominant provider in the licensed postal services market is obliged to grant competitors, for a fee, access to its P.O. boxes so that they can deliver items there.

By 31 December 2011 nine new agreements on access to P.O. boxes had been signed. 14 new agreements were signed in each of the two prior years.

Change-of-address information

Similarly, dominant providers are also obliged to grant competitors, for a fee, access to any information they may have on changes of address.

By 31 December 2011 eight new agreements had been signed on access to change-of-address information. The figure stood at nine in 2010 and at 16 in 2009.

LICENSING

Between 1998 and 2011 the Bundesnetzagentur granted 2,702 companies and individuals a licence for the conveyance of letter items up to 1,000g. In 2011 the number of licences granted declined sharply; 37 licences were granted either as new licences or by way of approval of a licence transfer.

The number of licensees stood at approximately 1,400 at the end of 2011. The considerable decline in licence applications and in turn, the sharp drop in the number of licences granted indicates, for one, that the market for the commercial conveyance of letter items up to 1,000g is at saturation point. For another, companies holding almost 10% of licences have filed for insolvency, suggesting that the market has begun to consolidate.
In 2011 alone, the Bundesnetzagentur reported via its Official Gazette that around 450 licences had lapsed.

Licensing/market withdrawals 1998–2011*

	1998–2007	2008	2009	2010	2011	Total
Licence applications	2,389	133	89	88	51	2,750
Licences granted	2,376	127	85	77	37	2,702
Licences denied	11	0	0	3	5	19
Revocations	5	0	0	2	2	9
Market withdrawals**	957	83	71	45	180	1,336

As of 31 December 2011

* The difference between the number of licence applications and the number granted is due to those carried forward from the previous year, applications being processed and applications that were not further pursued.

** From 2010 market withdrawals include the amount of legally revoked licences, licences returned and ceased, which were published in the Bundesnetzagentur's Official Gazette. Licences which were already considered market withdrawals in previous years and published in the Official Gazette in 2010 and 2011 are still considered such for the respective previous years. This explains the difference between the licences published in 2010 and 2011 and the number of market withdrawals.

MARKET STRUCTURE

The number of firms independently providing services to end users declined steadily in recent years to just over 600 at the end of 2010. Some 150 licensees are "micro-companies" that generate revenue of less than €10,000 a year and whose operations are managed only by the firm's owners and any family members.

Number of companies by revenue volume* excluding Deutsche Post Group)

Year	up to €10,000	€10,001 to €100,000	€100,001 to €500,000	€500,001 to €1,000,000	> €1m to €10m	> €10m
2006	133	225	130	46	116	22
2007	~ 200	127	133	57	107	23
2008	~ 250	129	82	38	101	18
2009	~ 200	185	102	44	97	18
2010**	~ 150	178	108	44	93	20

* The number of companies in this breakdown is lower than the total number of companies active on the market, as in many cases the parent company or group submitted information for all affiliated licence-holders.

** Updated values

NOTIFICATION

Providers offering postal services that do not require a licence are obliged to notify the Bundesnetzagentur in writing when their operations commence, change or end. To date the Bundesnetzagentur has received some 47,000 notifications relating to the conveyance of letter items over 1,000g, addressed parcels up to 20kg, courier services, and the conveyance of books, catalogues, newspapers and magazines. Some 90% of notifications were filed by subcontractors and agents working for licensed operators, most of them the "parcel shops" of major parcel service providers.

Ruling Chamber decisions

The price cap benchmark decision is a milestone in that it ensures that DPAG will continue to offer high-quality letter mail services at affordable prices for the next two years. The Ruling Chamber prohibited services that were offered below cost by a subsidiary of DPAG (First Mail Düsseldorf GmbH) and in doing so, put an end to an anticompetitive practice.

RATES REGULATION

Price cap benchmark procedure

The price cap regulation for the period 2008 to 2011 and the Ruling Chamber's price cap rates regulation both expired effective 31 December 2011. For the period beginning 1 January 2012, it was therefore necessary to re-determine the bundling of services and the price caps for the rates charged by the incumbent licensee that require approval according to the Postal Act. A corresponding decision was taken on 14 November 2011.

In the price cap proceedings (reference: BK5b-11/017) the Ruling Chamber stipulated the price caps for the average rate of change in prices for services in the same basket. Apart from assigning services to baskets, the Ruling Chamber also had to verify current average price levels.

In preparation for its rates decision effective 2012 and beyond, in May 2011 the Bundesnetzagentur published the key elements in its Official Gazette and invited comment from interested parties. The feedback, most of which came from trade associations, competitors and regulated companies, was published on the Bundesnetzagentur's website and in the Official Gazette.

As in previous price cap proceedings, the products that were deemed to come under the price cap were assigned to one single basket that contained all national and international individual letter items including special services. Most of the services covered by the price cap effective 1 January 2012 are individual letter services for private customers and small businesses. These services do not differ in competition intensity and substitutability to the extent that this would have justified their assignment to different baskets. According to section 19 sentence 2 of the Postal Act, since 1 January 2008 rates for bulk items, that is, rates payable for mailing volumes of 50 letter items or more, have only been subject to ex post control of anticompetitive practices on the part of the Bundesnetzagentur.

The benchmarks for the new price cap regulation were set for the period 1 January 2012 to 31 December 2013. This period was subdivided into two price cap periods of one year each.

Under the price cap formula the new price levels for 2012 and 2013 were calculated based on the difference between the productivity increase (known as the X factor) and the rate of inflation. In this case the X factor was set at 0.6% per annum. According to section 4(3) of the Postal Rates Regulation Ordinance the setting of benchmarks and especially the determination of the expected rate of productivity increase must take into account the ratio between the base price level and the cost of efficient service provision. Section 3 of the Ordinance requires the Bundesnetzagentur to base its rates approval decisions on cost information as submitted by the provider to be regulated. Accordingly, DPAG submitted to the Bundesnetzagentur cost documentation that was then used to determine the cost of efficient service provision for the products that are subject to ex ante regulation under section 19 of the Postal Act. The substantiated costs were analysed as to the calculation method used and correct allocation to the categories causing the costs.

When setting the X factor the Bundesnetzagentur first had to establish the cost of efficient service provision and the anticipated savings to be achieved thanks to efficient sorting and delivery processes. According to section 20(1) of the Postal Act DPAG may apply a surcharge to the calculated cost of efficient service provision if this results from a legal obligation or if there is another objectively justifiable reason (section 20(2)). In other words, over and above the "purely" efficient costs the Bundesnetzagentur may include neutral expenses in its calculation of the productivity increase. Specifically, sufficient consideration must be given to the cost of postal service provision throughout the Federal Republic of Germany and of the costs incurred by staff pension payments ensuing from legal succession to Deutsche Bundespost (section 20(2) sentence 2 of the Postal Act).

The costs that go over and above the cost of efficient service provision include the neutral expenditure on the provision of postal services throughout the country, to which end DPAG maintains a nationwide network of retail outlets and delivery offices. However, the Bundesnetzagentur did not consider the entire cost of maintaining this network to be neutral expenditure as defined by section 20(2) of the Postal Act. The neutral expenditure for maintaining the nationwide network was only taken into account to the extent that they were higher than the resulting income. This approach was taken to account for the fact that DPAG's nationwide footprint gives it an economic advantage.

DPAG also included in its calculation staff costs that it considered to be higher than those borne by its competitors. These exist because DPAG as the legal successor to "Deutsche Bundespost - Postdienst" had to take on its predecessor's entire workforce. These employee's earnings are considerably higher than the wages and salaries paid to employees in comparable industries. The extent to which these are higher than those paid by DPAG's competitors was assessed by comparing the staff costs actually accruing to DPAG with the market-level pay-scale wages and salaries paid by other providers in the industry.

Finally, the Ruling Chamber also verified that there was no unlawful cross-subsidisation between the price cap area and other segments. Since DPAG provided a full disclosure of the type and extent of all of its costs it was possible to verify their allocation. This enabled the Ruling Chamber to ensure that the price cap products subject to continued ex ante regulation were

not subsequently being used to cover and meet DPAG's neutral expenditure to any material extent.

Price cap approval 2012

In its decision dated 6 December 2011 the Ruling Chamber approved DPAG's rates application for its products under the price cap for 2012. Since the application did not include any rate changes, the rates for price cap postal services will remain stable throughout the coming year. Consumers can hence continue to enjoy high-quality services at still affordable prices. The benchmark proceedings allow for a potential 1.2 % increase in prices, an option that DPAG may carry over and exercise in 2013.

Rates for access to change-of-address information

The Ruling Chamber also decided on DPAG's application for rates approval concerning access to change-of-address information. Under the Postal Act and following a Ruling Chamber decision DPAG is obliged to provide, for a fee, other postal service providers with access to change-of-address information that it receives when customers request mail forwarding to a new address. Access to this information makes it easier for alternative providers to deliver wrongly addressed items to the right recipient.

This information is provided electronically to the requesting providers. The rates approval extends to include the charge for installing the necessary hardware and software plus a charge for each successful address match.

The Ruling Chamber obliged DPAG to grant such access and since then has issued four comparable rates approvals. On 25 November 2011 the rates were partially approved and slightly increased for the two following years. The rate for providing the reading device and the smart card, including the cost of delivery (a one-off installation charge), was set at €59.29. The rate for each successful match request placed by a competitor was set at €0.12. The rates DPAG had applied for were €64.48 for the installation charge and €0.13 per match. In the previous proceedings in 2008 the approved rates were €58.57 for the installation and €0.10 per match.

Rates for the service of documents

Rates approval for the service of documents is a particular case of regulation. All competitors, not just the dominant provider, have to have their rates approved in line with the cost of efficient service provision. In 2011, 37 approvals were granted.

The licensees applied for both rates for single items and rates on a sliding scale. In 2011 the highest approved rate for a given product variant was €4.66 while the lowest was €1.60. The latter was approved by the Ruling Chamber since the licensee in question was able to provide evidence that it had cut its costs thanks to considerable effects of scale and more efficient collection and delivery logistics. The differences in rates are also attributable to the fact that the applicant's operating regions vary in terms of population density. The providers applied for a range of different delivery options, mostly for the classic kind of service. However, a rising number of providers are also starting to offer an electronic option, where orders are first registered and archived electronically. The data is then uploaded to an online portal where it is available for downloading; alternatively, it is sent directly by data transmission.

Some applicants were active nationwide, while others had a regional footprint. Some competitors had formed alliances in order to be able to offer the service nationwide and respond to large-scale public requests for tender. These developments suggest that the market for the service of documents is continuing to consolidate, a trend that was also obvious during the period under review. Two larger providers of this type of service filed for insolvency. Subsequently, a number of licensees that had worked exclusively for these companies as subcontractors submitted an application to the Bundesnetzagentur. They aimed to use their regional footprint to start delivering some of the items to be conveyed. Because the service of documents requires assignment of a sovereign task, when service providers who offer this service form alliances, all of them have to apply for a licence under section 5 of the Postal Act and may not be exempted from providing the service. The Bundesnetzagentur confirmed these rules in its Official Gazette in 2011.

SPECIAL CONTROL OF ANTI-COMPETITIVE PRACTICES

Abuse case involving rates by DPAG subsidiary First Mail

In proceedings against First Mail Düsseldorf GmbH, a wholly owned subsidiary of DPAG, and against DPAG itself the Bundesnetzagentur found that both companies were in breach of pricing standards and non-discrimination rules as stipulated in the Postal Act. In a decision dated 14 June 2011 (reference: BK5b-11/018) it hence ordered the companies to remedy the situation in compliance with the Postal Act without delay, however at the latest by 31 August 2011.

In some regions across Germany First Mail had offered the delivery of letter mail items in lots of 50 or more at terms and conditions that were largely in line with those applied by DPAG for downstream access services. However, the corresponding rates were considerably lower than those charged by its parent company.

The Bundesnetzagentur concluded that the relevant product and geographic market in this case was the nationwide market for standard letter items up to 1,000g. DPAG is the dominant provider in this market. According to competition law, First Mail, which is dependent on DPAG and is subject to the parent company's instructions, is hence considered a dominant provider (functional concept of an undertaking).

The forecast given by the two companies in question, according to which First Mail was to break even in 2011, did not stand up to scrutiny. It had been based on an anticipated considerable increase in volumes, which however ran counter to general market developments and moreover did not match up with DPAG's assumptions in other respects. The figures included no general administrative overhead, no profit markups and no repayments to DPAG for the losses sustained in the period between 2005 and 2010. DPAG's claim that it could not survive the regional competition without a price break was not sustained in the light of a prior supreme court ruling (Federal Court of Justice, reference: KZR 21/08, ruling dated 23 June 2009 – Entega I). According to this ruling, while a dominant company cannot be prevented from establishing a sub-brand (such as a no-frills product line), such a move may be deemed anti-competitive if the lower-cost service is only available in a certain region. In this case, the restriction of the service to a certain region was accompanied by below-cost prices and a focus on areas that

TABLE OF CONTENTS CHAPTER

were also served by the parent company's largest competitors with their own networks.

In addition, maintaining two parallel delivery networks does not entail any cost or efficiency advantages for DPAG. Rather, the cost to First Mail is higher and the capacity of DPAG's own sorting centres and delivery networks is not optimally utilised. This justifies the conclusion that DPAG had been sustaining First Mail in order to strengthen its market position using resources unrelated to the service in question.

DPAG and First Mail filed an expedited application against the immediate enforcement of the decision that was rejected by two court instances (page 143). First Mail subsequently brought its rates in line with the decision effective 1 December 2011, and announced the discontinuation of its letter mail services effective 31 December 2011.

Court proceedings

Courts confirm major Bundesnetzagentur decision concerning the anti-competitive exploitation of market power in the postal area

HIGHER ADMINISTRATIVE COURT DECISION ON ANTI-COMPETITION CASE INVOLVING FIRST MAIL

The Higher Administrative Court (OVG) of North-Rhine Westphalia rejected an expedited application brought by First Mail against a decision by Ruling Chamber 5 concerning anti-competitive practices (reference: BK5b-11/018) in the last instance (reference: 13 B 1082/11). In its decision dated 15 November 2011 the Court confirmed the first-instance decision by the Cologne Administrative Court dated 1 September 2011 (reference: 22 L 1011/11).

The Ruling Chamber had found First Mail, a wholly owned subsidiary of DPAG, to be in breach of the pricing standards and the non-discrimination principles of the Postal Act and ordered it to bring its pricing in line with postal legislation.

First Mail filed an expedited application requesting the ordering of the suspensive effect of the legal action brought against the Ruling Chamber's decision. The Cologne Administrative Court and the Higher Administrative Court of North-Rhine Westphalia conducted a summary review as part of the expedited procedure and fully confirmed the Ruling Chamber's decision.

The courts argued that First Mail had been correctly deemed a dominant undertaking owing to its affiliation with DPAG as defined by section 36(2) of the Act against Restraints of Competition. Accordingly, they stated, in the case of First Mail and DPAG price competition between individual undertakings in the same group was to be considered an unlawful price break in the absence of objective reasons for such differentiation. The pricing policy applied by First Mail, whose rates were lower than those charged by DPAG for comparable services based on the cost of efficient service provision in accordance with section 20(1) of the Postal Act, in the region it served (Düsseldorf, the Ruhr region and Berlin) was not an instance of performance-oriented competition; rather, the courts claimed, it served to suppress competition to the advantage of its parent company and to the disadvantage of its competitors.

Further, the courts stated that the public's interest in the enforcement of the decision outweighed First Mail's own interest in suspending it. Following the Higher Administrative Court of North-Rhine Westphalia's decision, First Mail withdrew the case it had brought against the Ruling Chamber's decision. The case brought

by DPAG against the decision is still pending before the Cologne Administrative Court.

HIGHER ADMINISTRATIVE COURT DECISION ON RATES FOR ACCESS TO P.O. BOXES

In a ruling dated 10 March 2011 (reference: 13 A 3211/06) the OVG of North-Rhine Westphalia largely rejected DPAG's appeal against a Bundesnetzagentur decision concerning rates regulation.

On 6 February 2002 the then Regulatory Authority for Telecommunications and Post (RegTP) had approved the rates for access to P.O. boxes for the period 1 April 2002 to 30 June 2004. The approved rates were lower than those sought by the provider. DPAG subsequently brought proceedings in order to gain approval for its intended higher rates. In its first-instance decision dated 7 June 2006 the Cologne Administrative Court rejected DPAG's claims in their entirety (reference: 22 K 1644/02).

The OVG of North-Rhine Westphalia largely concurred with the Cologne Administrative Court's decision. For instance, it confirmed that the cost of efficient service provision (section 20(1) of the Postal Act) was the decisive and independent benchmark for rates regulation. The law could not be interpreted as meaning that this cost should be considered merely a base value, the court stated. In addition, the provisions of section 20(2) of the Postal Act had to be met.

If the cost documentation submitted by the provider was insufficient or contained errors, the Regulatory Authority was entitled, at its discretion, to use cost information submitted to it in connection with previous Ruling Chamber proceedings. However, the court continued, this did not entitle the Ruling Chamber to reject a change in the calculation methods used citing previous cost information. For this reason, it ruled that the rates decision had to be revoked because of the administrative and capital costs that had not been recognised and ordered the re-approval of the rates. Both DPAG and the Bundesnetzagentur appealed against the decision. These proceedings are still pending.

HIGHER ADMINISTRATIVE COURT DECISIONS ON RATES FOR ACCESS TO CHANGE-OF-ADDRESS INFORMATION

In two parallel cases (references: 13 A 1627/08 and 13 A 1628/08) the OVG of North-Rhine Westphalia ruled on the appeals brought by DPAG and the Bundesnetzagentur against two rulings by the Cologne Administrative Court (references: 22 K 5261/04 and 22 K 3464/06).

The issue in question was the Bundesnetzagentur's only partial approval of rates for access to change-of-address information using the "black box" method (references: BK5b-04-056 and BK5b-06-056). DPAG subsequently brought proceedings in order to gain approval for its intended higher rates. The Cologne Administrative Court had already partially decided in DPAG's favour. In the appeal proceedings the OVG of North-Rhine Westphalia largely supported the Cologne Administrative Court's decisions, confirming, for instance, the statements contained in the ruling dated 10 March 2011 on the benchmark figures and room for discretion. In addition, it decided that in this case, too, using other relevant cost information submitted in connection with previous Ruling Chamber proceedings was not admissible if this involved a blanket rejection of changes in calculation methods on the grounds of previous cost information.

As for the period of depreciation for the cost involved in developing the black box method, the OVG of North-Rhine Westphalia confirmed the decision of the Cologne Administrative Court and approved a shorter depreciation period than that which was approved by the Bundesnetzagentur.

An appeal against the decision was permitted. DPAG withdrew its original appeal. The Bundesnetzagentur's appeal against the decision concerning the depreciation period is still pending.

FEDERAL CONSTITUTIONAL COURT RULES ON THE RIGHT TO EFFECTIVE LEGAL PROTECTION

In late 2010 a constitutional complaint was filed against two decisions by the OVG of North-Rhine Westphalia dated 19 March 2009 (reference: 13 A 798/09) and 23 June 2009 (reference: 13 A 476/08), respectively, with the Federal Constitutional Court.

The OVG decisions came in response to three rulings by the Cologne Administrative Court dated 27 November 2007 (references: 22 K 3808/03, 22 K 8715/03 and 22 K 9007/04). In the underlying court cases a registered association, a customer of DPAG, had brought a complaint against the rates approved by the then Regulatory Authority for Telecommunications and Post in price cap proceedings for 2003, 2004 and 2005. The plaintiff cited material doubts as to the lawfulness of the approved rates and claimed that as a DPAG customer, the approval represented an infringement of its own rights since section 20(2) sentence 1 no. 1 of the Postal Act offered third-party protection.

The Cologne Administrative Court disagreed that the plaintiff's rights had been infringed and rejected the complaint. The OVG of North-Rhine Westphalia, too, confirmed the rejection of the case by the Cologne Administrative Court and disallowed an appeal. The plaintiff subsequently filed a complaint alleging that its right to a court hearing had been violated, which the OVG rejected in a decision dated 23 June 2009. These decisions cannot be appealed.

The plaintiff appealed to the Federal Constitutional Court concerning the two latter decisions, claiming that they constituted a violation of its right of recourse to the courts as afforded by section 19(4) of the Basic Law. In disallowing the right to appeal, it claimed, the OVG of North-Rhine Westphalia disregarded the third-party protection offered by section 20(2) sentence 1 no 1 of the Postal Act for no objectively justifiable reason and, in doing so, unreasonably limited its right to appeal to the next higher instance.

The constitutional complaint (reference: 1 BvR1764/09) was successful. The Federal Constitutional Court agreed that section 19(4) sentence 1 of the Basic Law had been violated in that the OVG of North-Rhine Westphalia had failed to acknowledge the material significance of the case in violation of the plaintiff's right of recourse to the courts. The Court stated that recognising the right of recourse was intrinsically without value if the reason given only made reference to the fact that even if the administrative decision was unlawful, the plaintiff was not able to claim that its own rights were violated. As the Federal Court of Justice had already ruled that these issues were to be clarified in administrative proceedings, it continued, the plaintiff was practically powerless in attempting to have the first-instance decision reviewed. The case

TABLE OF CONTENTS CHAPTER

was referred back to the OVG of North-Rhine Westphalia.

TABLE OF CONTENTS CHAPTER

TABLE OF CONTENTS

Electricity and gas

Network expansion

Against the background of events in Fukushima, the federal government and the federal legislator, within a period of only four months, passed key resolutions to transform the German system of energy supply. The energiewende, the transformation of the energy system, can only succeed if network expansion keeps pace with the expansion of renewable energy sources. Only then can electricity that is produced in onshore and offshore wind farms, for example, arrive in the consumer centres in Western and Southern Germany.

NEW FOUNDATIONS FOR THE EXPANSION OF THE ELECTRICITY GRID

In the summer of 2011, on the basis of the amended Energy Act (EnWG) and the Grid Expansion Acceleration Act (NABEG), the Bundesnetzagentur took on broad new competencies in the areas of demand evaluation, planning and approval of extra-high voltage power lines. The central objective of the new arrangements is to significantly shorten the duration of planning and approval procedures. To this end, four phases can be differentiated: (1) approval of an energy scenario framework, (2) confirmation of a national Network Development Plan as the basis for the Federal Requirements Plan, (3) federal sectoral planning and (4) planning approval. All four phases provide the possibility of early and in-depth public participation and consultation for stakeholders and interested parties.

Scenario frameworks

The EnWG requires that TSOs must currently draw up one scenario framework per year on energy sector development, which must contain at least three plausible scenarios. Each of these scenarios must outline a plausible course of development over the next ten years. The scenario framework forms the basis of a joint national Network Development Plan that the TSOs must also submit annually; 2012 is the first time it is to be submitted. Although at present the exact situation of the German and European "electricity landscape" in ten years' time cannot be predicted, expansion measures must already be initiated today if the power lines are to be available in five to ten years.

The Bundesnetzagentur approved the first scenario framework for electricity at the end of 2011. The TSOs submitted the draft to the Bundesnetzagentur in July of 2011. The approval took place after an extensive official and public consultation process. As part of this process, the Bundesnetzagentur invited all participants of the written consultation to a workshop in Bonn.

The scenario framework assumes a lead scenario (scenario B) with a realistic mid-range expansion of renewable energy sources. Another one of the scenarios examined is characterised by a relatively moderate expansion path for renewables, accompanied by a correspondingly high share of conventional power, in particular from coal-fired power plants (scenario A). Scenario C, by contrast, is based on the assumption of a very high expansion of renewable energy sources. The Bundesnetzagentur subjected the scenarios to a validity check, which led to an adjustment of the "scenario funnel" with regard to the development of renewable energy sources. The scenario framework is not meant to depict all conceivable development paths, but rather to outline the range of probable development.

For drawing up the Network Development Plan, the TSOs varied not only the trajectories for renewable energies, but also the installed capacity of conventional energy sources, since this factor could also influence the structure of the network development that will be necessary in the future. The calculated conventional power plant park, however, is not the result of a model based on certain assumptions of investment incentives such as the costs of the respective power plant types or the development of market prices. Instead, the TSOs based their calculations on information regarding existing power plants and those power plants currently under construction or in planning stages. With regard to the development of annual peak load and electricity consumption, the TSOs were required as per approval notice to assume and apply to the scenarios an annual peak load of 84 GW and to set the electricity consumption level to the value of the reference year 2010. Furthermore, the TSOs are to examine by way of sensitivity analyses how a reduction in electricity consumption and the related reduction of load would impact the required network expansion.

Scenario Framework Electricity 2011

	Reference 2010	Scenario A 2022	Lead scenario B 2022	Scenario B 2032	Scenario C 2022
Installed generating capacity in GW					
Nuclear	20.3	0.0	0.0	0.0	0.0
Lignite	20.2	21.2	18.5	13.8	18.5
Hard coal	25.0	30.6	25.1	21.2	25.1
Natural gas	24.0	25.1	31.3	40.1	31.3
Pumped storage	6.3	9.0	9.0	9.0	9.0
Oil	3.0	2.9	2.9	0.5	2.9
Other conventional sources	3.0	2.3	2.3	2.7	2.3
Total conventional sources	**101.8**	**91.1**	**89.1**	**87.3**	**89.1**
Hydropower	4.4	4.5	4.7	4.9	4.3
Onshore wind	27.1	43.9	47.5	64.5	70.7
Offshore wind	0.1	9.7	13.0	28.0	16.7
Photovoltaics	18.0	48.0	54.0	65.0	48.6
Biomass	5.0	7.6	8.4	9.4	6.7
Other renewables	1.7	1.9	2.2	2.9	2.0
Total renewables	**56.3**	**115.6**	**129.8**	**174.7**	**149.0**
Total net capacity	**158.1**	**206.7**	**218.9**	**262.0**	**238.1**
Annual peak load and electricity consumption					
Annual peak load in GW	84.0–87.5	84.0	84.0	84.0	84.0
Net power requirements in TWh	535.4	535.4	535.4	535.4	535.4

Network Development Plan as the basis for the Federal Requirements Plan

Based on the scenario framework approved by the Bundesnetzagentur, the four TSOs calculate the expansion requirements jointly in a unified network model. Factors which are taken into consideration include assumptions on regional distribution of supply capacities and on transmission technologies. The TSOs calculate the respective network expansion requirements for all three scenarios of the scenario framework. In a separate deliberation process, essential measures must be derived from the three calculations. As a rule, the principle of network optimisation has priority. The Network Development Plan must contain all effective measures for demand-based optimisation and grid reinforcement and expansion, which are necessary

to ensure secure and reliable network operations over the next ten years. Furthermore, information must be provided as to which network expansion measures must already be implemented within the next three years. The TSOs put up their draft of the joint national Network Development Plan for public consultation. The Bundesnetzagentur then verifies the draft after making adjustments based on the public participation; it may also require the TSOs to make changes to the draft.

In the phase of drawing up the Network Development Plan, the Bundesnetzagentur carries out an initial strategic environmental assessment. To this end, an environmental report first looks at the environmental impact of network expansion in a general manner. Despite the fact that at such an early planning stage, the exact course of power lines is not yet known, it is already possible to make well-founded regionally-based assessments, in particular regarding where there might be major obstacles to power line expansion measures.

The draft of the Network Development Plan and the environmental report are subject to a consultation procedure for authorities and the public that is organised by the Bundesnetzagentur. This annual procedure will be held for the first time in 2012. The Bundesnetzagentur approves the annual Network Development Plan, taking into account the results of consultation by authorities and the public. The Network Development Plan and the environmental report serve as the basis for the Draft Federal Requirements Plan. The federal government submits the Draft Federal Requirements Plan to the federal legislator at least once every three years. With the issuing of the Federal Requirements Plan, the legislator determines the necessity of the measures contained therein for the energy sector, as well as their urgency.

Federal sectoral planning and Federal Grid Plan

Within the framework of federal sectoral planning, the Bundesnetzagentur identifies route corridors that are suitable for the inter-state or cross-border extra-high voltage power lines set out in the Federal Requirements Plan in accordance with the provisions of the NABEG. In this respect, the federal sectoral planning replaces the regional planning procedure of the federal states. The procedure begins with the submission of an application by a TSO. The application contains a proposal for the intended route corridor, a presentation of possible alternatives as well as details on identifiable impacts on humans and the environment. The Bundesnetzagentur holds a regional planning conference with representatives of public agencies, associations and other organisations. Since it is a public conference, information is available to any interested party.

In addition, a strategic environmental assessment is carried out within the framework of federal sectoral planning. This assessment takes a closer look at the regional aspects of environmental impacts. The application documentation and the environmental report are subject to an additional consultation of public authorities and the public, including a hearing following submission of the documentation. The federal sectoral planning is completed with a decision by the Bundesnetzagentur on the requested route corridor. The objective of the decision is to minimise the impact on humans and the environment while incorporating a power line corridor into the Federal Grid Plan that makes technological and economic sense.

In the Bundesnetzagentur, a federal sectoral planning board is to be established, made up of representatives of the federal states, the federal government and the Bundesnetzagentur. The Bundesnetzagentur has already established technical contacts with the state authorities responsible for regional planning and planning approval procedures.

Planning approval

In the course of the planning approval procedure, the exact route of individual power lines is established. Where this requires an ordinance from the federal government to be issued with the consent of the German Bundesrat, the Bundesnetzagentur is also responsible for the planning approval procedure concerning inter-state or cross-border extra-high voltage lines. In other cases, this task is the responsibility of the respective state authorities. The planning approval procedures for other extra-high voltage lines and for power lines at the 110-kV level in the distribution network, however, definitively remain the responsibility of the federal states.

The planning approval procedure also begins with an application by a TSO. In contrast to federal sectoral planning, this application now contains the specific course of the route within the established corridor, as well as information on alternatives and details regarding identifiable environmental impacts.

Planning approval procedures for inter-state or cross-border high voltage power lines carried out by the Bundesnetzagentur can bring about significant synergies. They ensure a uniform planning approach vis-à-vis the TSOs and allow the public and other affected parties to actively and constructively participate in all steps of the procedure. The course of the planning approval procedure with the Bundesnetzagentur is similar to that of federal sectoral planning: Here too, the Bundesnetzagentur holds a regional planning conference with representatives of public agencies as well as associations and other organisations. Within the framework of a further environmental impact study, it carries out detailed examinations of the impacts of individual construction projects. The planning and review process is even more concrete than in the federal sectoral planning phase, and examines, for example, precise mast locations or the exact course of an underground power line. The application documentation as well as the environmental report are subject to an additional governmental and public consultation process. The final planning approval includes the approval for the construction of the particular power line.

EFFECTS OF THE DECISIONS ON NUCLEAR ENERGY ON THE ELECTRICITY GRID

The Bundesnetzagentur's reports on the effects of the nuclear power moratorium of March 2011 on the transmission networks and security of supply demonstrate to what extent the changes in the power generating structure and the additional transport tasks have brought the transmission systems to the brink of capacity. This underlines the urgency of not only the construction of additional power plants, but also of the expansion of the transmission systems.

The amendment of the Atomic Energy Act, which became effective in August 2011, resulted in the expiration of the operational licenses of the seven oldest nuclear power plants and the Krümmel nuclear power plant. The Bundesnetzagentur received a legal mandate to examine whether, in the interest of securing network stability,

one of the decommissioned nuclear power plants should be maintained as a reserve power plant until spring of 2012.

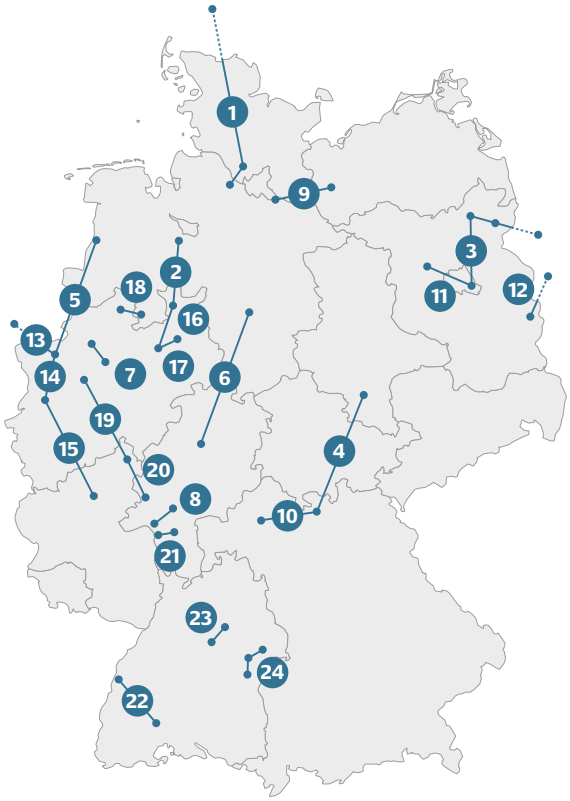
In its final report of 31 August 2011, the Bundesnetzagentur came to the conclusion that, due to fossil fuel-based power plant capacities that have so far not been taken into account, the network situation remains manageable even without the deployment of one of the decommissioned nuclear power plants. Within the framework of its examinations, the Bundesnetzagentur reviewed the conventional generation capacities that served as the basis for the TSOs' calculations. For this purpose, it compiled the first-ever comprehensive overview of all generation capacities in Germany above 20 MW. As a result, the Bundesnetzagentur was able to identify reserve capacities in Southern Germany that had not yet been taken into consideration, as well as contractible reserves in Austria, each amounting to around 1,000 MW.

However, due to the elimination of 8,400 MW of nuclear power capacity, the network situation remains tense. Since March 2011, the TSOs have had to intervene in systems operations far more frequently than had previously been the case. For its final report, the Bundesnetzagentur, with the support of external experts, examined the network calculations provided by the TSOs on the forecasted network situation in winter 2011/2012. The network calculations looked at network usage cases that are typically accompanied by high levels of strain on the network. Key parameters in this context are, in particular, consumption load as well as energy feed-in from wind power and photovoltaic systems. One particularly critical case was represented by a workday in winter with a high load paired with high electricity feed-in levels from renewable energy sources. Also considered to be critical is the case of a winter workday with a very high load and virtually no feed-in of electricity from renewable energy sources. For both cases, the impact of a simultaneous shutdown of a major power plant and an operational component in the transmission network was examined. It is essential that the network has robust safeguards in place against such disruptions. The same applies to extraordinary failures. In the case of a very high load and the simultaneous lack of feed-in of electricity from renewable energy sources, voltage stability problems could come about in particular in the greater Hamburg area. Furthermore, the power lines leading to Frankfurt could be subject to extremely high levels of strain. A significant voltage stability problem was also identified for southwestern Germany, in particular with regard to the case of a high load and a simultaneous high feed-in level of electricity from renewable energy sources. In summary, the examinations determined that, even in these cases, despite the considerable strains on the network, the network situation remains manageable with the help of the identified reserve power plants and that, as a result, it is not necessary to rely on the backup operations of a decommissioned nuclear power plant.

ENLAG PROJECTS AND GRID CONNECTION OF OFFSHORE WIND FARMS

In order to ensure that the security of supply in Germany remains at a high level, it is necessary that not only power plant projects, but also in particular certain network expansion projects be quickly completed in the short to mid range. These include the 24 prioritised projects of EnLAG of 2009.

EnLAG projects



1	Kassø (Denmark) – Hamburg Nord – Dollern
2	Ganderkesee – Wehrendorf
3	Neuenhagen – Bertikow/Vierraden – Krajnik (Poland)
4	Lauchstädt – Redwitz (as part of the Halle/Saale – Schweinfurt line)
5	Diele – Niederrhein
6	Wahle – Mecklar
7	Bergkamen – Gersteinwerk
8	Kriftel – Eschborn
9	Hamburg/Krümmel – Schwerin
10	Redwitz – Grafenrheinfeld (as part of the Halle/Saale – Schweinfurt line)
11	Neuenhaben – Wustermark (as the first part of the Berlin Ring)
12	Eisenhüttenstadt – Baczyna (Poland)
13	Niederrhein/Wesel – Landesgrenze Niederlande (Doetinchem direction)
14	Niederrhein – Utfort – Osterath
15	Osterath – Weißenthurm
16	Wehrendorf – Gütersloh
17	Gütersloh – Bechterdissen
18	Lüstringen – Westerkappeln
19	Kruckel – Dauersberg
20	Dauersberg – Hünfelden
21	Marxheim – Kelsterbach
22	Weier – Villingen
23	Neckarwestheim – Mühlhausen
24	Bünzwangen – Lindach; Lindach – Goldshöfe

The transmission routes from Lauchstädt to Redwitz (no. 4), from Hamburg/Krümmel to Schwerin (no. 9), as well as from Osterath to Weißenthurm (no. 15) must be classified as particularly significant in light of the effects of the accelerated nuclear phase-out. The EnLAG projects are currently in various stages of completion. To date, only two projects with a length of less than ten kilometres each have been fully completed (no. 7 and 21); power lines no. 4, 9, 15 and 20 are partially completed. Approximately 214 of a total of 1,807 kilometres of new power lines to be built have been completed (status: September 2011). The remaining projects are in the planning phase or in the midst of regional planning or planning approval procedures. Half of the projects are subject to delays, so that the commencement of commissioning will in some cases be several years behind the original schedule. For 21 of the 24 projects, the Bundesnetzagentur has already approved investment budgets with a total volume of approx. 4.2bn euros.

Besides "onshore network expansion", the grid connection of the future offshore wind farms in the North Sea and Baltic Sea is of major importance for the success of the energy system transformation. In 2011, for the North Sea clusters SylWin, HelWin and DolWin, three additional hub connections and an individual connection with a total capacity of approx. 2,600 MW were commissioned. This brings to nine the total number of grid connections commissioned in the North Sea and Baltic Sea within two years, with a total capacity of more than 5,000 GW. The Bundesnetzagentur supports these processes, for example in its October 2009 position paper on the grid connection of offshore wind farms. With the entry into force of the amended EnWG, the Bundesnetzagentur received powers to issue determinations in order to, inter alia, establish legally binding criteria such as those necessary for the construction of grid connections, while at the same time facilitating the non-discrimi-

natory allocation of connection capacities. In December 2011, the Bundesnetzagentur opened up key elements of this procedure to consultation.

The some 90 requests for the approval of investment budgets that were submitted to the Bundesnetzagentur in 2011 are an indication of just how high the readiness of system operators is to invest. With a total volume of around 8.7bn euros, the TSOs' share was approximately 7.6bn euros, of which 2.8bn euros were designated for projects to establish network connections for offshore wind farms. All in all, between 2008 and 2011, the Bundesnetzagentur received budget applications for expansion and restructuring investments totalling over 30bn euros in around 700 procedures; to date, investments totalling nearly 14bn euros have been approved.

SMART GRIDS

At the end of 2011, the Bundesnetzagentur published a key elements paper entitled "Smart Grid and Smart Market". The paper dealt in particular with the differentiation between intelligent networks and intelligent markets, as well as with the question of how the system of energy supply needs to be changed in the course of the energiewende, the energy system transformation in Germany.

In the future, from the standpoint of the Bundesnetzagentur, there should be a greater focus on the market, while the grids should be assigned more of an "auxiliary role". Measures to boost network capacity and controlling capabilities on the grid are part of the area of smart grids. Network operators are responsible for the associated supplemental deployment of technology and IT components for communications, measurement, control engineering and automation. The area of smart markets, by contrast, includes measures such as those aimed at improving the integration of renewable energy sources into market processes, or those aimed at influencing consumption, for example through innovative tariff systems or services. In this area, the Bundesnetzagentur is promoting solutions by market players as well as business models that are not financed through network charges.

The transmission systems are already, for the most part, intelligent. The primary area where action is needed here is in the construction of new power lines. At the distribution system level, however, the key issues in the future will be both grid expansion and the intelligent control of networks. The distribution networks no longer have the sole job of distributing electricity locally; increasingly, they also have to distribute power that is generated decentrally to the transmission line level when solar or wind power plants produce more electricity than is required locally, and when generation by these plants is not to be restricted. To find a technologically and economically efficient mix of network expansion and network intelligence is the paramount entrepreneurial responsibility of network operators. The introduction of smart meters is considered to be more an aspect of smart markets and should make a significant contribution in that area. This requires that consumers are willing to actually make use of the meters and the data supply and take advantage of new tariff offers and services. The prerequisite for this is that there are attractive offers for both the necessary hardware as well as for the related tariffs and services.

EXPANSION OF GAS NETWORKS

Much as in the area of electricity, the amended Energy Act (EnWG) also requires gas TSOs to compile a joint national Network Development Plan each year. 2012 is the first year they must submit this plan to the Bundesnetzagentur; following a consultation, the Bundesnetzagentur may demand changes if necessary. The Network Development Plan must contain all network expansion measures that are necessary to ensure secure and reliable operations of the gas network over the next ten years. The TSOs must also base their Network Development Plan on a scenario framework. This must contain assumptions on developments with regard to the production, supply and consumption of gas. Additional factors that must be taken into consideration include the exchange with other countries, planned investments in regional and community-wide network infrastructure, in storage facilities and in LNG regasification plants, as well as the effects of possible disruptions in the gas supply.

At the beginning of 2012, the Bundesnetzagentur approved the scenario framework, taking into account the results of the public consultation process. Based on statements made therein, several adjustments were made. For example, an additional development path was included for an only slightly declining end energy consumption. Also, the power plant lists of gas and electricity TSOs were coordinated in order to ensure a uniform database in the Network Development Plans for electricity and gas for the purpose of calculating the gas demand for electricity generation; to this end, CHP plants were also taken into consideration.

The scenario framework for gas includes three gas demand scenarios. These differ with regard to the assumptions on gas demand for end consumers and for electricity generation; CHP plants were also taken into account. The scenarios constitute a wide corridor of future consumption paths. Besides an upper limit (scenario I, high gas demand) and a lower limit (scenario III, low gas demand), a mid range development path (scenario II, medium gas demand) is also assumed as a central reference point for gas demand forecasts. In all three scenarios, the gas demand will decrease by the year 2022. Based on current demand for gas, a decline of between three and 16 percent is forecasted, primarily due to the declining demand for gas by end consumers, in particular as a result of improvements in insulation technology and energy efficiency. The gas TSOs derive the gas demand for electricity generation for scenarios II and III from the electricity TSOs' approved scenarios for the future installed capacity of gas-fired power plants. This is based on a list of active and reserve power plants, as well as gas-fired power plants that are currently under construction or in the planning stage; this list was drawn up in coordination between gas and electricity TSOs. Scenario I is based on the assumption of a particularly high growth in generating capacity from gas-fired power plants.

The scenarios are based on the assumption that the extraction of domestic natural gas will decline significantly over the next decade, and that it will not be possible to counteract this decline through an increased supply of biogas. In scenarios II and III, there is a decline in import demand – in scenario II a moderate decline, by three percent, while in scenario III the decline is more significant, at 14 percent. Scenario I forecasts an increased import demand of six percent by the year 2022, based on an above-

TABLE OF CONTENTS CHAPTER

average increase in the demand for gas for electricity generation. Various options involving the use of power-to-gas technologies were also examined. Furthermore, two scenarios focusing on security of supply were included to enable the identification of any necessary precautionary measures: One assumption is based on a supply disruption of L-gas due to a reduction of domestic production; the other scenario assumes a failure of the gas import pipeline at the Mallnow cross-border point.

Market development

In 2010, more than 3.8m end customers decided to carry out a change of supplier for electricity or gas – over one million more than in the year 2009. More than 920,000 customers changed providers for gas – nearly twice as many as in 2009. By the relevant survey date of 1 April 2011, electricity prices for household customers had risen by nearly nine percent compared to the previous year, while gas prices were nearly three percent higher.

MARKET DEVELOPMENT ELECTRICITY

The Bundesnetzagentur carries out an annual monitoring of electricity and gas markets on the regular survey dates 1 April 2011 and 31 December 2010. The detailed results of the monitoring were published in November 2011 in an extensive special report.

Electricity generation and wholesale trade

Again in 2010, the development of electricity generation was characterised by a significant increase in generating capacity based on renewable energy sources. The increase is mainly attributable to solar power systems and, to a lesser extent, to wind power capacity. At the end of 2010, the net nominal generating capacity connected to the overall supply system, ie to the networks of the TSOs and DSOs, was over 160 GW. Of that amount, the share of renewable energy sources was around one third, with wind power at over 27 GW and solar power at approx. 17 GW. The other main energy sources making up the installed generation capacity were coal, with nearly 45 GW, as well as nuclear power and natural gas, each with nearly 21 GW. The volume of energy fed into the overall supply network in 2010 was over 531 TWh. The share of renewable energy was at nearly 18 percent. The share of wind power was approx. seven percent, while the share of solar power was at around two percent. The largest percentages were attributed to coal, at 42 percent, nuclear power, at nearly 25 percent, and natural gas, at approx. ten percent.

In addition to the decommissioning of nuclear power plants, which has already been decided, an additional phaseout in the area of so-called non-intermittent energy generation is planned by the end of 2014; this applies in particular to older coal-fired power plants. The entire reduction, however, is to be compensated by the year 2014 through the building of new power stations based on non-intermittent energy sources, especially modern coal-fired power plants. A number of power station projects, however, are facing delays. In order to safeguard system security, it is necessary, first and foremost, to

ensure that the power stations already under construction are completed on schedule. Of crucial importance in this context are the power station projects in Southern Germany.

In the event of a threat to or a malfunction in the electricity supply system, TSOs are both authorised and obliged to undertake network and market-related measures. TSOs implemented congestion management measures on 129 days during the year 2010. Additionally, TSOs implemented commercial transactions as market-related measures on 157 days during the same year. This shows that even before the shutdown of nuclear power plants in March 2011, the TSOs regularly had to intervene in the market for reasons of system security.

In 2010 the German wholesale market for electricity was extremely liquid, with wholesale volume amounting to approximately seventeen times the actual electricity requirement in Germany. More than half of wholesale volume was traded over broker platforms, and more than a third of the trade volume was accounted for by purely bilateral transactions between contracting parties. Without taking into account the transactions cleared on the exchange, the over-the-counter (OTC) trade volume in 2010 was more than fourteen times greater than the volume traded on the markets. The trade volume on the EEX and EPEX spot markets, however, was some 70 percent higher than the corresponding figure for 2009. The increase in intraday trade volume is primarily due to the sale of electricity under the Renewable Energy Sources Act (EEG) by TSOs on the EPEX Spot market. The sale of the EEG electricity had a dampening effect on the price level of day-ahead trade, with the result that in 2010, there was only a slight price increase in this sector. On the futures market, annual average price levels remained nearly constant compared to 2009 figures at base load, while falling by seven percent at peak load. Both in the futures and spot markets (day-ahead and intraday trading), price volatility was significantly reduced compared to previous years. The reduced level of price fluctuation is due, at least in part, to EEG electricity volumes marketed on the EPEX Spot since January of 2010, as well as to the market coupling of the German and the Nordic market (Denmark, Finland, Norway, Sweden), which has been in place since the end of 2009. In addition, the Nordic market has been linked with the electricity spot markets of Belgium, France, Luxembourg, the Netherlands and Germany since late 2010. The result of market coupling is an alignment of prices. Previously, national electricity wholesale markets were operated independently of each other. As a result of market coupling, cross-border transmission capacities are taken into account in the trading on the exchange.

In 2011, the Bundesnetzagentur published an expert study examining the impact of the German-Austrian price zone on the wholesale electricity market. In that study the experts expressed their opposition to splitting the German-Austrian market zone. The study was commissioned to look into the question of whether splitting the German-Austrian wholesale market into several price zones could solve the structural congestion issues that were assumed to exist in Germany. Experts were not able to confirm that inner-German congestion would thereby be shifted to the peripheries. Furthermore, the possible implications of such a move speak against a division into smaller price zones: Cross-border capacities would neither be increased, nor would splitting contribute to reducing so-called loop flows through neigh-

bouring systems. These constitute a passing phenomenon, which is likely to dissipate with the strengthening of the grids. While market splitting could lead to a slightly more efficient power plant dispatch, the negative effects of such a market split would extend far beyond the German-Austrian market region. The German-Austrian electricity market, because of its geographical position at the centre of Europe, and because of its high degree of liquidity, plays a key role in supporting the internal European energy market.

The paramount importance of the cross-border electricity trade for Germany's energy supply is illustrated by the developments in the weeks following the shutdown of seven nuclear power stations in March 2011. At the time, Germany was importing a total average of approximately 2,500 MW per day. At the end of 2011, by contrast, exports again outweighed imports, based in part on the high energy feed-in from wind power. As a result, a slight export surplus is expected for 2011 on the whole. Wholesale prices reacted relatively calmly to the nuclear power plant shutdowns. There was an initial price increase for the next-year supply of base load electricity, from 53 euros to around 60 euros per MWh, but this price subsequently fell. In any case, the maximum price from the summer of 2008 of around 90 euros/MWh was far from being reached. In the first six months of 2011, the median price level of futures for the following year was at 56 euros/MWh, which is around 15 percent higher than corresponding prices in 2010.

At the end of 2011, Regulation (EU) No 1227/2011 on wholesale energy market integrity and transparency (REMIT) came into effect. The Regulation explicitly prohibits insider trading and market abuse and introduces a monitoring of the energy market through ACER and the national energy regulating authorities. In 2011, within the framework of the Council of European Energy Regulators (CEER), the Bundesnetzagentur participated in drawing up recommendations on the development of a European wholesale energy trading licence for the purpose of supervising the energy exchange markets and combating VAT fraud. In cooperation with energy brokers and their trade associations, the Bundesnetzagentur compiled a list of companies involved in the energy trade.

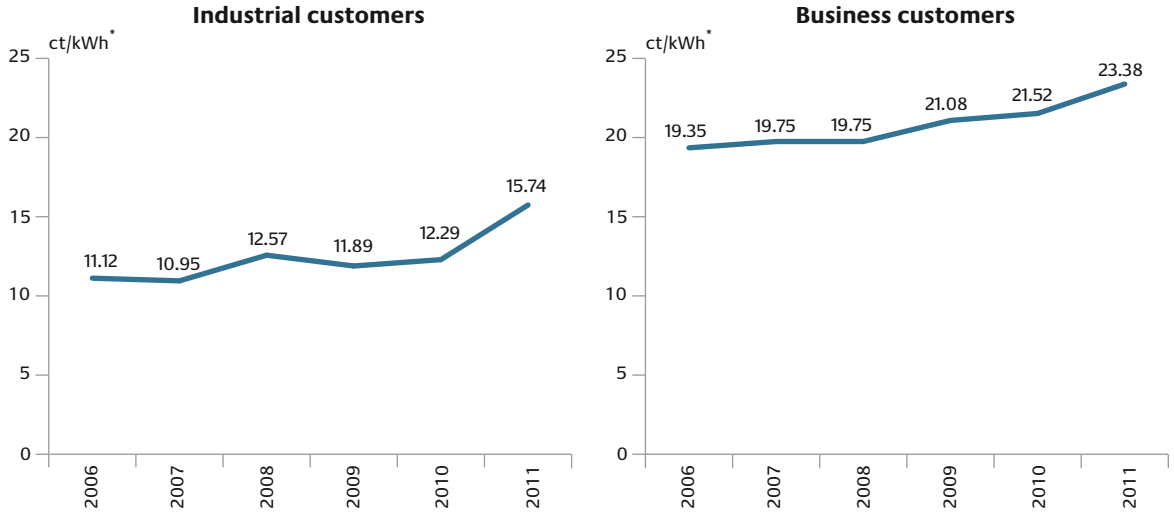
Retail electricity prices

In 2010, German retail trade for electricity was characterised by a marked increase in the electricity volumes sold to industrial customers, as well as by price increases for industry, business and household customers.

Electricity sales to industrial customers increased by some 14 percent compared to corresponding figures in 2009. Overall 2010 sales increased by around seven percent to approx. 511 TWh, to regain their level of 2008.

During the period of 1 April 2010 to 1 April 2011, the average price for industry customers increased by 28 percent to 3.45 cents/kWh, mainly as a result of the increase in the contribution as per EEG and the elimination of the reduced electricity tax rate. This is also another indication that short-term changes in wholesale prices have a corresponding effect on industrial customer prices. The price for "energy and supply" increased on average by 0.70 cents/kWh, or by nearly 13 percent. Prices for business customers, by contrast, developed on a path that was more or less parallel to that of household customer prices.

Electricity prices for industry and business 2006–2011

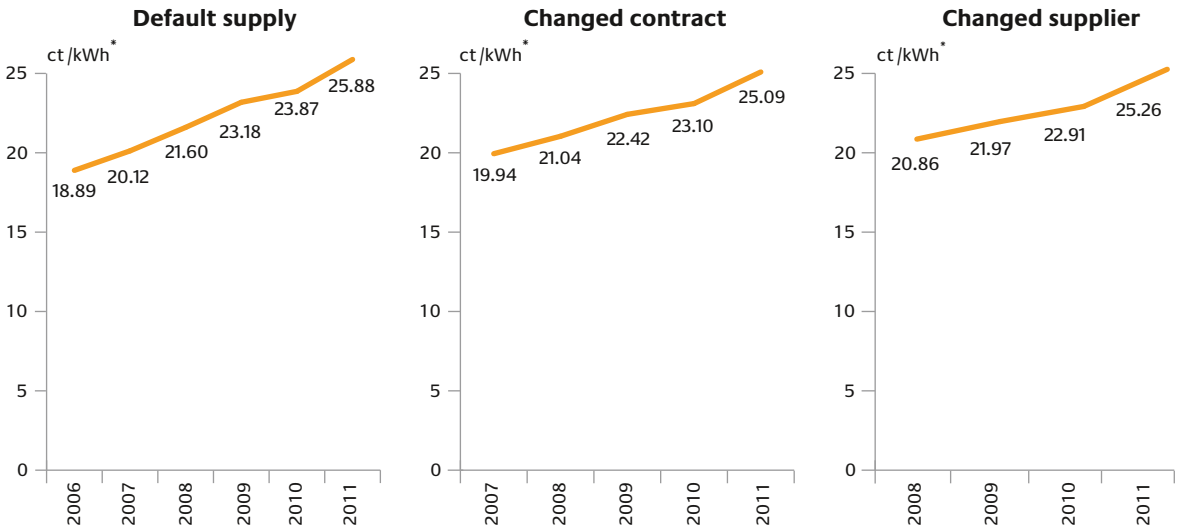


* volume-weighted averages on 1 April

For a household customer with an annual consumption of 3,500 kWh, the electricity price increased as of 1 April 2011 by an average of two cents per kWh relative to 1 April 2010, which amounts to an increase of 8.7 percent. This is the highest price increase to occur within the 2006–2011 time period. As of 1 April 2011, the volume-weighted average price across all tariffs is 25.45 cents/kWh. A comparison of the three price plan categories shows that default supply continues to be the most expensive form of electricity supply. Another point to be considered is the fact that special terms are often still granted for changing suppliers.

As of 1 April 2011, green electricity (Ökostrom) tariffs, based on volume-weighted average, are around 0.1 cents/kWh cheaper than the volume-weighted household customer price across all tariffs for conventionally produced electricity. By the end of 2010, 3.7m household customers and over 800,000 commercial and industrial customers had chosen a green electricity provider. That amounts to nearly ten percent of all end consumers.

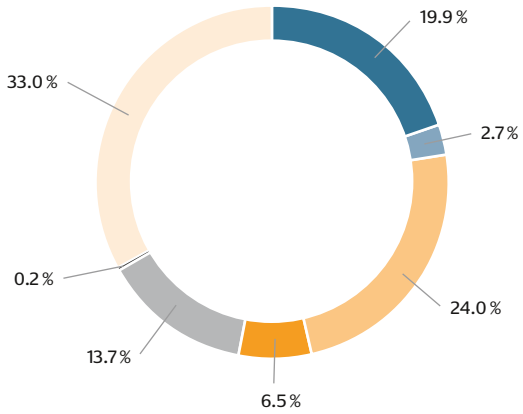
Electricity prices for households 2006–2011



* volume-weighted averages on 1 April, 2006 and 2007 figures incomplete

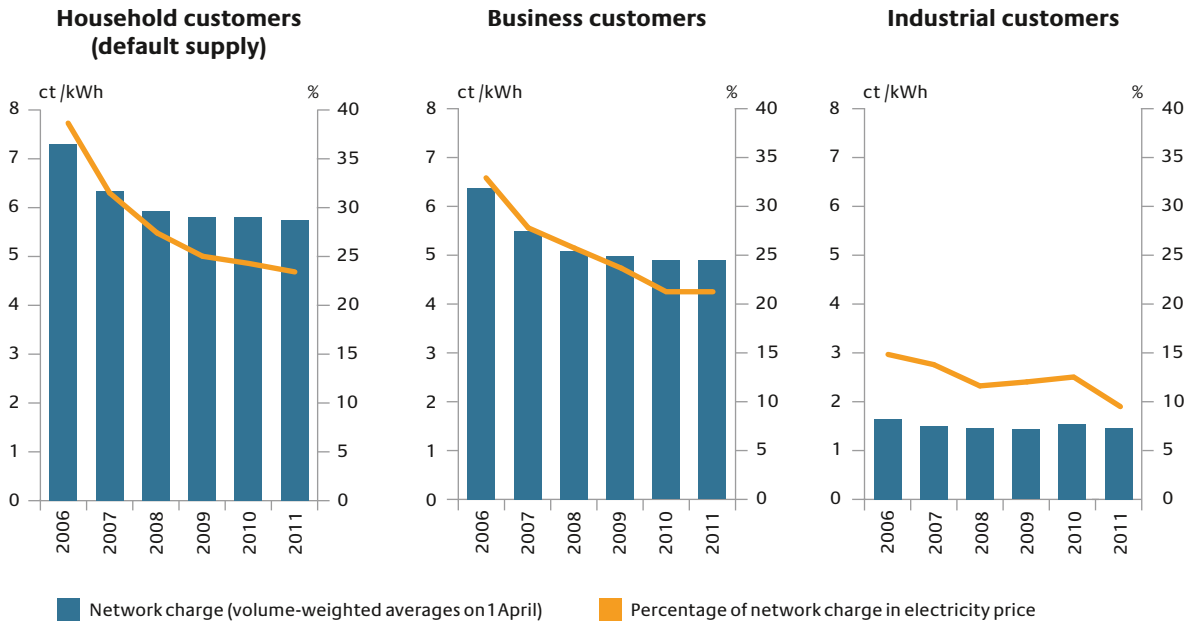
As of 1 April 2011, network tariffs for household customers fell, due to a decrease in the network charge component "billing, metering and metering operations", by 0.6 cents/kWh. Thus, as in previous years, the network tariffs have again had a reducing effect on the price of electricity, although by now they make up only around one fifth of the household customer price. The causes of the increase in the retail price lie primarily in the increased EEG contribution as of 1 January 2011, by 1.43 cents/kWh, as well as in the increase in the price component "energy and supply". This price component was based in part on an average increase in supply costs of over 0.50 cents. Moreover, the significant decrease in wholesale prices as of the second half of 2008 has failed to have a significant positive effect on electricity prices to household customers, since companies have not instituted corresponding procurement strategies or have failed to pass savings on the procurement side on to the customers. While the companies calculate the price component "energy and supply" differently, the network tariffs are the same for every energy supplier in a particular network area. The reduction of network tariffs since 2006 have consistently been overcompensated by increases in other price components, in particular the price component "energy and supply".

Composition of the electricity price for household customers 2011

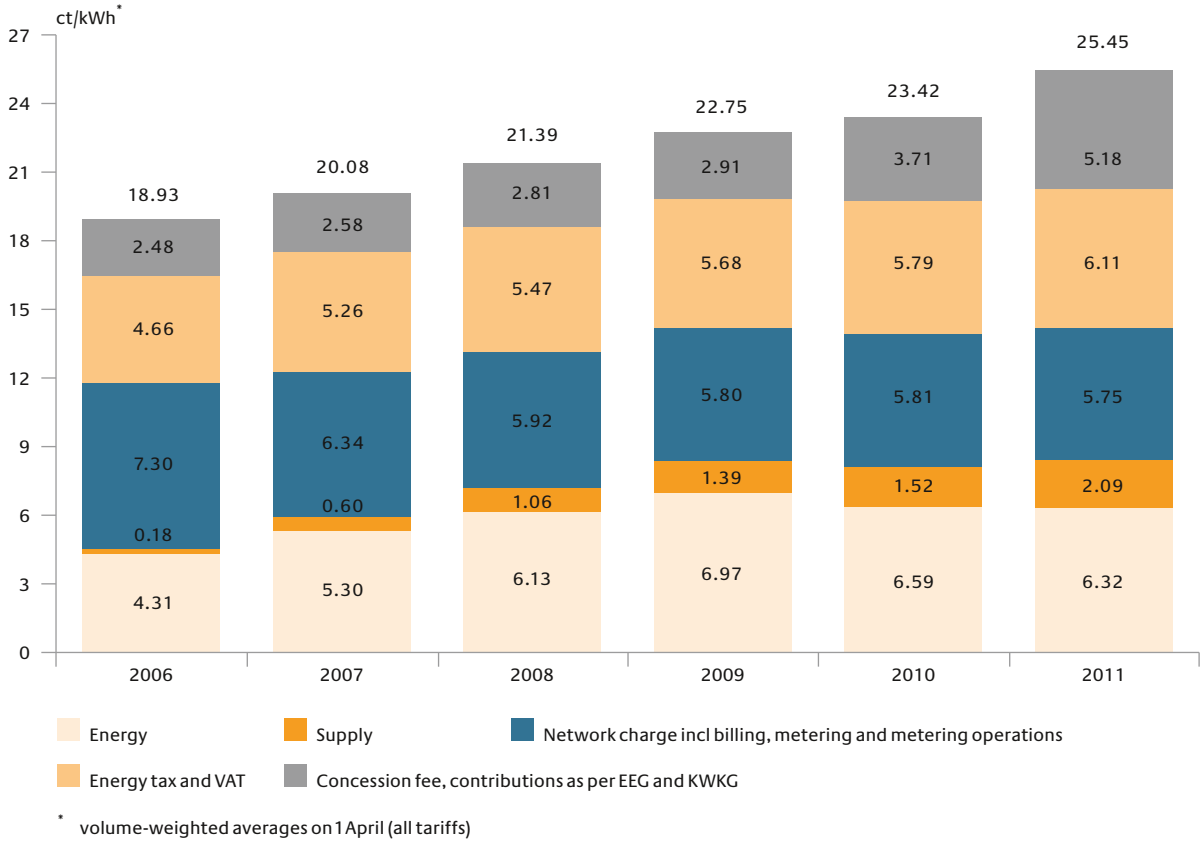


volume-weighted averages on 1 April (all tariffs)

Electricity network charges 2006–2011



Composition of the electricity price for household customers 2006–2011



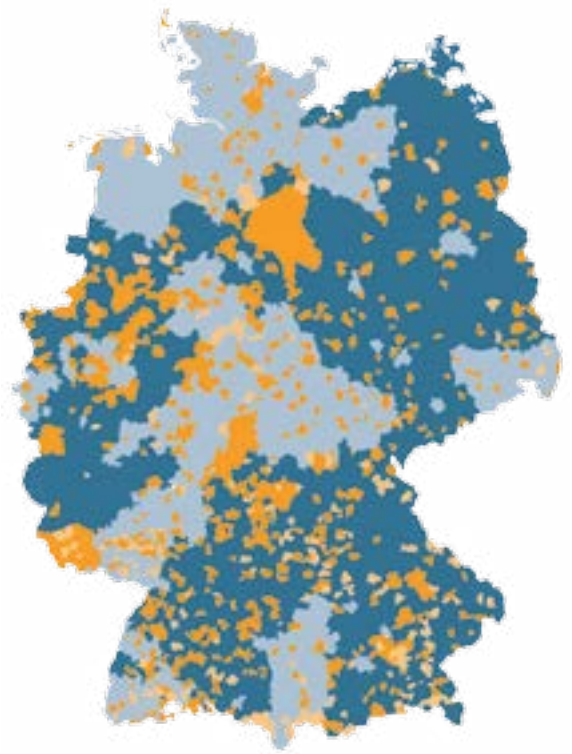
* volume-weighted averages on 1 April (all tariffs)

Switch in electricity supplier

In 2011, consumers already had the choice between an average of 147 providers in each network area. However, regardless of the number of suppliers active in a network area, the default supplier continued to play a dominant role. Only in few cases did default suppliers serve less than 70 percent of all the household customers in a particular network area.

At the end of 2010, nearly 44 percent of all household customers had not yet taken advantage of the option to switch suppliers. 41 percent of all household customers were covered by a special contract with their default supplier and some 15 percent by a special contract concluded with another supplier.

Competition in the electricity market 2011

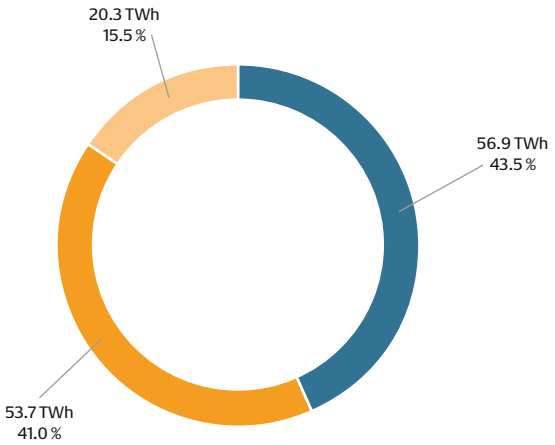


Number of suppliers serving household customers (per network area)

- 1–50
- 51–120
- 121–200
- > 200

Cartographic information: Bundesamt für Kartographie und Geodäsie

Household customer electricity contracts 2010



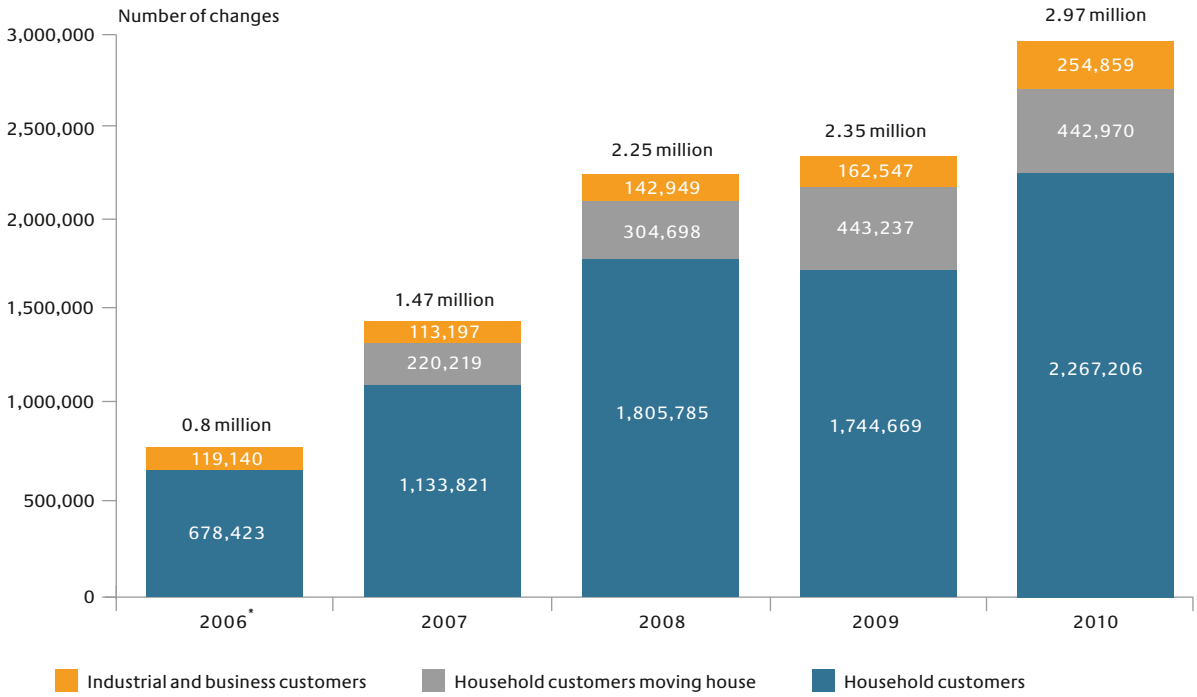
- Contract with default supplier
- Different contract with default supplier
- Contract with another supplier

In 2010, a total of approximately three million end customers switched electricity suppliers, around 2.7 of whom were household customers. This constituted a new record. In 2010, over half a million more household customers switched electricity suppliers than did so in the previous year; for business and industry customers, the number of those switching suppliers was approx. 92,000 higher than it was in 2009. While the number of supplier switches among household customers in 2010 increased by 1.3 percentage points to six percent, the volume-based rate of supplier switches increased by 1.5 percentage points to 6.8 percent. The average consumption volume of household customers who changed suppliers amounted to 3,400 kWh; by contrast, the household customers supplied via default supply contracts consumed only approx. 2,600 kWh on average.

Of the household customers who changed suppliers in 2010, 75 percent had already changed providers in the past. Around 45 percent of those switching providers in 2010 were acquired by

the four largest providers in Germany, either directly or via other marketing channels. At the same time, these companies suffered significant loss of customers in the network areas in which they are the default supplier, with the result that their overall market shares fell at national level.

Change of electricity supplier 2006–2010



* no data for household customers moving house

MARKET DEVELOPMENT GAS

Gas volumes and wholesale trading

In 2010, gas imports remained at the 2009 level, at 1,384 TWh (2009: 1,373 TWh); exports amounted to 463TWh. 40 percent of imported gas came from Russia, while 26 percent came from Norway and the Netherlands respectively. The high level of security of supply for natural gas in Germany receives an additional safeguard with the commencement of operations of new gas pipeline projects. At the end of 2011, for example, the Nord-Stream Pipeline and the Baltic Sea Connection Pipeline (Oststsee-Pipeline-Anbindungsleitung – OPAL) became operational, with a transport capacity totalling approximately 35bn cubic meters per year. In addition, the North German Gas Pipeline (NEL) is to be completed in 2012, with an annual capacity of approximately 20bn cubic meters.

At European level, CEER published the Gas Target Model in 2011, with the aim of presenting proposals to create viable liquid trading markets and to connect them with each other, in order to achieve price alignment. Since 1 October 2011, Germany has only two market areas left, NetConnect Germany and Gaspool. In 2006, there were still 19 in existence. Furthermore, with the integration of the former market areas Thyssengas H-Gas and Thyssengas L-Gas, as well as OGE L-Gas into the market area NetConnect

Germany as of 1 April 2011, a dual-quality market area came about in Germany. From a technical standpoint, the L-gas- and H-gas networks continue to be operated separately; however, all entry and exit points, and thus all customers are included in a single balancing area. If customers in the L-gas network need to be supplied with H-gas, or those in the H-gas network need to be supplied with L-gas, a newly introduced conversion charge must be paid.

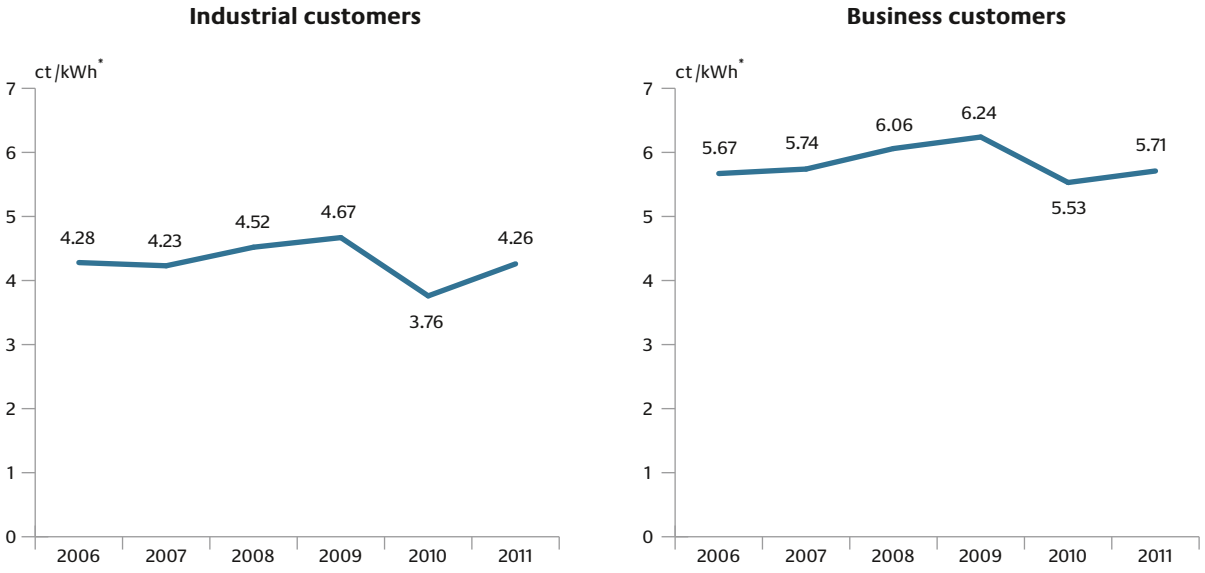
Thanks to the merger of market areas, the national wholesale gas market developed dynamically in 2010. Trading on the exchange also increased significantly, with a fourfold increase in trade volume. One of the key factors for this development is the additional acquirement of system balancing energy through the EEX by NetConnect Germany and Gaspool, the market area managers. Nevertheless, the trade volume for spot and futures products amounted to less than three percent of over-the-counter (OTC) trade.

In 2010, the German economy had a strong recovery, which was tied to a higher level of gas consumption and an increase in gas prices. In 2010 the average annual wholesale price for gas increased sharply by nearly 30 percent, compared to the year 2009, when there was an intermittent significant drop in prices on the wholesale markets. In summer of 2010, prices reached 20 euros/MWh, which is on par with cross-border prices. The import agreements on which cross-border prices are based are still often coupled to oil prices.

Retail gas prices

As of 1 April 2011, against the background of developments on the wholesale market, there was a significant increase in gas prices, in particular for industrial customers, compared to 2010 levels; on average the price increased by over 13 percent.

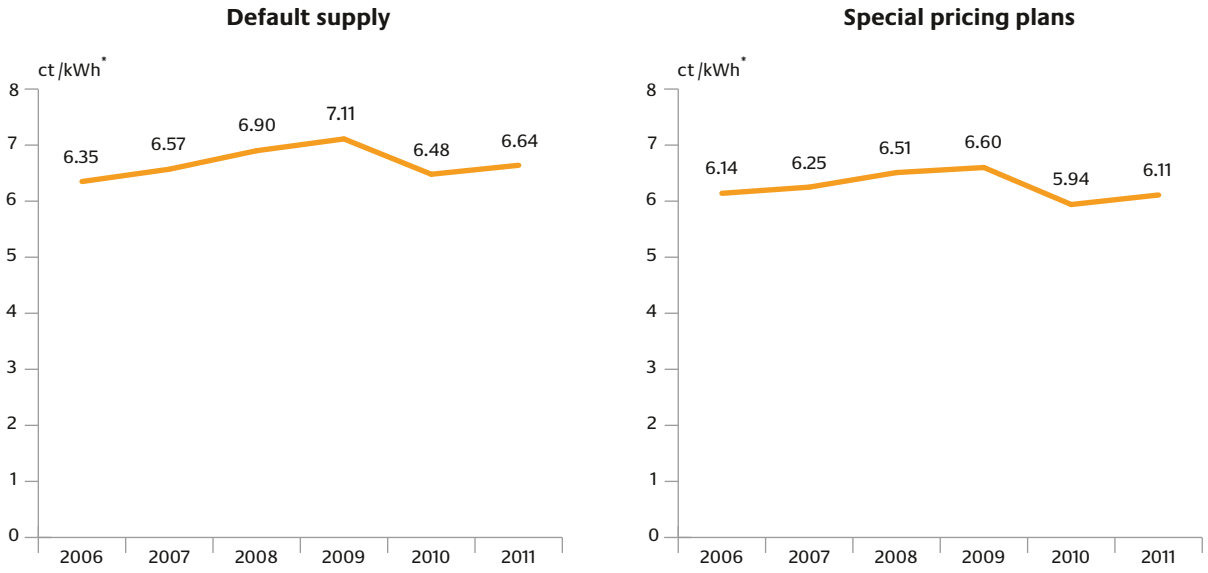
Gas prices for industry and business 2006–2011



* volume-weighted averages on 1 April

As of the relevant date 1 April 2011, the average gas price for a household customer with an annual consumption of 20,000 kWh was 6.64 cents/kWh in the default supply tariff, which in comparison to 1 April 2010 amounts to an increase of 0.16 cents/kWh or 2.5 percent. Following a significant price drop in the year 2010, this constituted another slight increase in the price of gas for 2011. The peak prices from the year 2010, however, were not reached. For a consumer who switched supplier, the average gas price as of 1 April 2011 was only 6.06 cents/kWh, meaning that there was an average savings potential of 8.7 percent compared to the default supply tariff.

Gas prices for households 2006–2011

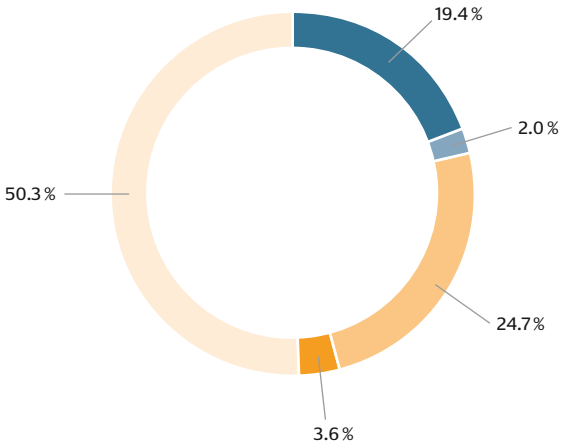


* volume-weighted averages on 1 April

In 2011, the network charge component made up around one fifth of the household customer price for gas, which is similar to the figure for electricity. There was only a minimal change to the network charge component compared to the year 2010. The "energy and supply" price component was thus one of the main cost drivers of the price increase and of the differences between the different household customer tariffs.

TABLE OF CONTENTS CHAPTER

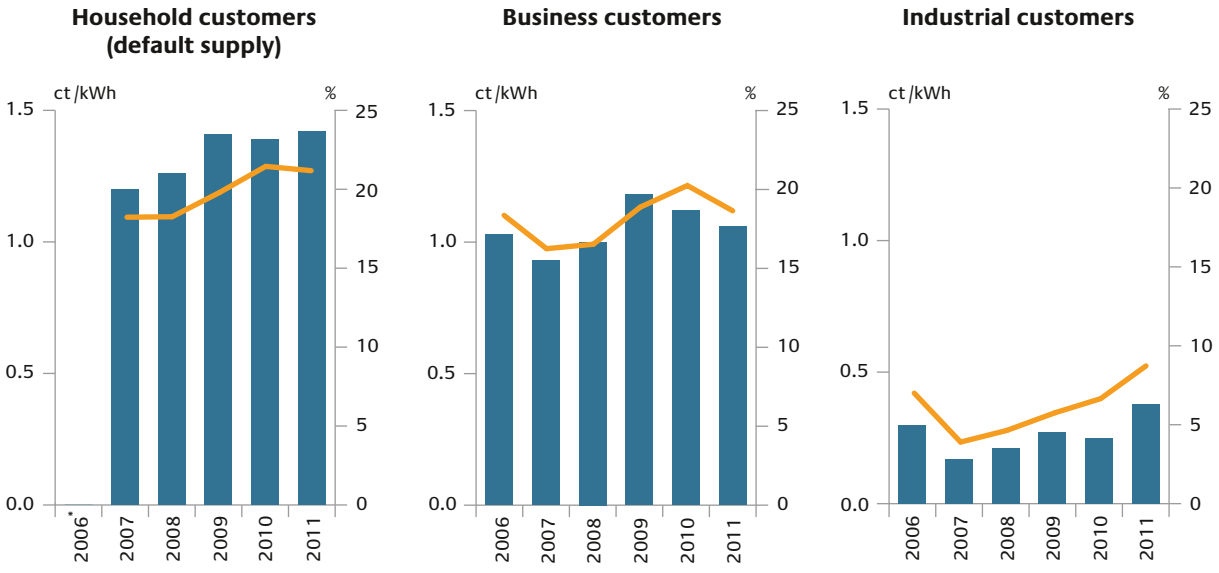
Composition of the gas price for household customers 2011



Energy and supply
Net network charge
Billing, metering and metering operations
Taxes (gas and VAT)
Concession fee

volume-weighted averages on 1 April 2010 (default supply)

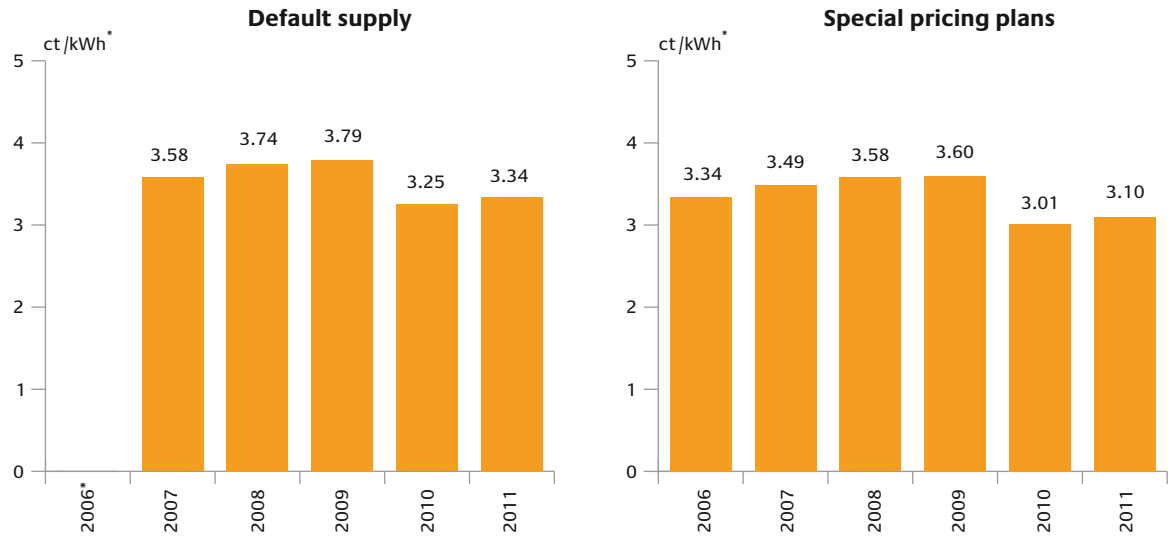
Gas network charges 2006–2011



Network charge (volume-weighted averages on 1 April)
Percentage of network charge in gas price

* no data collected

"Energy and supply" component of household gas prices 2006–2011



* volume-weighted averages on 1 April, no data collected in 2006

Change of supplier for gas

While in 2009, household customers in a majority of network areas had a choice of between one and ten suppliers, in 2010 they could choose from eleven to 20 suppliers in most network areas. In 36 network areas, consumers even had more than 50 gas suppliers to choose from.

At the end of 2010, the share of household customers with a default supply contract was at nearly 25 percent. The majority of household customers – 69 percent – were supplied by way of special contracts with the default supplier. The primary reason for this is that most of the default suppliers' contracts for heating gas are considered to be special contracts. The market share of alternative suppliers was at six percent at the end of 2010, which is nearly one percentage point above the 2009 level.

Competition in the gas market 2009 and 2010

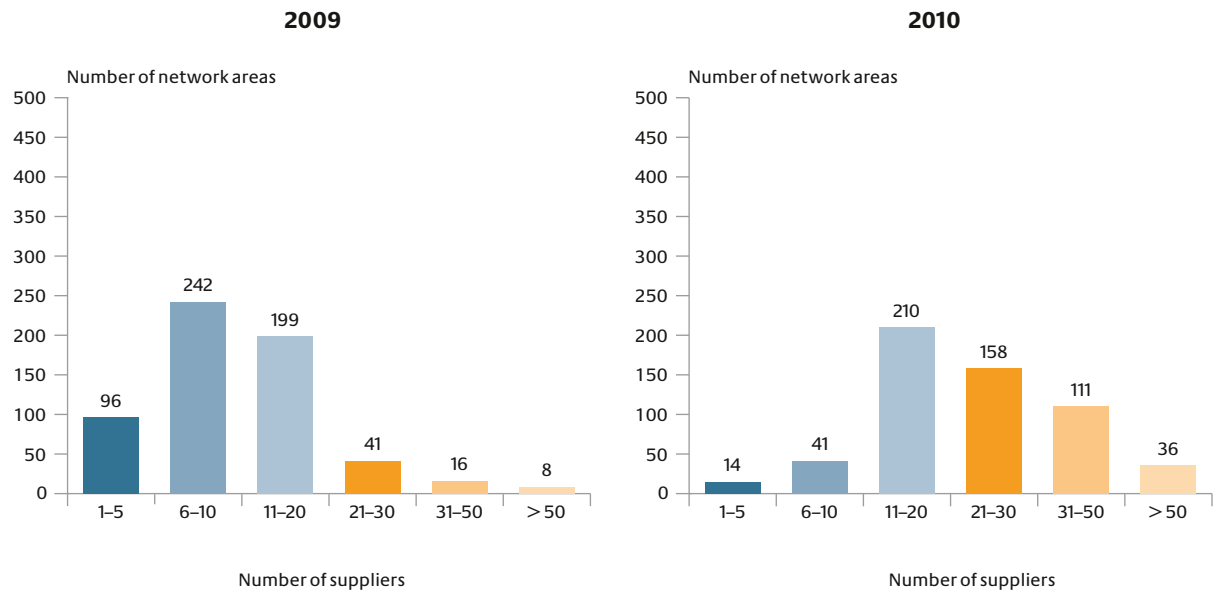
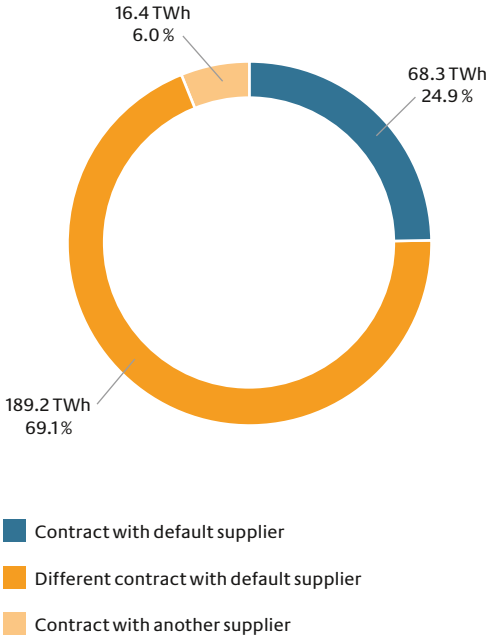


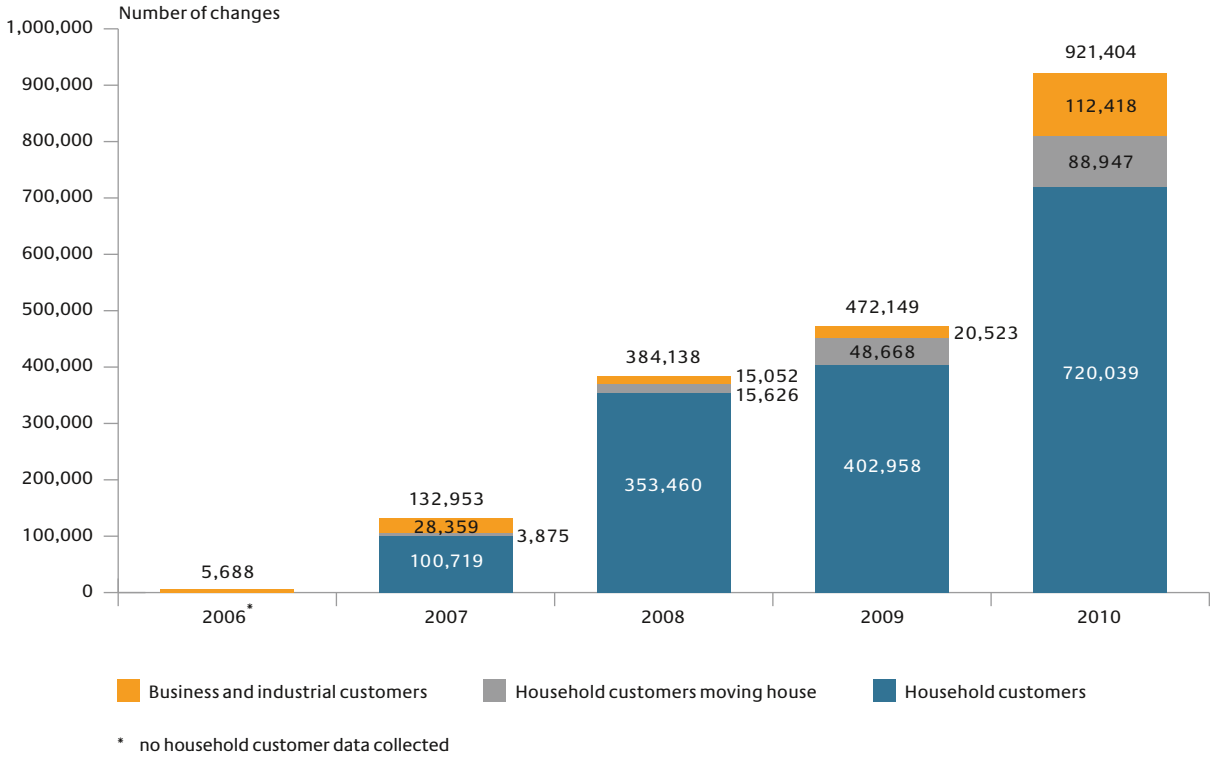
TABLE OF CONTENTS CHAPTER

Household customer gas contracts 2010



In 2010, nearly 810,000 household customers changed their supplier – this amounts to an increase of nearly 80 percent relative to 2009. Over 112,000 commercial and business customers also changed suppliers in 2010, which is more than five times as many as in 2009. In total, the volume of supplier changes was more than twice as high as it was in 2009, increasing from 47.18 TWh to 110,38 TWh. This amounts to a volume-based supplier change rate of nearly 11 percent.

Change of gas supplier 2006–2010



* no household customer data collected

Further activities and proceedings

In addition to the two main topics of security of supply and network expansion, the Bundesnetzagentur addressed a variety of further activities and proceedings in the energy area in 2011. The range of these activities extended from the specifications on gas capacity management and on system balancing electricity to the review of network costs and the calculation of feed-in tariffs for electricity from photovoltaic systems.

NETWORK MANAGEMENT

KARLA Gas

With its determination of 24 February 2011, the Bundesnetzagentur reworked key regulations regarding capacity management and capacity allocation for gas transports (KARLA Gas). As of 1 October 2011, the determination applied to all contracts, thus ensuring a uniform system of capacity management.

The booking and use of capacity is the basis for access to the gas transmission networks and to the gas market areas. In order to carry out transport transactions, exit and entry capacity must be booked with the TSOs. With regard to the actual use of the critical network coupling points at market area and country borders, the Bundesnetzagentur found that the physical load flows at many points do not correspond to a full utilisation of the network. Despite this, many points were completely booked, often far ahead of time. In such cases, the congestion does not have physical, but rather contractual causes. This congestion acts as an entry barrier to the market for new competitors. The KARLA gas determination is meant to achieve a more efficient network access by making capacity that is booked but not technically utilised available to a larger number of shippers. Capacity that will not foreseeably be used is to be returned to the market on a short term basis, no later than a day ahead, so that it can be used by other shippers. This determination also means a slight curtailment of the short-term right to change capacity usage up to two hours prior to the transport, which is known as renomination. Additionally, the transaction effort that is involved in capacity booking is minimised. Whereas until now two separate bookings were required for the respective exit and entry capacity in order to move from one market area into another, the KARLA Gas determination enables a transfer using bundled bookings. This means that only one booking is required for the transfer of gas from one market to another. This procedure also increases the liquidity of virtual trading points, as trade activity is shifted from market area and border coupling points to virtual trading points. The regulations for bundling capacity, however, do not apply to old contracts, which are defined as contracts that were concluded prior to

31 July 2011. A harmonisation clause in the reference offer ensures that there are no permanent single bookings. If there is an old contract on only one side of the booking, the non-bundled capacity on the other side may only be sold until the expiration of that old contract at the very latest. At international borders, there is an obligation to bundle capacity at border coupling points to neighbouring countries, provided that the respective foreign TSO enables the bundling. The first projects that bundle capacity at cross-border coupling points have already been implemented.

Finally, the KARLA gas determination aims to put the booking of capacity on a market-responsive basis. Within the context of the amendment to the Gas Network Access Ordinance (GasNZV) in September of 2011, the mechanism for allocating capacity at market area interconnection and cross-border points was switched from a "first come, first served" principle to a more market-based auction mechanism. The determination regulates the key elements of the design of the primary capacity platform, as well as of the new auction procedure to be applied. On 1 August 2011, the platform was successfully launched under the name TRAC-X primary.

In 2011, ACER passed a framework guideline for capacity allocation. It establishes a non-discriminatory allocation of European standardised capacity products through auction procedures. The framework guideline serves as the basis for the development of network codes. These will have to be further specified by ENTSOG in a Network Code. Furthermore, the European Commission adopted the draft of a regulation on congestion management. Both measures are, from the standpoint of the Bundesnetzagentur, compatible with the KARLA gas determination.

GABi Gas

On 1 April 2011, the Bundesnetzagentur submitted to the Federal Ministry of Economics and Technology a report on the evaluation of the economic effects of the portfolio and system balancing energy regime. The report is based on an extensive analysis of data, including data on network accounts, the use of and costs of balancing energy, as well as the balancing energy charges. The introduction of the balancing system known as GABi Gas in October 2008 was a major contribution to achieving liquidity on the trading markets and to promoting competition on the German gas market. The total costs of the system are in suitable relation to the effort involved for market players. In the view of the Bundesnetzagentur, a fundamental change in the system is not necessary. The report contains detailed proposals for a further development of the portfolio and system balancing energy regime.

In 2011, ACER adopted the framework guideline on balancing. This guideline is based on a daily balancing with the possibility of an intraday incentive system. The simplified balancing for household customers that is practised in Germany is also anchored in the framework guideline. The key elements of the guideline are fundamentally compatible with GABi Gas. Within the context of ENTSOG, the European TSOs will draw up a Network Code based on the framework guideline.

System balancing electricity

In 2011, the Bundesnetzagentur established new tender specifications and publication duties for the procurement of the three types of system balancing energy, ie primary and secondary balancing energy as well as minute reserve.

The main elements of the new requirements are a shortening of the tendering periods for

primary and secondary balancing energy from one month to one week, the reduction of the minimum volume offered from 5 MW to one 1 MW for primary balancing energy, from 10 MW to 5 MW for secondary balancing energy and from 15 MW to 5 MW for minute reserve power, supplemented by an automated activation of the minute reserve. Furthermore, providers may now fall back on third-party installations, and the possibilities for pooling installations have also been improved. The new regulations apply for primary balancing energy and secondary balancing energy as of 27 June 2011, and for the minute reserve as of 1 December 2011. The automated activation of the minute reserve is to be implemented as of 2 July 2012.

System balancing energy is required to offset permanent capacity fluctuations in the German electricity grids at short notice. This is the responsibility of the four TSOs, which procure the required balancing energy by way of open tenders. All market players whose facilities meet certain minimum technical requirements may take part in these tenders.

The new framework conditions make it easier in particular for new and small-scale suppliers to submit offers. The new determination enables the development of flexibility potential that was previously not available for balancing the networks, as well as technologies such as variable output for industrial plants, storage facilities and renewable energy installations for the system balancing energy market. The requirements for publication of market data aim to increase market transparency and build trust in the market for system balancing energy.

Already a few months after the new determination came into effect, new market players became active in the markets for system balancing energy or were preparing for their involvement in the market. These include storage facility operators, operators of installations producing electricity from renewable energy sources, as well as industrial consumers, including companies from energy intensive industries. More competition in markets for system balancing energy will reduce the cost of balancing the grids, which is refinanced by network charges. The new procurement requirements and the formation of the nationwide grid control cooperation in 2010 have already led to significant reductions in the cost of system balancing energy. Whereas system balancing costs in 2009 amounted to over 800m euros per year, in 2010 these costs fell to around 700m euros, while in 2011 thy fell to approximately 575m euros.

ACER coordinates the work on a framework guideline for system balancing energy, which in the interest of security of supply and of competition is meant to promote the cross-border exchange of system balancing energy.

Change of supplier

In 2011, with two largely congruent determinations, the Bundesnetzagentur changed the specifications for switching suppliers (GeLi Gas and GPKE). These changes were necessary because, according to the amended EnWG, a switch to a new energy supplier must now take place within three weeks at the latest. The relevant date is the submission of notification of the new supplier to the network operator. The changes must be implemented as of 1 April 2012. The new legal requirements not only shorten the deadline for a switch of supplier, they also make supply to end consumers more flexible, as it can now begin on any given day of the month. As long as the consumer cancels the contract

within the stipulated time period, the previous supplier no longer has any possibility to block the switch.

The Bundesnetzagentur's regulations on switching supplier have been effective since the beginning of 2012, and also apply for the electricity grids of DB Energie GmbH railway stations. In 2010, the Bundesnetzagentur required the company to provide other energy suppliers with access to these networks and to publish the terms of that access. DB Energie GmbH had filed an appeal against these stipulations, but withdrew its appeal in 2011. The company operates 50-Hz electricity grids at more than 5000 locations throughout Germany. These grids are primarily for the supply of the company's own facilities at railway stations and along railway lines, although they also supply third-party facilities such as kiosks, gastronomy locations and retail shops with electricity.

NETWORK CHARGES

Cost audits and efficiency benchmarking

In 2011, the Bundesnetzagentur began carrying out cost audits in the gas sector, in order to determine the starting point for the second regulatory period (2013–2017). The cost audits are to be completed by the middle of 2012. Furthermore, in order to carry out an efficiency benchmarking, operators of gas supply networks were requested to submit data on load, structure and revenue.

In 2011, the Bundesnetzagentur completed a determination procedure in the gas sector to establish price indexes, in order to be able to determine the current replacement value of tangible assets. For calculating the imputed depreciation of tangible assets such as property, plant and equipment, the current replacement value must be calculated using index series that are specific to individual installations or groups of installations. In the determination process, price indexes specific to installation groups were determined for every installation group from annex 1 of the Gas Network Charges Ordinance (GasNEV).

In the electricity sector, the second regulatory period does not begin until 2014, one year later than in the gas sector. The cost audits for the second regulatory period will begin in 2012. In light of the fact that most of the national regulatory authorities only regulate one or very few TSOs, the assessment of operational efficiency must take place by way of an international price comparison. Work on this began in 2011.

In 2011, the Bundesnetzagentur, for the first time, audited the rates proposals of DB Energie GmbH. The focus of the audit was inter alia on capital costs as well as on the costs of procuring the energy required for the compensation of grid losses. DB Energie GmbH's traction current network extends across the entire country. In 2010, the Federal Court of Justice ruled that DB Energie GmbH must provide non-discriminatory access to its traction current networks and come up with transparent and efficient network charges.

Another issue that required clarification in 2011 revolved around questions of approving costs relating to the laying of empty ducts and fibre-optic cables in the expansion of the energy grids. Approval is in principle possible, as long as no parallel infrastructure is developed, and as long as it can be ensured that future returns will have a cost reducing effect for network users.

Quality regulation

2011 saw the implementation of the concept to expand on the quality component network reliability for electricity, which had been developed over the course of previous years. The Bundesnetzagentur established requirements for data surveying and for quantifying this so-called quality component.

The incentive regulation system harbours the risk that network operators will, in the interest of saving costs, respond to the prescribed or possible revenue reduction by not investing in their networks or not carrying out other measures to maintain or enhance quality of supply. To counter this risk, which could bring about a diminishment of supply, the Energy Act and the Incentive Regulation Ordinance provide for the introduction of a quality regulation system.

The quality regulation system introduced on 1 January 2012 applies to those grids in the low and medium voltage range that took part in the efficiency benchmarking procedure during the first regulatory period. Reference figures for low and medium voltage ranges are derived from the indexes of over 200 electricity distribution networks. The level of the quality components calculated at the end of 2011 depends on the reliability of the respective grid in the years 2007 to 2009. Operators whose grids are characterised by good reliability of supply in comparison to other network operators receive a bonus that applies to the revenue caps for the years 2012 and 2013. Operators whose networks demonstrate comparatively poor quality levels, on the other hand, will have amounts deducted from the cap. The determination of the quality components also takes into account the economic costs of power outages and the number of end consumers served. Structural differences between individual network areas are depicted using load density as a parameter. Load density is derived from the quotient of annual peak load of all synchronous offtakes and the total area of an operator's respective network.

The system is designed to be revenue-neutral. This means that there is a balanced sum of bonuses and penalties across all network operators. Of the total number of 202 electricity network operators, 143 companies receive a bonus and 59 a penalty. The highest bonus amounted to approx. 4.7m euros, the highest penalty was approx. 4.1m euros.

Cost of equity

For the second regulatory period, the Bundesnetzagentur, in November 2011, determined uniform new rates of return on equity for electricity and gas network operators. A rate of return of 9.05 percent applies to new facilities, while 7.14 percent applies to old facilities, before deduction of corporate income tax but after deduction of trade tax. Old facilities are defined as capital goods that became operational prior to 1 January 2006. The key factors in the decision were the development of the general interest rates on the capital markets as well as the assessment of entrepreneurial risk. The risk-free rate was reduced from 4.23 to 3.8 percent, while the risk premium was kept unchanged at 3.59 percent. This is a reflection of the special situation posed by the transformation of the energy supply system in Germany.

Investment budgets and expansion factor

In 2011, the Bundesnetzagentur received around 90 applications for approval of investment budgets. The volume of investment applied for was around 8.7 billion euros. The major share of that sum was accounted for by the electricity

sector, with an approximate total of 8.1bn euros. The TSOs' share of that amount was around 7.6bn euros, of which approx. 2.8bn euros were accounted for by the connection of offshore wind farms. To date, the Bundesnetzagentur has approved investment budgets in around 700 proceedings totalling nearly 14bn euros.

Network operators can apply for investment budgets for expansion and restructuring projects. Such investments are mainly needed to connect new power stations, to secure the connection of offshore wind farms or to maintain the stability of the power grids.

Since the amendment of section 23 of the Incentive Regulation Ordinance (ARegV) in 2010, not only capital costs, but also operating costs can be approved within the framework of the investment budget. As a result, in 2011 the Bundesnetzagentur adjusted 212 approvals to the new legal situation. A flat rate of 0.8 percent of the acquisition and production costs eligible for approval in the investment budget can be applied as operating costs each year, provided that the Bundesnetzagentur has not established a different arrangement for certain capital goods. The Bundesnetzagentur made use of this determination power in the case of offshore facilities, for example. Here, a deviation from the flat rate for operating costs was established at 3.4 percent of the acquisition and production costs that are eligible for approval in the investment budget.

In 2011 the distribution system operators (DSOs) in the electricity sector submitted 103 applications for approval of an expansion factor; in the gas sector, 55 applications were submitted. The expansion factor ensures that costs of investments in expansion that are based on lasting changes in supply services are taken into account in establishing the revenue caps. In 2011, the revenue caps in the electricity sector take into consideration the amount of 327.6m euros for expansion factors, of which 148.9m euros were accounted for by the first-time incorporation of feed-in points for installations under the EEG.

Network charges according to section 19(2) of the StromNEV

According to a 2011 revision of section 19(2) line 2 of the Electricity Network Charges Ordinance (StromNEV), network users can apply for exemption from network charges if the electricity output from the universal supply network at a supply point reaches the annual amount of at least 7,000 hours of use and the annual electricity consumption at that supply point is more than ten GWh. In the year 2011, the Bundesnetzagentur received 274 such applications. There was also a significant increase, at 1,225 applications, in the number of so-called atypical network customers taking advantage of the possibility of an individual network charge agreement in accordance with section 19(2) sentence 1 of the StromNEV. A customer is eligible for an offer of an individual network charge if, on the basis of consumer data or based on technical or contractual circumstances, it is apparent that the maximum load value of an end consumer deviates substantially from the simultaneous annual peak load of all offtakes from the network or substation level; however, the individual network charge to be agreed upon may not be less than 20 percent of the published network charge. Atypical network customers might be printing plants or cement factories, for example.

In 2012, the total volume of network charge reductions or waivers is likely to amount to well above 400m euros per year, and must be financed through the other network users.

The revenue losses of the affected network operators will be offset by a nationwide contribution analogous to that provided for in the Combined Heat and Power Act (KWKG). At the end of 2011, the Bundesnetzagentur issued a determination providing details on the redistribution mechanism. Based on this determination, the TSOs calculated the so-called section 19 contribution for 2012. For end consumers, this amounts to 0.151 cents/kWh for the first 100,00 kWh of each supply point.

Other activities

In a 2011 determination, the Bundesnetzagentur restricted the possibilities of so-called pooling, thus restricting a billing practice that in some cases has been subject to improper use. Pooling entails the combined billing of services at multiple offtake points.

The Bundesnetzagentur, in a 2011 position paper, raised the issue of so-called avoided network charges. In accordance with the StromNEV, decentralised generators receive payment that corresponds to the avoided network charge at the upstream network or substation levels. Within the context of determining the EEG contribution for 2012, a total amount of 436.7m euros was forecasted for avoided network charges. The introduction of the principle of avoided network charges is based on the assumption that the decentralised feed-in of electricity allows network expansion costs at the upstream network levels to be consistently avoided. In the course of a reform of the system of avoided network charges, for example, a greater role could be given to the locations at which decentralised generation is to take place.

In 2011, 39 applications were made in the electricity sector and 26 in the gas sector for a network transfer due to the splitting of networks or a partial transfer of supply networks. In their application, the respective network operators indicate which share of revenue is to be attributed to the separating part of the network and which share of revenue is to be attributed to the remaining part of the network. In this context, the Bundesnetzagentur must ensure in particular that the sum of revenues does not exceed the total revenue cap already established.

At the end of 2011, the Bundesnetzagentur submitted a position paper on the topic of closed distribution networks for consultation. Under certain circumstances, these are exempted from energy industry regulations, in particular those relating to the regulation of charges and incentives. In this context, it is of particular importance to distinguish between closed distribution networks and customer facilities.

In 2011, the Bundesnetzagentur published a guideline on so-called large-scale network companies. The guideline is meant to offer TSOs assistance both in deciding on a favourable model and in carrying out a possible restructuring from a so-called lean to a large-scale network company. It is also meant to answer any open regulatory questions. For the fulfilment of unbundling requirements pursuant to sections 6 to 10 of the EnWG, many operators chose the model of a lean network company. In that model, network ownership often remains with the company that also handles generating and sales activities. The network is leased to the network operator. Within the framework of this so-called lease model, additional service contracts beyond the lease contract are usually agreed upon between the network company and other parts of the integrated energy utility company. This is why, in the lease model, the

network operator normally has only a small number of employees of its own. Both systems operations as well as maintenance and servicing take place for the most part through service contracts. By now, many network operators have decided that a large network company, which owns its own network facilities and has its own staff, is more advantageous than a lean network company.

RENEWABLE ENERGY

Power-to-gas and biogas

Together with the Fraunhofer Institute for Wind Energy and Energy System Technology IWES, the Bundesnetzagentur organised a workshop in November of 2011 focussing on the topic of power-to-gas. Over 300 participants attended the workshop. The term power-to-gas refers to a process in which electricity is used to produce hydrogen by electrolysing water and, if required, in a second step to convert the hydrogen into synthetic methane by using carbon dioxide or monoxide. The particular significance of power-to-gas technology lies in the potential to thereby utilise the natural gas infrastructure for the longer term storage of power from renewable energy sources. By now, hydrogen produced by electrolysing water and the synthetically produced methane have the same legal standing as biogas, as long as the vast majority of electricity used for the electrolysis and, if required, the carbon dioxide or monoxide used for the conversion into methane comes from renewable energy sources.

On 31 May 2011, the Bundesnetzagentur published, for the first time, the so-called biogas monitoring report. The report contains, inter alia, data on the volume of biogas fed into the natural gas network, on the cost structures of biogas feed-in, on possible revenues as well as on the cost burden for the networks. As of 31 December 2010, 44 generation facilities fed approximately 270m cubic metres of biogas into the gas supply network. This means that in 2010, only 4.5 percent of the GasNZV target of six billion cubic metres for 2020 was attained. The reason for this is the significant discrepancy between biogas production costs and the market prices for conventional natural gas. The average production cost for biogas in 2010 was 6.2 cents/kWh, with values ranging from 1.3 cents/kWh and 9.3 cents/kWh. The average revenue was 8.1 cents/kWh, which is several times higher than the average trading price for natural gas on the spot market; in 2010, that price was less than two cents per kWh.

EEG feed-in management

In 2011, the Bundesnetzagentur published a guide on so-called EEG feed-in management. In particular, the guide sets out the order in which different electricity producers, in the event of grid overload, have to temporarily reduce their input to the grid at the network operator's request. In the event of network congestion or other threats to system security, facilities with a capacity of over 100 kW that produce electricity from renewable energy sources or CHP facilities can only be restricted once output from conventional facilities has been reduced to the minimum level possible from a technical standpoint.

Until now, EEG feed-in management has been concentrated almost exclusively on wind power plants and on network regions in the north of the country with high levels of wind power. In 2010, input restriction measures led to unused energy totalling around 127 GWh; in 40 percent of the cases, the cause was to be found in the upstream network. Compared to 2009, unused energy increased by 70 percent, although both

in 2009 and in 2010 it corresponds to a share of only 0.2 percent of the total input from EEG installations. Installation operators who, based on EEG feed-in management, are temporarily required to feed-in lower volumes of electricity from renewable energy sources or from CHP facilities, are paid compensation from the network operator whose network is responsible for the restriction. The guide therefore contains information regarding the calculation of this compensation, as well as on how this payment affects network charges.

Photovoltaic installations

In 2011, new photovoltaic installations with a total capacity of around 7,500 MW were installed. The Bundesnetzagentur announced this estimate in early 2012, based on a preliminary evaluation of reported data. In December alone, new installations with a total capacity of around 3,000 MW were registered. This brought the total installed capacity of photovoltaic installations in Germany at the end of 2011 to around 25 GW.

Based on the notifications of newly commissioned installations, the Bundesnetzagentur regularly establishes the degression rates and tariffs for new photovoltaic installations, in line with the specifications of the Renewable Energy Sources Act. No changes were established in the tariffs, neither for rooftop installations as of 1 July 2011 nor for ground-mounted installations as of September 2011. As of 1 January 2012, however, tariffs fell by 15 percent. This means that for installations that became operational as of 1 January 2012, installation operators receive between 17.94 and 24.43 cents per kilowatt hour of electricity fed into the grid, depending on the kind of installation and its size.

2012 contribution and final financial statement for 2010 as per EEG

The 2012 contribution established in October 2011 for electricity fed in from renewable sources increased only slightly compared to 2011, by 0.062 cents/kWh. The contribution applicable since 1 January 2012 thus is 3.592 cents/kWh. The TSOs calculate the EEG contribution each year on 15 October for the subsequent calendar year. The Bundesnetzagentur verifies the correct calculation of the surcharge.

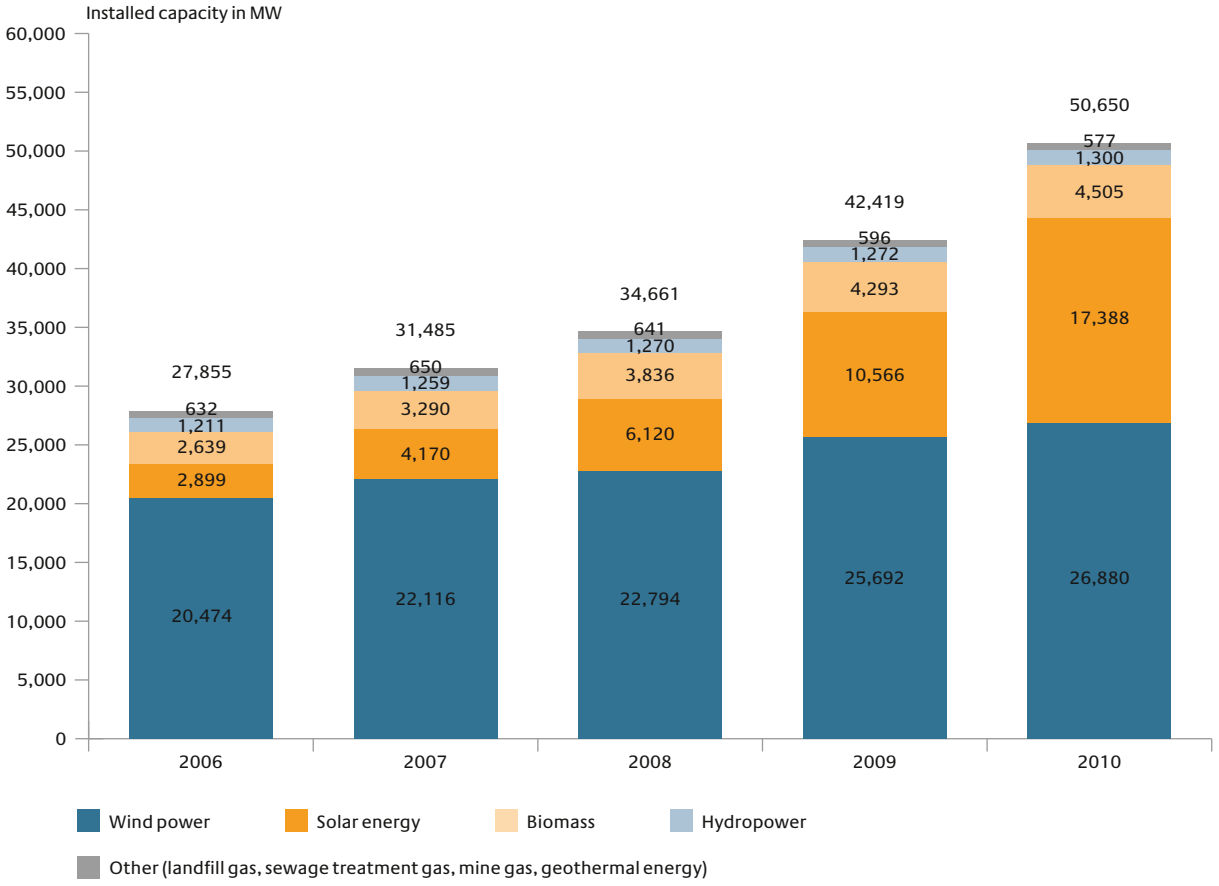
For 2012, the TSOs forecast feed-in tariffs for renewables totalling approx. 17.6bn euros. This amount stands in contrast to forecasted sales revenues at the electricity exchange of approx. 4.9bn euros. The difference between the forecasted feed-in tariffs and the sales revenues makes up the main component of the contribution as per EEG. The lower the price on the exchange, the greater the difference to the tariffs payable under the EEG, which must be financed through the contribution. For the first time, the TSOs have established a liquidity buffer amounting to three percent of the forecasted difference, in order to make it easier to offset the effects of highly fluctuating wind and solar power feed-in on the financing of the contributions account.

Each year the Bundesnetzagentur checks whether the electricity suppliers have really been charged only for the tariffs as per the EEG, minus the avoided network charges. For this purpose, some 900 operators and more than 1,000 electricity suppliers are required to send electronically their final financial statements for renewables for the previous year.

The volume of power generated from renewable energy sources rose to 50,650 GW as of 31 December 2010. This amounts to a growth

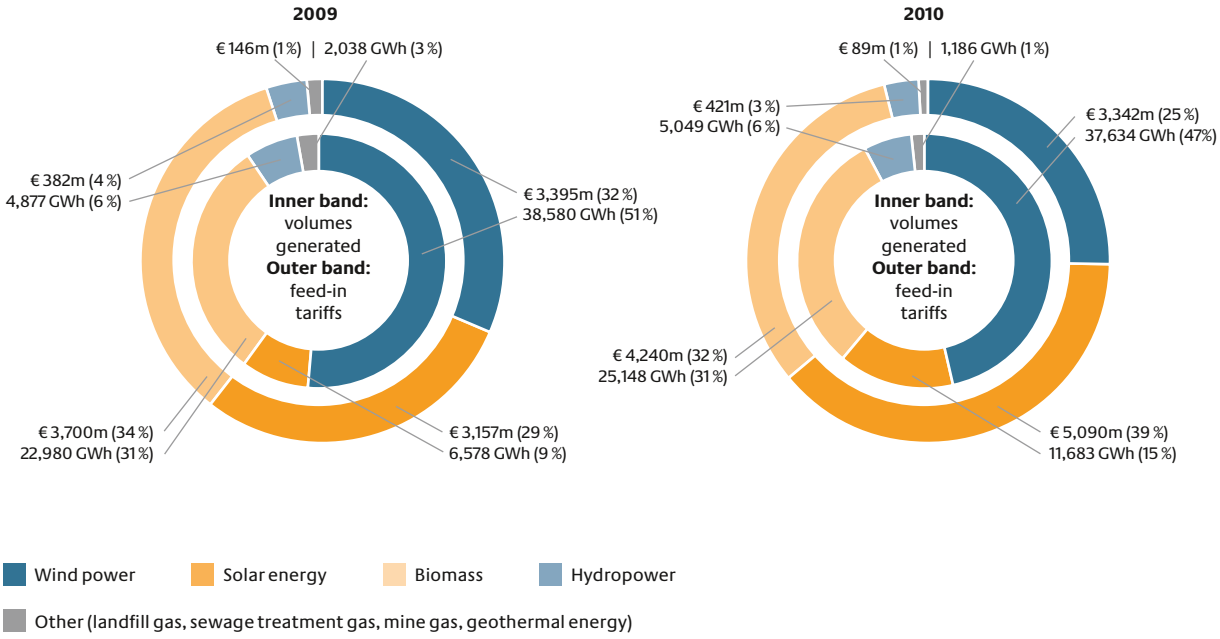
rate of nearly 20 percent compared to 2009. At a share of 53 percent, wind power continued to play the largest role in the overall installed capacity of renewables. The share of solar power increased by around ten percentage points relative to 2009, reaching nearly 34 percent.

Generating capacity of EEG installations 2006–2010



In 2010 the volume of power fed in to the grids was at over 80,000 GWh, which is 7.5 percent more than the corresponding figure in 2009. The largest share continued to be wind power, at 47 percent, followed by energy from biomass (31 percent) and solar power (15 percent). In 2010, the tariffs paid under the EEG amounted to around 13bn euros, with solar power accounting for nearly 40 percent of that amount. 32 percent of feed-in tariffs went to biomass and 25 percent to wind power. In 2010, the average feed-in tariff as per EEG was 16.33 cents/kWh, which is nearly two cents more than in 2009.

EEG installations 2009 and 2010 – Volumes generated and feed-in tariffs



In July 2011, over 300 people accepted the invitation of the European Power Exchange EPEX Spot and the Bundesnetzagentur to discuss experiences and perspectives relating to the sale of electricity from renewables on the exchange. All the experts were in agreement that the goal of doubling the percentage of renewables in the power production by around 2020 can only be achieved if further progress is made in integrating renewables into the electricity market. This includes getting installation operators to depart from the system of fixed feed-in tariffs and to participate in price and volume risks.

Court proceedings

In 2011 there were supreme court rulings on the first questions regarding the application of the Incentive Regulation Ordinance (ARegV). Proceedings of the higher regional courts dealt in particular with nationwide efficiency benchmarking and the investment budget.

DECISIONS OF THE FEDERAL COURT OF JUSTICE

Revenue caps

The Federal Court of Justice (BGH), in two decisions of 28 June 2011 (ref: EnVR 34/10 and EnVR 48/10), settled a number of fundamental disputes surrounding the application of the Incentive Regulation Ordinance in standard proceedings.

Regarding the establishment of the base level for setting the revenue caps, the BGH ruled that the recent supreme court decision (cf. inter alia the decision of 14 August 2008, ref: KVR 39/07) on network charge approvals pursuant to section 23a of the Energy Act (EnWG) must be taken into consideration. The Bundesnetzagentur should not have used the findings of the last examination of cost statements without making any adjustment. However, the BGH did not object to the year 2006 being used as a base year for the necessary cost examinations. Thus it had been decided for reasons of administrative practicability to accept the fact that the costs used to determine the revenue caps did not fully reflect the cost situation as it was in the regulatory period in question because of the relatively long time that had elapsed since then.

The BGH ruled that section 21a(6) sentence 1 para 2, and sentence 2 para 5 of the EnWG in conjunction with section 21a(4) and (5) EnWG and section 21a(6) sentence 2 para 5 EnWG entails the right to stipulate, by ordinance having the force of law, a development of cost prices in the network industry that deviates from the development of consumer prices. This provision serves, from the standpoint of the court, to counteract the overall inflationary trend. The EnWG and ARegV in their current forms, however, could not provide the legal basis for considering economic productivity gains in the network industry. The application of the general sectoral productivity factor as per section 9 of the Incentive Regulation Ordinance was thus deemed to be only partially lawful.

The BGH upheld the Bundesnetzagentur's narrow interpretation of requirements under section 4(4) sentence 1 para 2 of the Incentive Regulation Ordinance. The application of this hardship clause should not, according to the ruling, lead to an overall examination of reasonableness. The network operators are obliged to show, in terms of the network as a whole, how the increased costs for the procurement of energy required for the compensation of grid losses affects the

cost of equity, taking into consideration all other changes in the cost and asset situation. The Bundesnetzagentur, according to the court ruling, should have required operators to provide such information.

The BGH argued that the expansion factor must be taken into consideration already in first year of the regulatory period, based on an analogue application of section 10 of the Incentive Regulation Ordinance.

In determining the flat rate investment markup, the court affirmed that the BGH ruling on network charge approvals as per section 23a of the EnWG (cf. ruling of 14 August 2008, ref: KVR 39/07) must be taken into account insofar as installations under construction and advance payments for tangible assets must be factored into the calculation of the interest-bearing necessary operating capital in accordance with the applicable principles for new facilities. The court found no grounds, however, to object to the interest rate of 4.31 percent set by the Bundesnetzagentur as interest on borrowings. The court affirmed the legitimacy of the Bundesnetzagentur's decision not to increase this interest rate by a risk premium, as this was in compliance with the wording of section 14(2) sentence 6 of the Incentive Regulation Ordinance, However, for the calculation of the flat rate investment markup, the Bundesnetzagentur should have applied the rate of return on equity for new facilities of 9.29 percent, which was applicable when the contested decision was issued on 7 July 2008. Of primary significance is the legal situation at the time the decision was made. Furthermore, the BGH, as obiter dictum, expressed the legal opinion that the failure to adjust the cost of equity within the framework of cost standardisation does not affect the efficiency benchmarking, since that was based on figures effective as of 1 July 2008.

The BGH confirmed that the limitation of the flat rate investment markup to one percent of the cost of capital is legitimate, and that there should not be a cumulated flat rate markup in the annual revenue caps.

The BGH, in its rulings on 18 October 2011 (ref: EnVR 13/10, EnVR 12/10, EnVR 11/10 and EnVR 9/10), also decided on fundamental disputes revolving around the application of the Incentive Regulation Ordinance in simplified proceedings. The court proceedings dealt with revenue caps set by the Brandenburg state regulatory authority. The BGH ruled that it was unlawful for the result of the last examination of cost statements to be used unchanged in determining the base level, even in a doubly simplified procedure pursuant to section 34(3) of the Incentive Regulation Ordinance. Instead, there should have been an adjustment of that result, reflecting the recent BGH ruling on network tariff approvals pursuant to section 23a of the EnWG.

The BGH confirmed that the flat rate investment markup shall not be applied in simplified proceedings. The expansion factor, however, must be applied already in the first year of the regulatory period.

With regard to the lawfulness of the general sectoral productivity factor as per section 9 of the Incentive Regulation Ordinance, the BGH upheld the its ruling regarding standard proceedings. The Bundesnetzagentur's legal appeal was thus granted insofar as the Brandenburg Higher Regional Court had declared the general sectoral productivity factor to be unlaw-

ful, without allowing consideration of a deviating cost price development.

The BGH confirmed its legal decision on hardship cases also in respect of simplified proceedings. In a proceeding with the reference number EnVR 13/10, it rejected an appeal by the network operator, since the Brandenburg Higher Regional Court had already applied the criteria for the required overall cost assessment established by the BGH and therefore did not err in law by ruling that the increased costs for procuring energy required to compensate for network losses may not be deemed unreasonable. The increased procurement costs, the court argued, are only partly responsible for consuming the return on equity.

Voluntary agreement on energy required to compensate for network losses

The BGH, in a decision of 24 May 2011 (ref: EnVR 27/10) rejected the appeal of a TSO who sought a determination by which the cost shares for the procurement of energy required to compensate for network losses, in the case of procurement undertaken on a voluntary basis, would be declared to be subject to effective procedures regulation within the meaning of section 11(2) sentence 4 of the Incentive Regulation Ordinance. The BGH ruled that the general guidelines established by the Bundesnetzagentur for the procurement of such energy do not have a restrictive effect that prevents a voluntary commitment from the start. This determination, the court ruled, only pertains to the tendering procedure in accordance with section 10 of the Electricity Network Access Ordinance and thus leaves other aspects involving the procurement of energy unregulated. The voluntary commitment made by the DSOs, however, does not fulfil the requirements of section 11(2) sentence 4 of the Incentive Regulation Ordinance, as it deviates from mandatory provisions of the determination on the procurement framework, for example with regard to the duration of contract, the minimum time period between the awarding of a tender and the commencement of supply services or the amount of lead time for information on the bid prior to the call for tender. The BGH rejected the petition to recognise the Bundesnetzagentur's determination on the procurement framework as effective procedures regulation, as this determination does not, in the view of the court, represent a comprehensive regulation of the procurement of energy required to compensate for network losses.

DECISIONS BY THE HIGHER REGIONAL COURTS

Efficiency benchmarking

The nationwide efficiency benchmarking carried out by the Bundesnetzagentur and used by the Bundesnetzagentur and the regulatory authorities of the federal states in setting the revenue caps was the subject of a number of legal proceedings. In 2011, there were rulings on this subject issued by the higher regional courts (OLG) of Düsseldorf, Koblenz, Frankfurt and Brandenburg.

In decisions taken on 12 January 2011 (ref: VI-3 Kart 185/09 (V)) by the Düsseldorf OLG, on 28 April 2011 (ref: 6 W 41/09) by the Koblenz OLG and on 17 May 2011 (ref: 11 W 16/09) by the Frankfurt OLG, the lawfulness of the efficiency benchmarking was affirmed; the decisions by the Düsseldorf and Frankfurt OLGs are final. In the opinion of the Düsseldorf OLG, the Bundesnetzagentur has an assessment prerogative and wide discretionary scope in this matter. The courts declared that the legal review was restricted to examining whether the Bundes-

netzagentur calculated the particular efficiency value based on procedural errors that are demonstrably detrimental to the respective network operator. The efficiency benchmarking, they stated, had been carried out in a manner that is adequately comprehensible and sufficiently justifiable. The Düsseldorf OLG affirmed the lawfulness of the outlier adjustment within the efficiency calculation as well as the correctness of the SFA method applied within the framework of efficiency benchmarking and choice of output parameters. The anonymised cost data, according to the ruling, is considered to be confidential business information that merits protection and that therefore should not be published. Since until now no system operator has agreed to disclose its own cost data, the interest of the system operator in a transparent method of calculating its own efficiency value is of secondary importance and should be treated as such.

The Brandenburg OLG, in a ruling of 20 October 2011 (ref: Kart W 10/09), also assumed wide discretionary scope for the Bundesnetzagentur in carrying out efficiency benchmarking. The Brandenburg OLG did not uphold the reproof that the Bundesnetzagentur should have taken into account the ratio of metering points to connection points as an additional parameter. Furthermore, the Brandenburg OLG affirmed the regulatory authorities' interpretation of section 15 of the Incentive Regulation Ordinance. However, the Brandenburg OLG qualified its position by adding that a conclusive legal assessment of the efficiency benchmarking will not be possible until the Bundesnetzagentur provides a more comprehensive explanation. Given the lack of precise information concerning the concrete derivation of the efficiency benchmarking model and the individual steps involved in the calculation of the efficiency value, the companies were not, according to the court, given sufficient possibility to position themselves on matters relevant to the decision. The court went on to say that the Bundesnetzagentur must find a legitimate balance between the protection confidential third-party business information and the right of the companies to effective legal security. The Bundesnetzagentur filed a legal appeal against this decision.

The Bremen Hanseatic OLG, in a decision to take evidence of 12 August 2011 (ref: 2 W 6/09), mandated a review of the methodology of the efficiency benchmarking through a written expert opinion.

Investment budgets

The Düsseldorf OLG, in a March 2 2011 decision, (ref: VI-3 Kart 253/09 (V)) confirmed the setting of a time limit on the approval of the investment budget until the terms of the scenario take effect. With regard to the calculation of the imputed trade tax, the Düsseldorf OLG ruled that the assessment base must reflect both the corporate income tax and the elimination of deductibility that is a result of corporate tax reform. The Düsseldorf OLG ruled that the costs for facilities currently under construction that were activated in the year 2006 cannot be recognised, since the costs for these capital goods were already taken into account in the setting of the revenue caps. The Düsseldorf OLG did not confirm the consideration of a cash flow neutral compensation in companies' favour to compensate for the 2-year delay (t-2-Zeitverzug). The Incentive Regulation Ordinance, the court ruled, does not provide for a 2009 adjustment of revenue caps based on costs from the year 2007. Regarding the determination of the interest rate for equity capital that exceeds the allowed equity ratio, the court ruled that, in the interest of a future-

oriented outlook, an equally-weighted average value derived from the annual average of certain bank loans as well as from the annual average of corporate bonds must be applied. There is no need, the court ruled, for an additional risk premium, as this is already included in the indexes.

In a ruling of 23 March 2011 (ref: VI-3 Kart 233/09 (V)), the Düsseldorf OLG confirmed that the reference rate of interest referred to in section 5(2) of the Incentive Regulation Ordinance is determined using the equally-weighted average value derived from the annual average of certain bank loans as well as from the annual average from corporate bonds, without an additional risk premium, in a forward-looking approach. However, insofar as the Bundesnetzagentur uniformly determines the reference rate of interest based on the composite interest rate from the average annual values of the two indexes, the court ruled that this procedure is not appropriate. Instead, the court ruled that the specific type of financing of the respective investment measure must be taken into consideration. Only if the need for borrowed capital is covered through bank loans and corporate bonds should a weighted average interest rate from both indexes be applied. The decisive factor in the determination of the interest rate for borrowed capital should be the date of financing to the month.

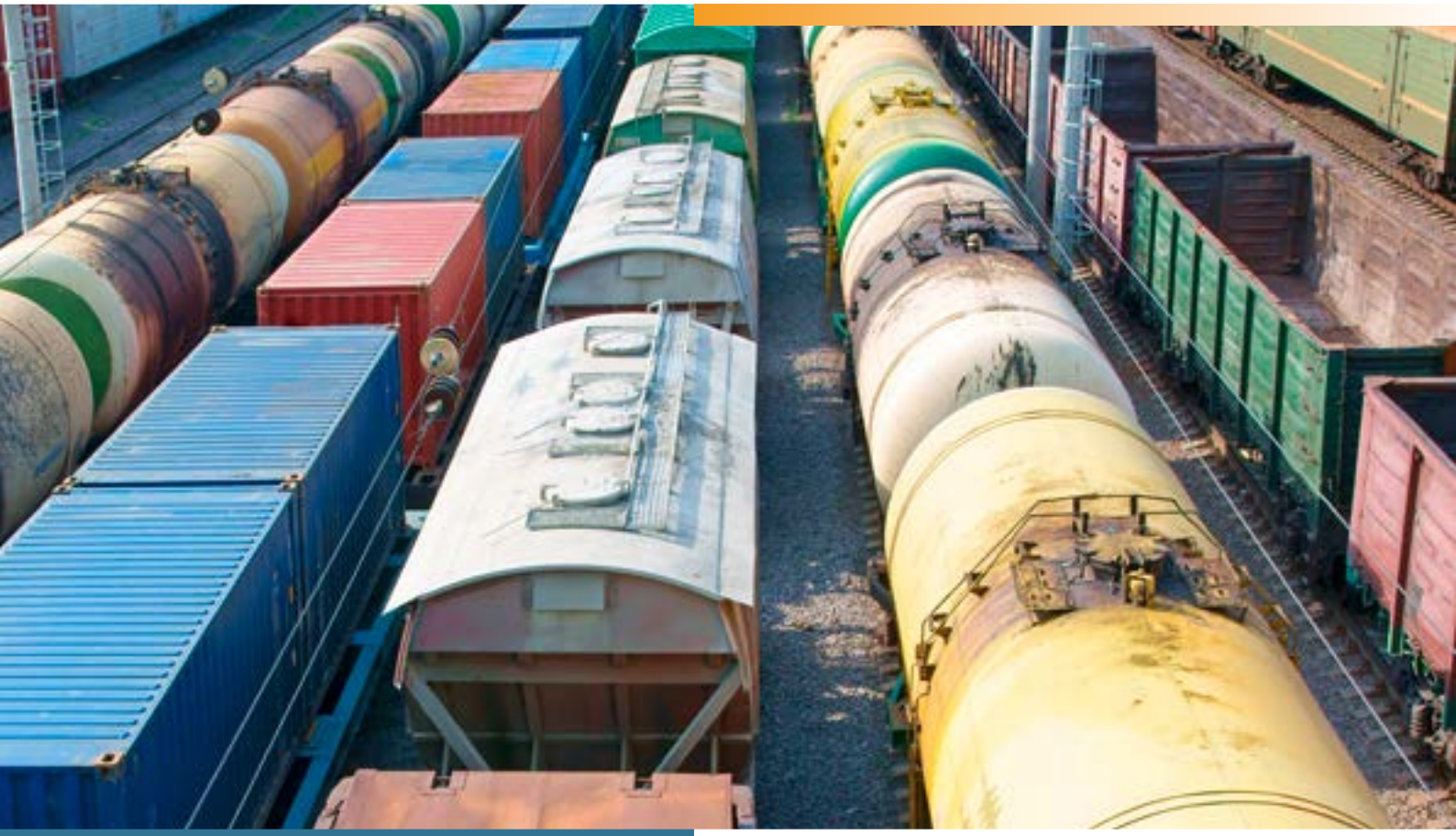
The Düsseldorf OLG, in a ruling of 20 April 2011 (ref: VI-3 Kart 15/10 (V)), confirmed that the revocation clause is covered by section 23(5) sentence 1 of the Incentive Regulation Ordinance. In a ruling of 11 April 2011 (ref: VI-3 Kart 276/09 (V)), the Düsseldorf court ruled that for individual capital goods of an offshore installation, it is not permissible to apply diverging useful life-spans that extend beyond 20 years.

The Düsseldorf court, in its rulings of 16 February 2011 (ref: VI-3 Kart 279/09 (V) and VI-3 Kart 280/09 (V)), upheld the rejection of several applications for approval of investment budgets. DSOs can only receive approval of an investment budget under the terms of section 23(6) of the Incentive Regulation Ordinance on a case-by-case basis. The court ruled that the terms of the example given in section 23(1) sentence 2 para 7 of the Incentive Regulation Ordinance are only met if the restructuring measure is necessary for the implementation of technical standards for securing the technical security of the grid, and additionally, if there is an existing official order for the measure or if the state regulatory authority has confirmed the necessity of the measure. These two decisions are legally binding.

TABLE OF CONTENTS CHAPTER

TABLE OF CONTENTS

Railway



Market watch

The revenue generated in the railway transport market reached record heights in 2011, totalling €17.6bn. Rail freight transport showed a particularly positive trend. Competitors managed to increase their market share slightly both in rail freight transport and in short distance passenger rail services.

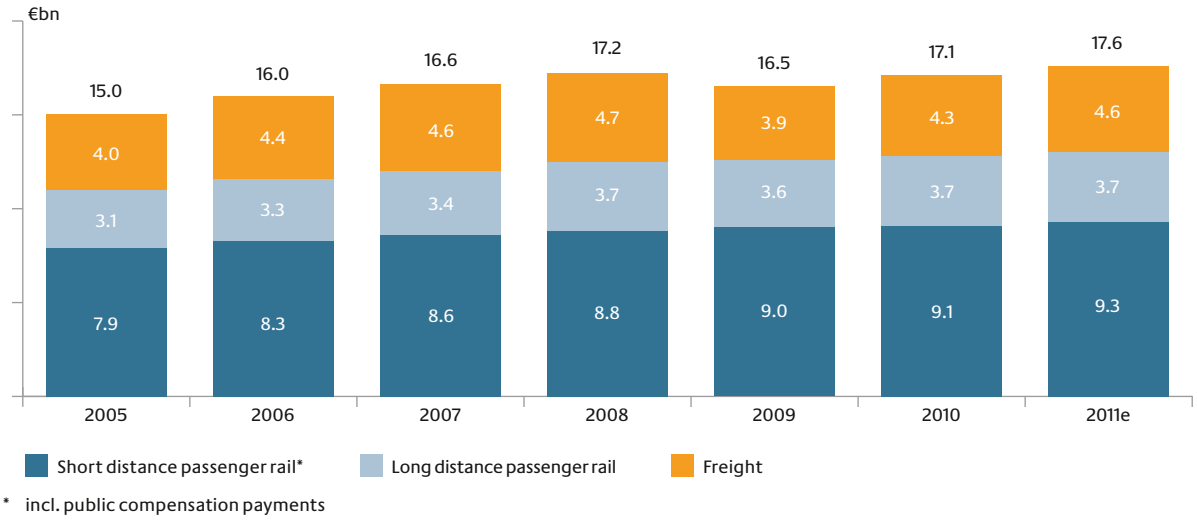
KEY TRENDS

In an overall positive market environment, rail freight transport in particular benefited from the economic trends. The trends in the two market segments short-distance passenger rail services and long-distance passenger rail services differed slightly. Whereas revenue from short-distance passenger services increased once again, revenues generated in long-distance passenger services ground to a halt. The long-announced entry of a new competitor into the long-distance passenger rail market was deferred yet again.

SALES REVENUES

The Bundesnetzagentur is expecting revenue generated in the rail freight market for 2011 to grow considerably by €0.3bn, bringing it up to €4.6bn. This represents an increase of around seven percent year-on-year. Revenue of €3.7bn was generated in long-distance passenger rail market in 2011. This means revenue remained unchanged year-on-year. Short-distance passenger rail services manifested a positive trend. Increases have been recorded continually since the Bundesnetzagentur began observing the market. In 2011, revenues of around € 9.3bn were generated, reflecting growing demand among passengers.

Revenues in the rail market 2005–2011



* incl. public compensation payments

TRAFFIC TRENDS AND COMPETITIVE TRENDS

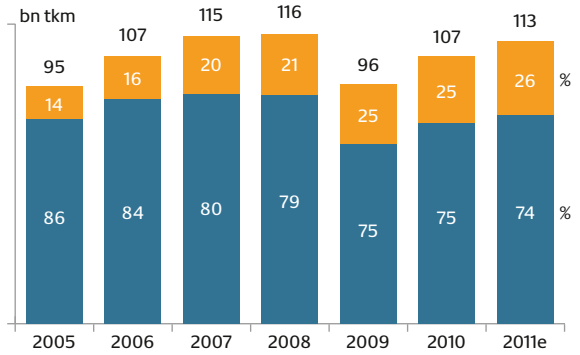
The volume of traffic handled by the rail freight sector as a whole totalled around 113bn ton kilometres according to initial estimates by the Statistisches Bundesamt (Federal Statistical Office) and was hence slightly lower than the record volume recorded in 2008. This represents an increase of around six percent year-on-year. By contrast, competitors only managed to increase their share slightly to 26 percent. Around 75 percent of rail freight transport services were provided by companies belonging to Deutsche Bahn AG (DBAG).

The transport performance in long-distance passenger rail accounted for around 36bn passenger kilometres (pkm). Competitors are displaying very little activity in long-distance passenger rail services so far owing to the high barriers to market entry. Once again, competitors' share was just under one percent.

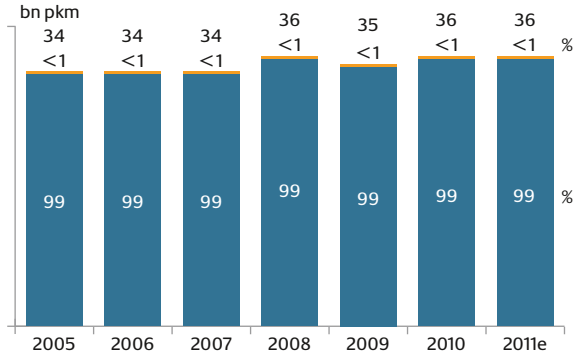
The transport performance in short-distance passenger rail rose slightly in 2011 year-on-year. According to initial estimates by the Statistisches Bundesamt, short-distance passenger rail services accounted for 49bn pkm. This represents an increase of around 2 percent. Around 13 percent of the transport performance was provided by DBAG's competitors.

Transport performance and competition in the railway market 2005–2011

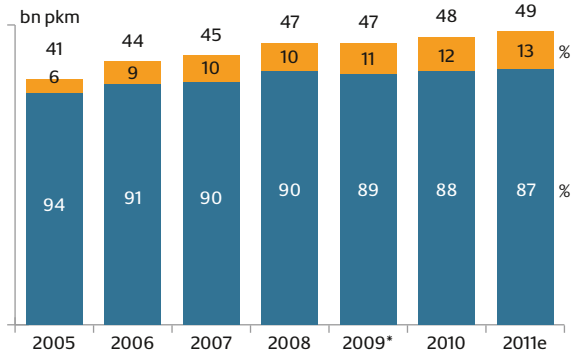
Freight



Long distance passenger rail



Short distance passenger rail



Competitors

DBAG

tkm= tonne kilometres

pkm= passenger kilometres

* updated figures

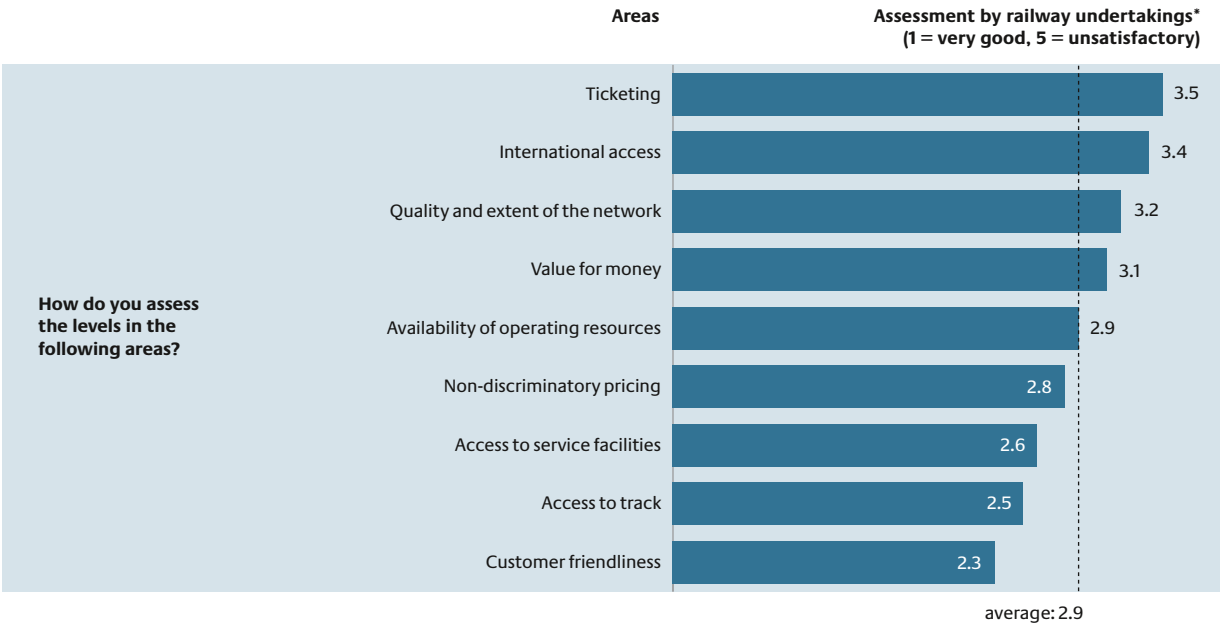
Source: Bundesnetzagentur, DBAG, Statistisches Bundesamt

MONOPOLY STRUCTURES AND INFLUENCE FACTORS

The Bundesnetzagentur gives railway undertakings (RU) the opportunity to grade market-relevant aspects in an annual market survey. In passenger transport, the companies surveyed criticised ticketing and distribution in particular. This includes the distribution of revenue generated by rail fares, the structure and level of distribution fees as well as access to the distribution infrastructure (e.g. travel centres, ticket vending machines). In addition to access to the international railway infrastructure, the quality and state of development of the rail infrastructure were criticised.

The poor value for money offered by infrastructure managers (IM) received an above-average amount of criticism. In order to avail themselves of the services provided by IMs, railway undertakings have to pay usage charges, for instance, in the form of path prices and station charges. In terms of value for money in relation to the charges levied, the individual ratings of the charges levied for use of passenger stations and traction current contributed to the below-average overall result. The criticism of traction current can be attributed to the fact that in the past few years DB Energie GmbH has continually raised both the price of traction current and usage charges. Yet network charges in the general electricity market have fallen in recent years. The general electricity prices also display a more differentiated trend, including extended periods in which electricity prices actually fell.

Factors in the passenger rail market



* averages of the particular problem areas (individual responses) subsumed under the areas listed

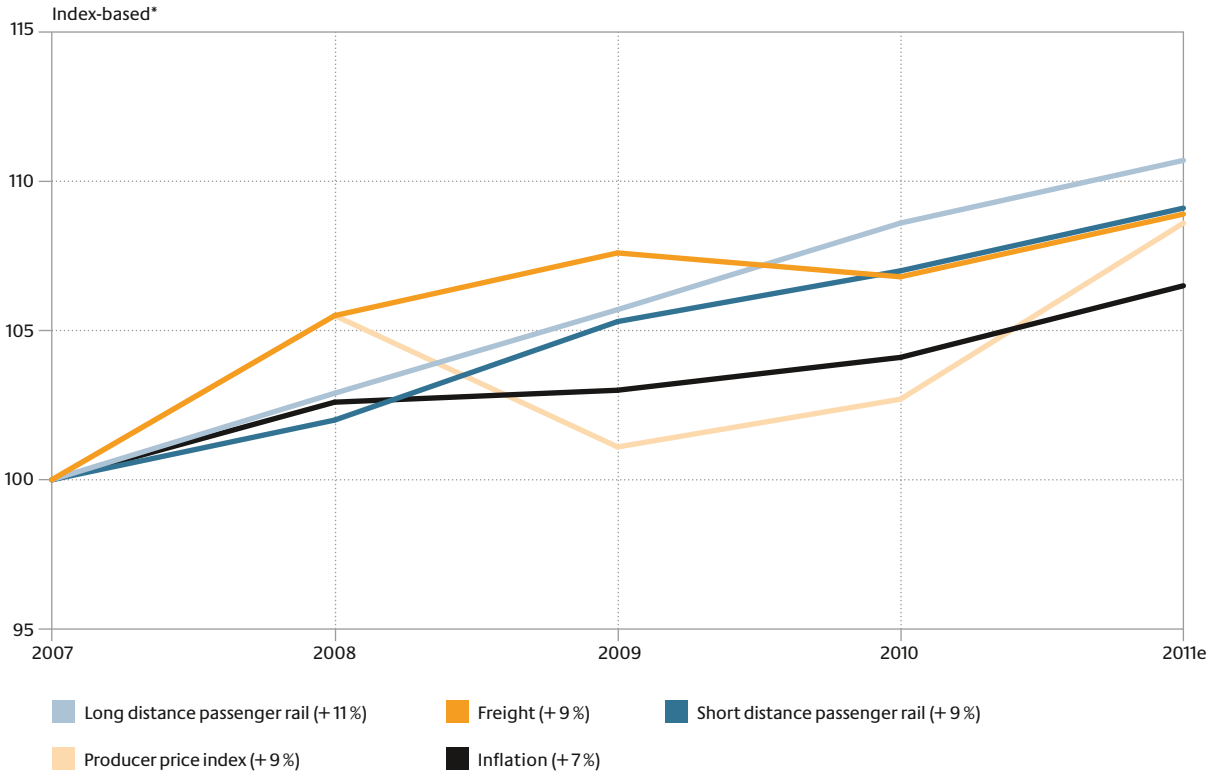
The IMs received slightly better ratings for non-discriminatory pricing. Nonetheless, the pricing system for traction current and DBAG's passenger railway stations were criticised. With regard to the price of traction current, the main criticism levelled by competitors is that it is really only large RUs belonging to DBAG that are able to avail themselves of specific, volume-based discounts. By contrast, the pricing systems of ports and rail infrastructure operators received comparatively positive ratings. The customer-friendliness of IMs received the highest ratings.

USAGE CHARGES

As in previous years, the prices charged for use of the railway infrastructure increased once again in 2011. The average train path prices charged by infrastructure managers have risen sharply since 2007. Taking the price adjustment made between 2010 and 2011 into account, prices in short-distance passenger rail transport and in rail freight transport have risen by 9 percent respectively since 2007. The average train path price in long-distance passenger rail transport actually rose by 11 percent during this period.

By comparison, the general rate of inflation between 2007 and 2011 was only around seven percent. The indices for producer prices were more or less equal to the increase in the average price increase rate of train path prices for short-distance passenger rail and rail freight services between 2007 and 2011.

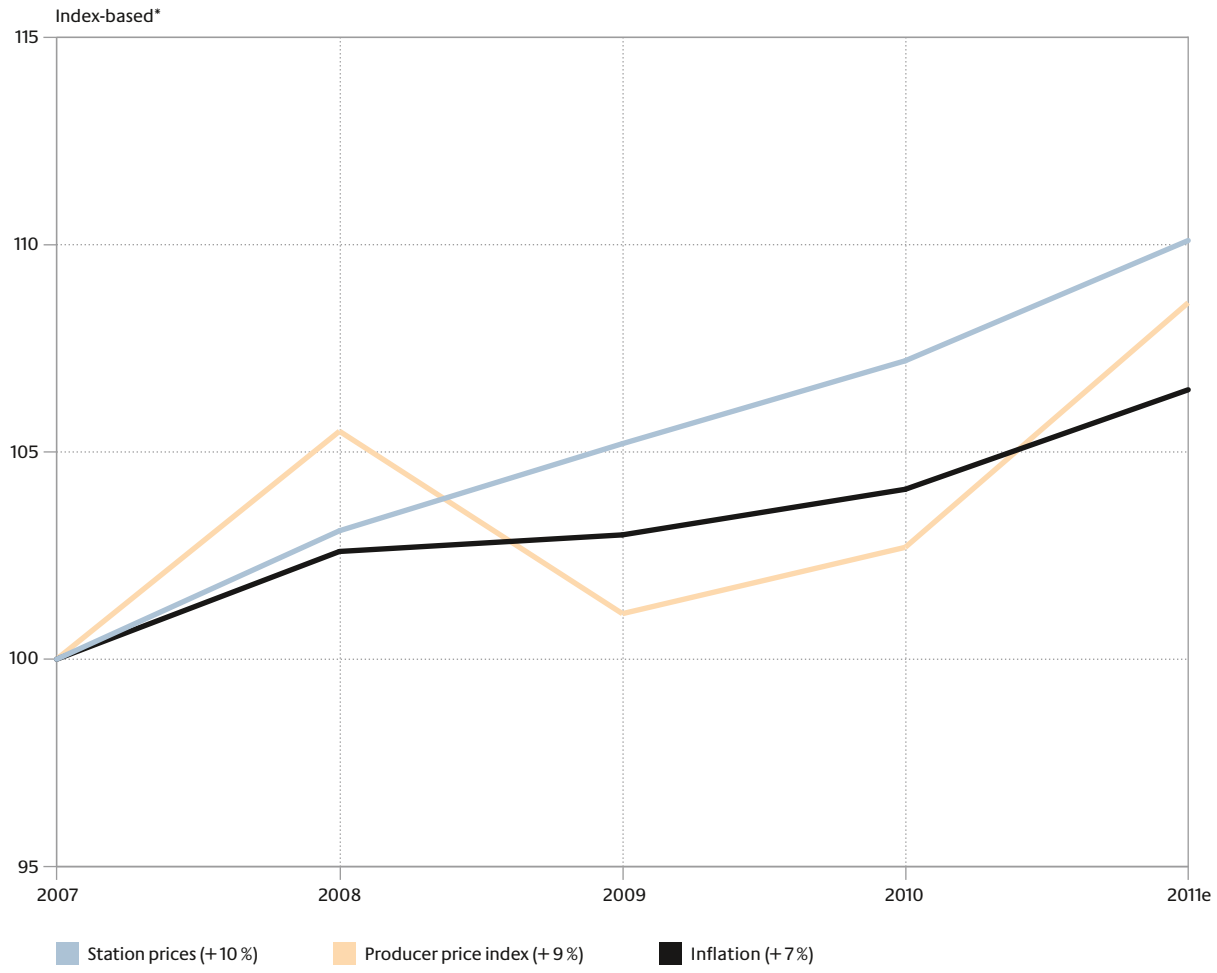
Average path price per path kilometre 2007–2011



* calculated as a quotient of path prices and path kms
2007 = 100
Source: Bundesnetzagentur, Statistisches Bundesamt

Similar to the trend in train path prices charged by DB Netz AG, the prices for stops at passenger railway stations charged by DB Station&Service AG continued to rise. Compared to 2007, the usage charge per passenger railway station has risen much more sharply than the general rate of inflation. Between 2007 and 2010, the average usage charge per passenger railway station had risen by around 7 percent. The Bundesnetzagentur is expecting them to increase by around 10 percent compared to the price level of 2007.

Average revenues per station stop 2007–2011



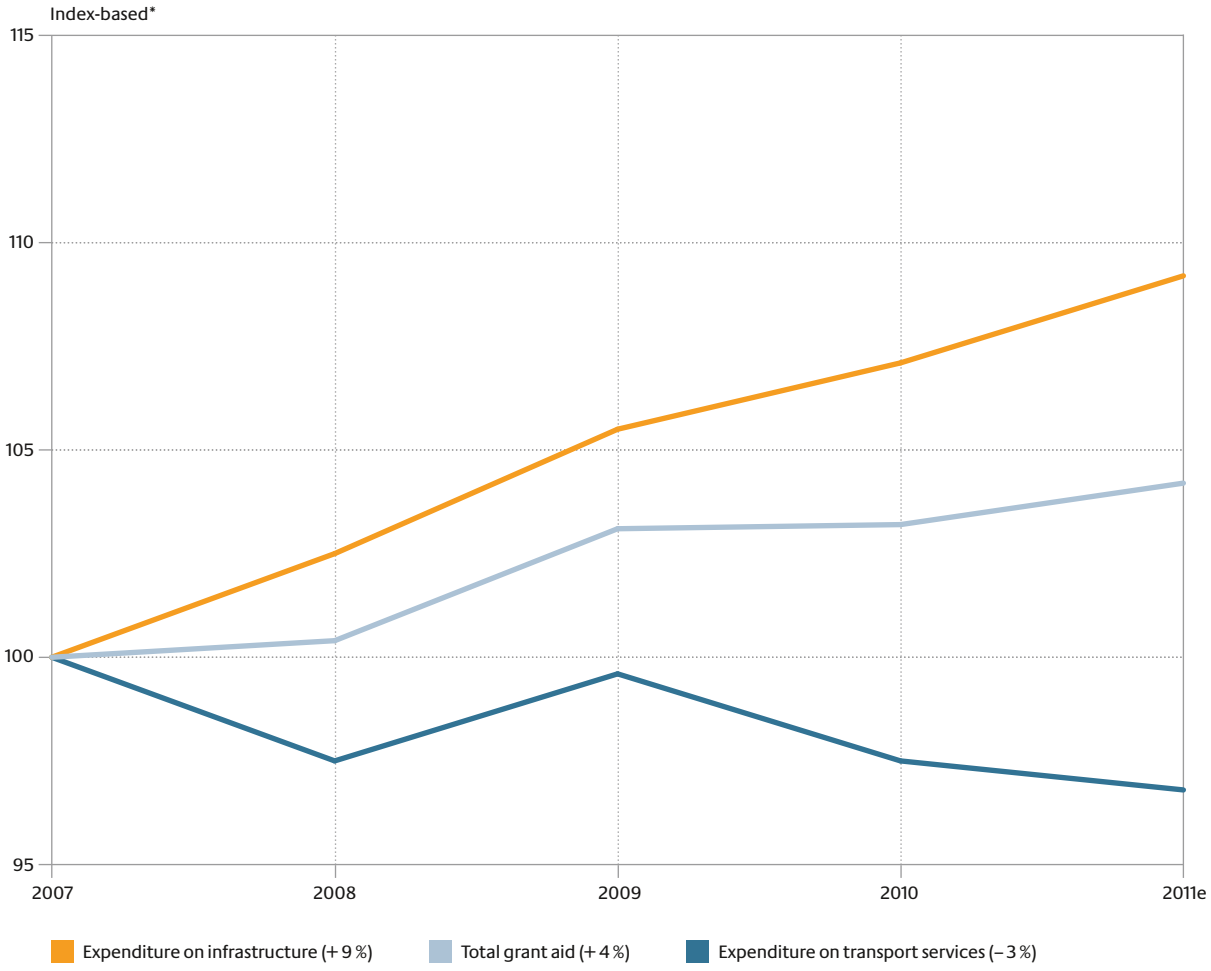
* calculated as a quotient of station prices and station stops
2007 = 100
Source: Bundesnetzagentur, Statistisches Bundesamt

The rising prices for use of the railway infrastructure also represent a challenge for short-distance passenger rail transport which is, by and large, financed by public grant aid. Public grants account for around 60 percent of the revenue generated by RUs involved in short-distance passenger rail transport. The level of grant aid rose by 4 percent between 2007 and 2011.

However, expenditure for infrastructure services – in particular path prices and passenger railway station prices – rose by 9 percent in short-distance passenger rail transport. As public transport authorities tend to bear the infrastructure costs incurred by RUs, this means they have fewer funds available to finance rail operations (minus 3 percent compared to 2007). So far, it has been possible to mitigate the negative impact on transport performance by increasing the utilisation of train capacity and by increasingly awarding competitive transport contracts as a means of generating savings.

TABLE OF CONTENTS CHAPTER

Grant aid and expenditure in the short distance rail passenger market 2007–2011



* Basis: absolute expenditure/grant aid in euros
2007 = 100
Source: Bundesnetzagentur, VDV (expected grant aid 2011)

Activities and proceedings

The Bundesnetzagentur managed to gradually eliminate the mark-up factor for heavily used railway infrastructure on a contractual basis in 2011. This has created a level playing field for all market players. Furthermore, DB Netz AG initiated important steps towards implementing the measures outlined in the position paper "Access to marshalling yards" drawn up by the Bundesnetzagentur.

ACCESS TO THE RAILWAY INFRASTRUCTURE

Review of Network Statements

Infrastructure managers are obliged to draw up and publish a so-called Network Statement for their infrastructure. Reviewing the Network Statement is one of the key tasks of the Bundesnetzagentur in the area of rail regulation.

In November 2011, the Bundesnetzagentur objected to several issues in the envisaged changes in DB Netz AG's Network Statement (2013 Network Statement) within the framework of its review. It claimed that the provisions it objected to were incompatible with the current railway law. DB Netz AG was planning, inter alia, to prevent companies that have goods transported by rail (for instance, manufacturing companies and freight forwarders) from concluding individual agreements on use of the infrastructure. However, as the Third Railway Legislation Amendment Act of 2005 made provision for these companies to have an independent right of access in a bid to strengthen rail freight transport, the envisaged changes to the Network Statement would have undermined this provision. The Bundesnetzagentur raised an objection in order to prevent this from happening.

The Network Statements of other railway infrastructure operators were also reviewed. A number of proceedings instituted in 2010 were brought to conclusion in 2011. In 2011, around 90 percent of the railway infrastructure operators had drawn up Network Statements (compared to 80 percent in 2010). By the end of 2011, all railway infrastructure operators of major competitive relevance had drawn up a valid Network Statement. A few smaller companies are currently discussing their plans to draw up a Network Statement with the Bundesnetzagentur.

Operations control centres

The day-to-day running of rail traffic on DB Netz AG's railway network in Germany is monitored and dispatched by a Network Control Centre and by seven regional operations control centres. Owing to the competitive disadvantages for railway undertakings that do not belong to DBAG, the Bundesnetzagentur obliged DB Netz AG in 2010 to open the operations control centres to its competitors.

After the objections were withdrawn by both DB Netz AG and the RUs belonging to DBAG, the proceedings were brought to a successful conclusion in 2011. DB Netz AG has meanwhile met all of the obligations outlined in the notice issued by the Bundesnetzagentur.

In particular, it has met its obligation to allow RUs not belonging to its Group to obtain workstations in the operations control centres. Previously, the operations control centres were staffed exclusively by RUs belonging to DBAG. Dispatchers at the operations control centres have to decide which trains can travel first and which trains are required to wait. These decisions can be extremely important for the relevant RUs in the event of disruptions and irregularities because of the delays they can cause.

The Bundesnetzagentur also obliged DB Netz AG to provide all RUs with a continuous, non-discriminatory overview of rail operations on the routes (speed, imminent stops, the timetable, type of train path product). The aim of this rule was to create a level playing field for railway undertakings not represented at the operations control centres and those that are. This enables them to predict what decisions the operations control centre staff will take and to reschedule their services at an early stage in the event of disruptions. It also enables them to assess the basis on which dispatching decisions that resulted in delays were taken.

Working timetable

According to DB Netz AG, over 55,000 train path requests were filed while the working timetable for 2011 was being drawn up. This represents an increase of around 7 percent year-on-year. The main reason for this increase, according to DB Netz AG, was the fact that construction measures were taken into account in the working timetable to a greater extent than before.

Around 12,000 requests for train paths led to usage conflicts. For the first time, they were processed on the basis of new rules that had been drawn up within the framework of basic proceedings. These rules are intended to ensure that the coordination process provided for in Section 9 (3) of the Rail Infrastructure Usage Regulations is implemented transparently. Irrespective of this, one RU approached the Bundesnetzagentur in relation to the preliminary timetable even before it had been officially informed which train path requests were to be refused as construction measures meant that a large number of the train paths requested should not be allocated or should be allocated with major deviations. The Bundesnetzagentur managed to reach a mutually agreeable solution in talks held.

In addition, DB Netz AG notified the Bundesnetzagentur that it was planning to refuse over 27 train path requests in relation to the 2012 working timetable. This prompted the Bundesnetzagentur to conduct an ex-ante review pursuant to Section 14e of the General Railway Act. It objected to the refusal of a train path request in one case.

DB Netz AG is planning to introduce special rules of procedure for the coordination process pursuant to Section 9 (3) of the Rail Infrastructure Usage Regulations. This would affect construction measures that need to be taken into account in the working timetable already in accordance with DBAG's "Travelling and Building" Directive. The Bundesnetzagentur is still involved in talks about this issue with DB Netz AG and is keen to

find viable and non-discriminatory rules for the allocation of train paths in the future.

After a new framework agreement period began in 2010, RUs announced their intention to conclude another 15 irregular framework agreements involving a total of 240 time windows in 2011. Pursuant to Section 13 (11) of the Rail Infrastructure Usage Regulations, these framework agreements can be concluded "at any time". The Bundesnetzagentur conducted an ex-ante review of these framework agreements and did not file any objections.

ACCESS TO SERVICE FACILITIES

Position paper on marshalling yards and other train formation facilities

Freight trains need marshalling yards as transport hubs and at the start and end of a journey. RUs use these facilities to structure their production process. In order to organise freight transport efficiently and economically, the wagons have to be organised in a particular sequence depending on what logistics concept is being used. This sequence depends on the destinations of the wagons and on the further handling of the freight. As marshalling yards and similar infrastructures can cause considerable bottlenecks depending on their specific location, optimised utilisation of the service facilities available is essential for successful freight transport.

Against this backdrop, the Bundesnetzagentur set up a working group composed of representative market players with a view to developing regulatory solutions for these service facilities. The Bundesnetzagentur published the results of this working group in late 2010 in a final report and position paper together with its own conclusions and demands.

In 2011, the Bundesnetzagentur engaged in intensive talks with railway infrastructure managers that operate marshalling yards and other train formation facilities on how the demands made in the position paper could be met. These talks led, inter alia, to DB Netz AG amending its Network Statement for Service Facilities (NSSF). In future, train tracks will be leased up to the end of a valid working timetable period maximum. Up to now, they have generally been leased for up to six years. The aim is to bring this into line with the train path allocation system. Furthermore, a facility dispatcher in selected facilities is to coordinate management of the infrastructure in future. DB Netz AG will also allocate tracks in its service facilities for priority usage purposes and functions. This will enable optimum use to be made of the infrastructure.

Review of Network Statements

Similar to the rules for railway infrastructure operators, operators of service facilities are obliged to draw up and publish a Network Statement for Service Facilities for their infrastructures and to submit them to the Bundesnetzagentur for review. In 2011, DB Netz AG announced that it was planning to issue a new version of its NSSF, the NSSF 2013. The Bundesnetzagentur issued a notice objecting to two clauses of this revised NSSF. According to the original version, a group of companies which have a right of access by law (in particular freight forwarders and companies providing combined passenger and freight transport) would be unable to conclude agreements on the specific use of service facilities in future. Furthermore, access beneficiaries who are also making additional payments to finance the expansion of certain infrastructures on top of regular usage charges were to be granted priority access to this infra-

structure. DB Netz AG filed an objection to the Bundesnetzagentur's notice. A decision by the Bundesnetzagentur on this objection is still pending.

A further task in 2011 was the review of the NSSF for ports and port railways. As these are traffic junctions, transshipment hubs and hence the location where a large number of freight transports begin and end, they have relevance that extends beyond their actual scope of activities. At the same time, they represent very complex service facilities as port railways tend also to combine different infrastructures in a small area. This means that most ports have terminals and transshipment facilities, marshalling yards or industrial sidings. In 2011, for instance, a review was carried out on the NSSF for the ports of Hamburg, Bremerhaven, Lübeck and Trier, the ferry port of Sassnitz and the municipal ports of Hanover.

The number of IMs that draw up NSSF, hence meeting their statutory obligations, has risen steadily in recent years. In order to accomplish this goal, the Bundesnetzagentur contacts companies that do not have a valid Network Statement and informs them of their obligation to draw up such a Statement.

Access to industrial railways and sidings

The Bundesnetzagentur received a number of complaints in 2011 about access to industrial railways and sidings. These infrastructures combine different types of service facilities on industrial sites, depending on their size, similar to the functions of port railways. At the same time, they are closely linked to the respective industrial processes in many cases.

There is no obligation to grant access to railway infrastructure that is operated exclusively for the use of a company's own freight transport. However, this does not apply to railway infrastructure that includes terminals and ports. The Bundesnetzagentur looked into complaints filed and urged infrastructure managers to draw up NSSF to enable access beneficiaries to exercise their right of access on the basis of NSSF.

Access to maintenance facilities

Non-discriminatory access to maintenance facilities was another focal point of the Bundesnetzagentur's activities in the railway sector in 2011. Associations representing light maintenance depot operators such as the Association of German Transport Companies (Verband Deutscher Verkehrsunternehmen – VDV), the German Railway Industry Association (Verband der Bahnindustrie – VDB) and the Association of Private Freight Wagon Keepers (Vereinigung der Privatgüterwagen-Interessenten – VPI), sought to find specific solutions for these infrastructures in talks with the Bundesnetzagentur. In addition to companies that operate light maintenance depots only, RUs operating depots for the maintenance and repair of trains are obliged to draw up and publish NSSF for their light maintenance depots. In the past there was some uncertainty in the market as regards the content of this Network Statement. In order to develop practical solutions for the implementation of the statutory requirements, a working group dealt with issues relating to the content of the NSSF for light maintenance depots and pricing under the auspices of the Bundesnetzagentur.

One key result achieved by the working group is a checklist for the performance-based content of the Network Statement. The working group managed, by and large, to achieve consensus

on this checklist. All market players and stakeholders were given the opportunity to comment on the results of the checklist within the framework of a market consultation. The checklist is intended to help the operators of maintenance facilities to determine the performance-based content and scope of their own specific Network Statement. This is to make it easier for access beneficiaries to gain an initial overview of the respective light maintenance depot including the range of services it provides.

PRICES

DB Netz AG

Mark-up factor for heavily used railway infrastructure

The mark-up factor for heavily used railway infrastructure is an integral part of DB Netz AG's train path pricing system. According to DB Netz AG, it is intended to help create incentives to enhance the efficiency of the infrastructure pursuant to Section 21 (1) of the Rail Infrastructure Usage Regulations. The mark-up factor is levied as a surcharge of 20 percent particularly on highly-frequented sections of routes.

The Bundesnetzagentur had objected to the mark-up factor being levied by DB Netz AG in the notice it issued on 1 July 2011 as the company was unable to provide any objective and coherent justification for the price difference. It also remained unclear how the sections of routes are determined for which the mark-up is levied and how the mark-up levied is actually calculated. DB Netz AG filed an objection against the notice.

Instead of embarking on potentially long-drawn-out judicial proceedings involving all the uncertainties for the market that go hand in hand with them, the Bundesnetzagentur and DB Netz AG decided on 15 November 2011 to conclude an agreement under public law on the gradual abolition of the mark-up factor. It says that the mark-up factor will only be levied on two of the hitherto nine relevant routes until 8 December 2012, after which it will be abolished in full.

Noise-differentiated train path pricing system

The Federal Ministry of Transport, Building and Urban Development asked DB Netz AG in late 2010 to develop a noise-differentiated train path pricing system and to introduce it when the working timetable changes in December 2012. To this end, talks were conducted between the Bundesnetzagentur and DB Netz AG in early 2011. They discussed possibilities for implementation in detail, taking the railway regulations into account. DB Netz AG submitted a draft Network Statement in the summer of 2011.

The Bundesnetzagentur highlighted a number of issues for DB Netz AG which it thinks are not in compliance with railway legislation. Overall, it rated the proposed wording as insufficient. At the same time, it asked DB Netz AG to furnish it with more information.

In October 2011, DB Netz AG submitted the draft of its Network Statement to the Bundesnetzagentur in the form of a notification in accordance with section 14d sentence 1 subpara. 6 of the General Railway Act. In the Bundesnetzagentur's opinion, there was room for improvement particularly regarding the incentive to retrofit freight wagons. Nonetheless, the Bundesnetzagentur did not formally object to the envisaged regulations as this would have fully prevented the introduction of the noise-differentiated pricing system deemed necessary. The Bundesnetzagentur decided to eliminate the deficits and

demand the required information following the ex-ante review of the Network Statement within the framework of special proceedings.

Pricing principles in the Network Statement

The Network Statement for 2013 submitted by DB Netz AG was reviewed by the Bundesnetzagentur also in respect of the pricing principles described in it. In addition to the envisaged changes regarding non-use of train paths and trains that are delayed by more than 20 hours, the Bundesnetzagentur objected in its notice of 1 December 2011 particularly to the plan to combine route categories. Four out of the 12 route categories in the train path pricing system were to be integrated into one category. In addition to major shifts in the financial burden in the railway market, the Bundesnetzagentur complained that the statutory rules on pricing were not being adhered to.

Furthermore, DB Netz AG was planning to introduce instalments of 50 percent of the monthly charge that would be due for payment on the 25th of the month. This would have brought the payment date forward by around six weeks for the majority of train path prices. The Bundesnetzagentur disapproved of this envisaged amendment owing to the major financial impact it would have – particularly on smaller RUs – and in negotiations with DB Netz AG managed to reduce the envisaged deposit to 25 percent of the respective monthly charges.

DB Station&Service AG

Further development of the station pricing system

The Bundesnetzagentur continued its talks with DB Station&Service AG in 2011 to further develop the station pricing system (SPS). The talks on the one hand focused on the structure of the SPS that is characterised by price differentials based on the length of the train. On the other hand, the Bundesnetzagentur actually began focusing on the level of prices themselves when the station price list for 2012 was submitted.

In a notice issued on 19 November 2010, the Bundesnetzagentur had already objected to the so-called train length factor, claiming it was unjustified in substantive terms. This component in the SPS has the potential to push up the price of a train stop to up to three times the basic price. DB Station&Service AG was therefore requested to develop an alternative model, although the Bundesnetzagentur agreed to accept the existing price model as a transitional solution.

It is likely that the type of train length factor accepted as a transitional solution in 2011 will continue to apply in 2012 as there is no viable alternative. A decision not to have any kind of price differentiation for the train lengths would have resulted in a major additional burden for RUs providing short-distance passenger rail transport, which tends to use shorter trains. In the worst case scenario, this could lead to transport services being discontinued. Irrespective of this, the Bundesnetzagentur asked DB Station&Service AG to develop an alternative pricing model that is compatible with the railway law.

Although the pricing system will not change in 2012, cost trends have certainly led to changes in the level of prices in the station price list. These are associated, by and large, with the stimulus measures implemented by the Federal Government which require DB Station&Service AG to generate expenditure. In addition, increased endeavours regarding the provision of information for passengers and the safety service were

also cost-effective. With the first model used to compute costs over several years that was developed at the initiative of the Bundesnetzagentur, it has been possible at the very least to mitigate the impact of the most serious price hikes. What is more, DB Station&Service AG has been urged to communicate more effectively in future both with the Bundesnetzagentur and the market players if and when there is a risk of cost increases. This is where it is necessary to involve all stakeholders at an earlier stage.

New price calculation model, instalments

In a notice issued on 6 June 2011, the Bundesnetzagentur obliged DB Station&-Service AG to recalculate the station usage prices it was charging two RUs for the 2010/2011 timetable period. For their stops at railway stations in this period, the two RUs had overstated their train lengths in some cases. Nevertheless, DB Station&Service AG wanted to charge the two RUs prices based on the train lengths originally given. Both RUs therefore refused to conclude a station usage agreement with DB Station&Service AG.

The Bundesnetzagentur holds the view that basing station usage charges on the train length stated in advance rather than on the train length actually used constitutes discrimination. It said that both RUs were at a price disadvantage vis-à-vis other RUs without any substantive justification even though they were using the same service.

The review carried out by the Bundesnetzagentur also shed light on instalments these RUs were required to pay. One of the two RUs still has a valid framework agreement which does not contain any clause about instalments. Under railway legislation agreements take priority, however. This means that an IM like DB Station&-Service AG may only introduce terms of payment for use of its infrastructure which it is able to apply and enforce vis-à-vis all access beneficiaries. It is precisely the latter that does not apply in respect of instalments. The Bundesnetzagentur therefore declared the instalments in general void.

Court proceedings

The Federal Administrative Court confirmed the major importance of ex-ante reviews conducted by the Bundesnetzagentur in a decision it handed down. In addition, the Court highlighted the major relevance of Network Statements for access to the infrastructure.

DB NETZ AG – 2008 NETWORK STATEMENT

On 29 September 2011, the Federal Administrative Court granted the appeal filed by the Bundesnetzagentur in relation to the 2008 Network Statement in full, overruling the appeal filed by DB Netz AG (ref. 6 C 17.10). The decision confirmed the paramount importance of Network Statements for access to the infrastructure. The decision by the Federal Administrative Court had been preceded by decisions handed down by the court of first instance, Cologne Administrative Court (ref. 18 K 2722/07), and by the Higher Administrative Court of North Rhine-Westphalia (ref. 13 A 2557/09).

The Federal Administrative Court had to take a decision on 13 clauses which the Bundesnetzagentur had objected to. These include, inter alia, clauses that would enable DB Netz AG to preclude a reduction in charges particularly in cases in which construction work or force majeure render it temporarily not possible to use the railway infrastructure. Other clauses related to the prerequisites under which DB Netz AG can request RUs to lodge a security covering the usage charges payable. The Federal Administrative Court had to decide in relation to one particular clause what information on restrictions in operating hours of railway lines needs to be provided in the Network Statement.

Policy issues relating to the standard of review applied within the framework of ex-ante regulation and to the relevant legal basis were closely related to the clauses. The Federal Administrative Court confirmed the special importance of ex-ante reviews pursuant to Section 14e (1) subpara. 4 of the General Railway Act. The Bundesnetzagentur is entitled to object to clauses in the Network Statement even if there have been no changes since the previous year. It is not necessary for the Bundesnetzagentur to examine how these clauses are likely to affect competition before raising an objection.

The Federal Administrative Court holds the view that, all things considered, Network Statements represent General Terms and Conditions within the meaning of Section 305 (1) of the German Civil Code. It needs to be ensured that Network Statements – including General Terms and Conditions that are relevant purely under civil law – are compatible with provisions governing access to the railway infrastructure. This means that all provisions set forth in Network Statements

are subject to review. The boundaries between public and private law should only be drawn in relation to the review criterion. The provisions set forth in public and private law on access to the railway infrastructure constitute the review criterion.

In relation to the operating hours of railway lines as a compulsory component of Network Statements, the Federal Administrative Court established that any reduction in operating hours was equivalent to a usage restriction. In accordance with the provisions set forth in the Rail Infrastructure Usage Regulations, the details of operating hours of railway lines must be indicated in the Network Statement.

The decision also highlights the importance of Network Statements in providing information. In the Court's view, the Network Statement contains one clause that cannot be easily construed. The Federal Administrative Court made it clear in relation to the clarity of clauses in Network Statements that they need to be unequivocal enough to ensure that they do not require clarification in a large number of individual cases. The principles for charging deposits must also be documented comprehensively in Network Statements. They must be outlined in a way that enables parties with the right of access to determine in which specific cases they are required to pay a deposit and how much the deposit will amount to.

In the view of the Federal Administrative Court, reductions must be granted without the need for railway undertakings to file an application for reductions in the event of any infrastructure-related delays and cannot be ruled out for force majeure either. Pursuant to Section 4 (1) of the General Railway Act, DB Netz AG is responsible for the condition of the railway infrastructure. This responsibility is not limited by the historically inherited condition of the railway infrastructure. In the Court's opinion, it is not possible to offset payments from the incentive system against reduced claims from reductions.

DB REGIO AG – OBLIGATION TO DRAW UP SERVICE FACILITIES STATEMENT

In a decision handed down on 14 January 2011 (ref. 18 K 1546/09), Cologne Administrative Court ruled that DB Regio AG is obliged to draw up a Network Statement. The subject matter of the proceedings was a notice issued by the Bundesnetzagentur obliging DB Regio AG to draw up a Network Statement for the service facilities (maintenance facilities) it operates and to inform the Bundesnetzagentur thereof by means of a communication under Section 14d sentence 1 no 6 of the General Railway Act.

DB Regio AG represents the view that as an RU it does not have the same obligations as an IM, even though it operates light maintenance depots. However, in the view of Cologne Administrative Court, DB Regio AG is both an RU and an IM (Section 2 (3) of the General Railway Act), which means it is indeed subject to regulation.

This was the first decision handed down in main proceedings that confirmed previous decisions in expedited proceedings in which Cologne Administrative Court (ref. 18 L 1710/10) and the Higher Administrative Court of North Rhine-Westphalia (ref. 13 B 1818/10) had ruled that light maintenance depot operators are subject to regulatory intervention. DB Regio AG lodged an appeal against the decision with the Higher Administrative court of North Rhine-Westphalia (ref.: 13 A 747/11).

TABLE OF CONTENTS

Bundesnetzagentur

Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen

President

Vice President

Vice President

General Staff Council, Staff Council, General Spokesperson for Disabled Persons, Spokesperson for Disabled Persons

Data Protection Commissioner

Ruling Chamber 1
President's Chamber
Decisions under Sections 10, 11 and 55(9), 61, 62, 81 TKG, Sections 13, 14 PostG

Equal Opportunities Commission

Z Business Support

IS Information Technology and Security

1 Telecommunications Regulatory Economics

2 Legal Telecommunications Regulation Issues, Frequency Regulation

JP
Legal Office

Z 1 Organisation Personnel

Z 2 General Legal Affairs, Finances, Controlling

Ruling Chamber 2
Regulation of Telecommunications Retail Markets (Fixed and Mobile), Leased Lines, Subscriber Data, Collection Services, Porting, Dispute Settlement

Z 11 Organisation, Occupational Health and Safety

Z 21 General Legal Affairs (excluding Civil Law), Data Protection, Part 7 TKG Legal Issues

IS 11 Information Technology

111 Telecommunications Regulatory Economic Policy Issues

211 Legal Issues, Sector-Specific Control of Anti-Competitive Practices Telecoms

220 Technical Regulatory Issues of Efficient and Interference-Free Use of Frequencies

Ruling Chamber 3
Regulation of Telecommunications Wholesale Markets, Fixed and Mobile

Z 12 Staff Policy, Personnel Representation Legislation, Senior and Upper Grade Service Staff, Public Employees, Special Unit Further Training

Z 22 Tariff and Contribution Charges Legislation, Collection Services

IS 12 IT Solutions Development

112 Market Watch Telecommunications

212 Spectrum Management Procedures, Market and Competitions Aspects

221 Radio Frequency Utilisation Concepts International Affairs, Frequency Plan, Innovative Radio Applications

Ruling Chamber 4
Individual Electricity Network Tariffs, Electricity/Gas Investment Measures, Cost of Equity, Energy Grids

Z 13 Medium and Basic Grade Service Staff, Policy Issues, Remuneration, Salaries, Travel and Relocation Expenses

Z 24 Budget, Budgeting, Tax Matters, Personnel Management

IS 13 IT Policy, IT Project and Information Management

113 Business Management and Accounting Issues, Cost Accounting Telecoms, Examination of Rate Proposals

213 Frequency Award and Assignment Policy

222 Broadcasting

Ruling Chamber 5
Rates Regulation and Special Control of Anti-Competitive Practices Postal Markets

Z 14 Buildings, Real Property

Z 25 Procurement, Civil Law, Accident Compensation, Administrative Offences and Health Insurance Assistance Legislation

IS 14 Information Requests, Civil Defence

114 Internet Economy

215 Trunked Radio, 450 MHz Wireless Access, Special Award Proceedings, Use of Public Ways, Business Register

223 Satellite Services, Fixed Services below 30 MHz, Short Term Usage, Civil/Military Frequency Coordination

Ruling Chamber 6
Electricity Grid Regulation

Z 15 Internal Administration

Z 26 Controlling, Transaction and Cost Accounts, Quality Management

IS 15 Qualified Electronic Signatures Policy Issues

115 Infrastructure Atlas

216 Universal Service, Public Affairs, Consumer Issues Dispute Resolution Panel

224 International Mobile Radio Frequency Coordination, Digital Cellular Networks, Public Paging Networks, Railway and Public Safety Authorities and Organisations, Civil/Military Site Coordination, Maritime Mobile and Inland Waterways Services

Ruling Chamber 7
Gas Networks Regulation

SSC Project
SSC Project: Remuneration, Salaries, Family Allowance Scheme, Travel and Relocation Expenses, Separation Allowances, Health Insurance Assistance

IS 16 Provision Continuity Telecommunications and Post, Technical Implementation of Intercepts

116 Market Definition and Market Analysis Section 12 TKG Procedures

225 Non Public Radio Applications Amateur Radio

Ruling Chamber 8
Electricity Grid Fees

IS 17 Telecommunications Privacy and Data Protection Compliance, Emergency Calls, Telecoms Security, Internal IT Security

117 Numbering Policy

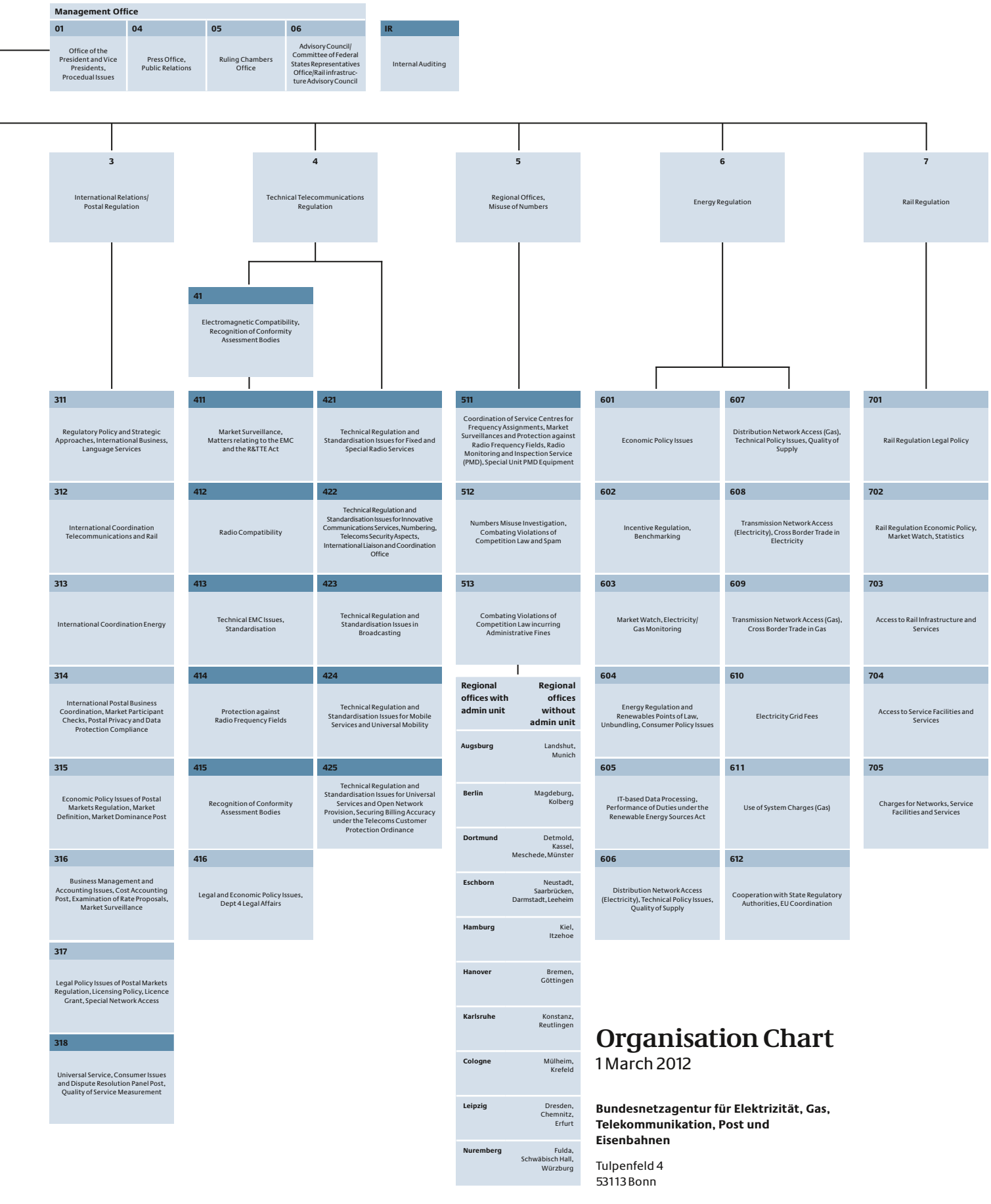
226 Radio Relay, Aeronautical, Radionavigation and Radiodetermination Services

Ruling Chamber 9
Use of System Charges Gas

IS 18 Qualified Electronic Signatures Technical Operation

118 Number Administration

TABLE OF CONTENTS



Organisation Chart

1 March 2012

Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen

Tulpenfeld 4
53113 Bonn

in Bonn
at other locations

TABLE OF CONTENTS

The Bundesnetzagentur's core tasks and organisation

FUNCTIONS AND STRUCTURE

The Bundesnetzagentur, originally called the Regulatory Authority for Telecommunications and Post, was set up on 1 January 1998 and established as an independent higher federal authority within the scope of business of the Federal Ministry of Economics and Technology. It took over the responsibilities of the former Federal Ministry of Post and Telecommunications and the Federal Office for Post and Telecommunications. On being assigned responsibilities under the new Energy Act and the amended General Railway Act it was renamed the Federal Network Agency for Electricity, Gas, Telecommunications, Post and Railway in 2005.

First and foremost, the Bundesnetzagentur's remit is, through regulation, to promote competition in the telecoms, postal, energy and rail sectors to guarantee non-discriminatory network access. In the telecoms and postal sectors, it ensures nationwide appropriate and adequate services and provides frequency regulation and numbering arrangements. Moreover, the Bundesnetzagentur is to assume a key role in the energy policy turnaround as the national planning authority for the accelerated expansion of the electricity transmission networks. All these responsibilities are laid down in the Telecommunications Act (TKG), the Postal Act (PostG), the Energy Act (EnWG) and the General Railway Act (AEG), and are detailed additionally in ordinances and other implementing provisions.

Further tasks of the Bundesnetzagentur stem from various other special laws such as the Radio Equipment and Telecommunications Terminal Equipment Act (FTEG), the Amateur Radio Act (AFuG) and the Electromagnetic Compatibility of Equipment Act (EMVG) in the telecoms sector, and the Renewable Energy Sources Act (EEG) in the energy sector. The Bundesnetzagentur is the competent authority under the Electronic Signatures Act (SigG) and as such is tasked with setting up and monitoring a secure and reliable electronic signatures infrastructure.

The Bundesnetzagentur's tasks and activities are complex and wide in scope. They range from cases addressed in quasi-judicial proceedings in regulation areas, to planning authority responsibilities, right down to the nationwide presence for investigating and processing interference complaints.

In order to meet these requirements, a task-oriented organisational structure is required, with the continued development of this ensu-

ring both the efficient performance of statutory duties and the ability to assume new duties in an open and flexible way.

The Bundesnetzagentur comprises Ruling Chambers and departments in addition to the management level. In particular, the President's Chamber takes decisions on award proceedings for scarce radio spectrum resources and the imposition of universal service obligations. In the telecoms sector, it also determines which markets require regulation and which companies have significant market power in these markets. On the basis of these determinations, the Ruling Chambers then decide on the regulatory measures to be imposed on SMP undertakings. This is how decisions on details of obligations in the field of network access conditions are reached, for example, along with decisions on rates as part of the Chamber's responsibility for the ex-ante or ex-post examination. In the postal sector the Ruling Chamber focuses on (ex ante and ex post) rates approval and the control of anti-competitive practices, including the regulation of access to the postal network. In the energy sector, the Ruling Chambers are responsible for all decisions which the Bundesnetzagentur is required to take in the gas and electricity sectors under the Energy Act and the implementing ordinances, including regulation of the use of system charges.

The departments perform specialised and central administrative functions. These include economic and legal policy issues of telecoms, postal, energy and rail regulation and technical aspects of frequencies, standardisation and numbering.

The Bundesnetzagentur is active in international standardisation bodies, cooperating in the development of new generation networks and radio systems. A major departmental function is to give the Ruling Chambers specialist assistance in their decision-making. All relevant rail regulation tasks are performed by the rail department as the General Railway Act does not provide for a Ruling Chamber.

All of the Bundesnetzagentur's responsibilities also have a strong international element. Coordination at European level, in particular, is becoming an increasingly important aspect of its regulatory activity. This is reflected by the fact that the international functions are mostly concentrated in one department together with the functions of postal regulation.

In particular, the Bundesnetzagentur's key tasks in the telecommunications sector include measures relating to planning security for investments in (broadband) infrastructure expansion and consumer protection measures combating unlawful use of telephone numbers and telephone spam. Another function is the provision of the database of sites of fixed transmitters operating above a specified power level. Also of particular importance for consumers are the dispute resolution procedure under section 47a of the Telecommunications Act and section 10 of the Postal Services Ordinance (PDLV), and consumer services.

In the energy sector it has been the Bundesnetzagentur's duty since 2005 to create and

secure the basis for efficient competition in the gas and electricity markets, mainly through unbundling and regulation of non-discriminatory access to the energy networks, including rates regulation. It also monitors the development of upstream generation and import markets along with consumer markets.

Since 2006 the Bundesnetzagentur has also been responsible for monitoring compliance with the legislation on rail infrastructure access. The core task here is to secure non-discriminatory use of the rail infrastructure by railway undertakings and other access beneficiaries. The term rail infrastructure includes the infrastructure and services connected with both tracks and service facilities (eg stations, freight terminals). Rates regulation includes the examination of the amount and structure of infrastructure charges and of other charges levied by the infrastructure managers.

The government's decision in 2011 to exit nuclear power, together with the planned accelerated expansion in renewable energy sources, requires rapid and extensive expansion of the electricity transmission networks. In order to achieve this, in NABEG, the Bundesnetzagentur has been given comprehensive planning law competences for transnational and cross-border high voltage lines. A start-up team was established in order to prepare for these new responsibilities. The complexity of the job at hand will require internal organisation to be broadened without delay, with an additional department being set up in future to deal with the new tasks.

To ensure a consistent appearance throughout the country, as the contact point with consumers and the industry, the Bundesnetzagentur's regional offices are managed and coordinated centrally by a single department.

The regional offices are mainly responsible for technical matters, providing advice, for instance, on compliance with the Telecommunications Act, on electromagnetic compatibility provisions and the Electromagnetic Compatibility of Equipment Act. They are also responsible for frequency assignment, eg for mobile radio and PMR systems. Another important area is the investigation and processing of radio interference using state-of-the-art measuring equipment, monitoring compliance with regulations generally and carrying out radio monitoring and inspection orders under the Telecommunications Act and the Electromagnetic Compatibility of Equipment Act.

Regional offices at a number of locations also carry out duties on behalf of the Bundesnetzagentur's headquarters. In particular, this involves activities in number administration, number misuse/cold calls, registration of photovoltaic facilities and of railway structure, and not least the Shared Service Center (SSC). With the SSC, the Bundesnetzagentur assumes some personnel administration tasks as a service to other authorities and allowance beneficiaries – predominantly within the scope of business of the Federal Ministry of Economics and Technology.

STAFF MANAGEMENT

A modern staff management system is a top priority at the Bundesnetzagentur. Amid ever greater constraints on staffing levels, it is important both to deploy staff optimally and to recruit new qualified staff. This is only possible when human resources planning takes account of work requirements and staff skills and prefe-

rences equally. Only with a combination of proactive deployment planning and motivated staff can the Bundesnetzagentur perform its tasks efficiently and cost-effectively at times of tight budgets.

In recruiting new staff the Bundesnetzagentur not only requires excellent specialist knowledge but also conceptual ability and team skills, backed up by a feel for the practical requirements of the markets and their mechanisms.

The Bundesnetzagentur employs a total of 2,500 specialists from a wide range of backgrounds for its highly interdisciplinary fields of activity. These include law, economics, various engineering disciplines, physics, mathematics, information technology, and administration. As part of the new planning activities for the accelerated expansion of the electricity transmission networks, posts have also been created for graduates in environmental and landscape planning, regional planning, environmental technology, and communications.

The Bundesnetzagentur has provided places for apprentices since 1999. In 2011, a total of six young people joined the Bundesnetzagentur at the headquarters in Bonn and Mainz to begin training as office communication trainees. In apprenticeships in electronic equipment and systems offered since 2003, a total of 24 places for apprentices were filled in 2011 at the Augsburg, Bremen, Göttingen, Magdeburg and Münster regional offices. Since 2011, the Bundesnetzagentur trains its own electronic technicians for devices and systems at its offices in Augsburg and Göttingen – starting with two students each (Bachelor of Engineering Electrotechnology) in a practice-oriented programme. In addition, apprenticeship places for IT specialists were awarded again in 2011; of these, three places were offered in Mainz for systems integration specialists and three in Berlin for application development specialists.

In 2011, a total of 156 young people were trained at the Bundesnetzagentur in various occupations.

BUDGET

The Bundesnetzagentur's income and expenditure is budgeted for in the federal budget, in the departmental budget of the Federal Ministry of Economics and Technology.

The table below shows the income for 2011 (target and performance) and 2012 (budget).

Type of income	Target 2011 in € 1,000	Performance 2011 in € 1,000	Target 2012 in € 1,000
Telecoms fees, contributions and other charges	77,761	44,187	77,167
Fees and other charges in the postal sector	40	26	42
Fees and other charges in the rail sector	74	71	98
Fees and other charges in the energy sector (electricity and gas)	431	3,318	329
Other administrative income, eg fines, rents and disposals	1,749	4,707	1,507
Administrative income	**80,055**	**52,309**	**79,143**

TABLE OF CONTENTS CHAPTER

The shortfalls in 2011 are due to the fact that the Bundesnetzagentur has not collected any contributions for the protection of interference-free frequency usage prior the new Frequency Protection Contributions Ordinance. The contributions will be recovered as soon as the new Ordinance comes into effect. Surpluses were achieved in the energy sector, due to fees being collected from previous years.

The chart below shows the expenditure for 2011 (target and performance) and 2012 (budget). The increase in budgeted expenditure for 2012 is based on an extensive range of new tasks relating to NABEG, as well as the estimated rents for government-owned property under standardised property management.

Type of expenditure	Target 2011 in € 1,000	Performance 2011 in € 1,000	Target 2012 in € 1,000
Personnel costs	111,281	111,910	115,581
General administrative expenditure, appropriations	37,968	40,408	52,317
Investment	10,607	8,820	12,170
Total expenditure	**159,856**	**161,138**	**180,068**

TABLE OF CONTENTS CHAPTER

TABLE OF CONTENTS

Strategic Plan 2012

The Bundesnetzagentur is required under section 122(2) of the Telecommunications Act (TKG) to include a strategic plan in its Annual Report, listing matters of legal and economic policy in telecommunications to be addressed in the current year. In addition, the Bundesnetzagentur is reporting here on all its main projects in all its fields of activity in which issues of fundamental importance are expected in 2012.

TELECOMMUNICATIONS

The following telecommunications activities should be highlighted from the large number scheduled for 2012.

Promoting broadband deployment

Infrastructure atlas

The Bundesnetzagentur's infrastructure atlas is provided to encourage shared use of existing infrastructures. To date this has happened on the basis of voluntarily supplied data, but the atlas will be put on a legal footing by the amended TKG. Thanks to the new section 77a(3) TKG the Bundesnetzagentur will be given powers to require infrastructure holders to supply data for the atlas. Consistent implementation of the legal possibilities in agreement with those concerned will provide a wider database for the atlas, both in quantitative and qualitative terms. The attractiveness of this tool will be further enhanced by the provision of Internet access for the regional and local authorities and companies that are entitled to the information. Through progressing the infrastructure atlas the Bundesnetzagentur will continue its important contribution to the goals of the federal government's broadband strategy being achieved.

Continuation of the work of the NGA Forum

In February 2009 the federal government published its broadband strategy, aiming to give a major boost to broadband deployment. Supporting this strategy has been the focus of the work of the NGA Forum, an advisory board set up in May 2010 by the Bundesnetzagentur to promote a dialogue on NGA rollout between the Bundesnetzagentur, network operators, manufacturers, federal states and local authorities.

The expansion of high-speed networks can be made reality within a reasonable period of time. It can be achieved in a competitive environment with a mix of strategies and technologies (VDSL, FTTB, FTTC, cable TV and wireless). Interoperability is the key, and will determine the success of the rollout of broadband infrastructure. The adoption of two documents represented a major breakthrough in 2011 for the NGA Forum in planning certainty and additional investment.

In light of this, the NGA Forum considers it helpful to continue, particularly in order to follow up the efficient work of the Interoperability working group. This will also involve monitoring the extent to which the concepts developed by the NGA Forum have been put into practice. The following topics, amongst others, have been identified for the Interoperability working group:

- Specification of a Layer-0 wholesale product
- Specification of a Layer-2 business customer product
- Checking implementation of a BSA design for cable networks
- Completion of a diagnosis interface
- Layer-2 standard agreements using examples of several technologies.

The NGA Forum also wishes to reserve the right to consider other topics, depending on the particular situation (for example, in-house cabling once the amended TKG has come into force, in order to assist swift implementation).

Promotion through aid

In the coming year we will turn our attention once more to public broadband funding, most notably to the relationship between ex ante regulation and funding requirements and the form open, effective and unbundled access to subsidised networks should take. The federal government's Ducts Framework Regulation, notified to the European Commission in 2011, gives the Bundesnetzagentur various rights to examine aspects of access and rates regulation. Notwithstanding the welfare-enhancing potential of state aid programmes, bad investment is avoided, support schemes do not distort competition, supported networks are open to competition and future-proof, and state aid does not discourage private investors.

Meeting the 800 MHz requirements in rural areas

Holders of assignments for the auctioned 800 MHz spectrum must meet phased rollout requirements. Prior to the auction, the federal states had identified towns and districts with little or no broadband coverage, which were grouped into four priority levels depending on their number of inhabitants. Assignment holders of the 800 MHz spectrum first have to serve at least 90 percent of the population in the named towns and districts in the previous priority stage before moving on to the next stage. In 2011 the requirements were found to be met in six of the 13 federal states in the underserved areas named by the federal states in all priority stages and unrestricted use of the spectrum in these federal states was therefore possible. As deployment continues to progress rapidly, it will therefore be a matter of following coverage closely in 2012 and monitoring the extent to which the requirements have been met in the other seven federal states.

Net neutrality

The net neutrality debate has been intense for some time now, both in Germany and at international level. In practice, however, there have been only relatively few cases of (possible) infringements of net neutrality in most of the

EU countries which – as far as we know – have been resolved without formal decisions, eg in the case of blocking VoIP in mobile networks.

The draft TKG provides a set of instruments to counter any problems that arise. For instance, it stipulates wider transparency obligations. The Bundesnetzagentur is also authorised to issue a technical directive laying down details of minimum service quality requirements to prevent any unjustified degradation of service or hindrance or slowing of data traffic in the networks.

In this connection we have commissioned a study for 2012 on the quality of broadband access services. The aim of the study is to obtain representative statements on the service quality levels offered and actually reached, through drawing up and applying a suitable measuring concept. It should also enable statements to be made on interdependencies between bundled services and Internet use that is "relevant to net neutrality". And lastly, the conditions for a measuring concept for use by end customers are to be set out. The findings of the study are expected in autumn 2012. They will form the basis for our decision on whether any further measures are needed to secure non-discriminatory access to content and prevent unjustified hindering or slowing down of traffic over networks within the meaning of Article 22(3) of the Universal Service Directive .

How particular traffic management measures should be assessed in the context of net neutrality must also be clarified. For instance, we must ask when does traffic management serve to safeguard network operation and the integrity of data traffic, under what conditions would it no longer be classified as non-discriminatory and when could there be a breach of net neutrality.

Before we can answer these questions, however, we must have a better understanding of the concept of net neutrality, of its defining characteristics and of what constitutes a breach.

Market regulation

Rates regulation issues

The Bundesnetzagentur will take forward the analytical cost model for mobile networks. The reference document drawn up by the WIK consultancy (Wissenschaftliches Institut für Infrastruktur und Kommunikationsdienste) was published and made the subject of a public consultation in 2011. The responses received are being evaluated and will be incorporated in a revised document, if appropriate. The modelling tool is to be provided and tested in 2012 so that it can be applied in the forthcoming rates regulation procedures for mobile termination services. A similar approach is planned for the broadband cost model.

Market definition and analysis

Information was requested in 2010 in respect of Markets 2 and 3 of the Relevant Markets Recommendation 2007, "Call origination on the public telephone network provided at a fixed location" and "Call termination on individual public telephone networks provided at a fixed location". Planned for 2012 are publication of a draft consultation, reaching agreement with the Bundeskartellamt (Federal Cartel Office) and notification to the Commission and the EU Member States. The market will then be definitively identified by the President's Chamber, so that the process as a whole will be completed in 2012.

After an extensive study of Market 1 of the Relevant Markets Recommendation 2007 "Access to the public telephone network at a fixed location for residential and non-residential customers" a

draft document for consultation is planned for 2012. Agreement will then be sought with the Bundeskartellamt, final notification given to the Commission and the Member States and the market identified by the President's Chamber, so that here too the process will be completed in 2012.

Also scheduled for 2012 are the studies for Markets 4 and 5, "Wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location" and "Wholesale broadband access", the so-called bitstream market.

Under the new TKG (section 15a subsections (1) and (3)) the Bundesnetzagentur is empowered to issue administrative rules on the market definition and market analysis procedures. These will set out its general approach to and methods for market definition and market analysis for a specified period of more than one regulation cycle, with a view to following consistent regulatory concepts within the meaning of section 2(3) para 1 TKG. Just as with market definition and market analysis, so too will the administrative rules be consulted on nationally and consolidated at European level. Once the amended TKG has become effective, decisions on the issue of such administrative rules will be taken on a case by case basis.

Regulation of the telecommunications wholesale markets

From the large number of decisions to be taken in 2012 on regulation of the wholesale markets the following must be mentioned in particular:

- mobile termination regulatory order,
- fixed network termination regulatory order,
- interconnection regulatory order,
- local loop reference offer,
- rates regulation for multifunction street cabinets / ducts,
- rates regulation for element-based charges (interconnection),
- rates regulation for mobile termination services,
- rates regulation for provision of local loops.

Consumer protection

Number misuse and telephone spam

Investigating number misuse and combating spam will remain priority tasks in 2012. Concerning number misuse, attention will focus mainly on the regulations on call queues, slated to take effect in 2012.

As the new arrangements in the amended TKG are extensive and highly complex, we expect there to be many requests for clarification from market players, industry associations and consumers. We also anticipate many complaints. We will therefore monitor compliance with the transitional provisions on call queues from the outset and take any measures we see fit.

Companies breaching the long-standing prohibition on telephone spam will be encouraged to keep to the rules through the threat of penalties. The investigations will focus increasingly on what has been agreed between the offending companies and the call centres. Further, the ban on calling line identification restriction will be examined more closely in the case of cold calls. The background is the legislative clarification in the amended TKG that allows solely the number assigned to the caller to be displayed for a direct marketing call.

Also, as we anticipate continuing to receive complaints from consumers on faulty price indications and pricing messages, another

focus of our work will be combating such breaches. Specifically, this will be the free pricing messages for call by call.

Implementation of the arrangements on change of provider

The new legal framework aims to make it easier for consumers to change provider. Processing times are to be shortened and interrupted service avoided. We will monitor and support the process of implementation for the telecommunications providers so that consumers can enjoy their new rights in timely fashion.

Transparency in the retail market

If competition among providers is to thrive, offers in the retail market must be transparent. Besides customer-friendly, easy to understand pricing structures consumers need to be sure that they really will get the product they have signed up for. On matters of Internet access, we will focus on any discrepancies between the data rates that have been contractually agreed and those that are actually provided.

More scope for mediation

Mediation has proved a successful tool in the resolution of disputes. As a result of the wider scope provided by the amended TKG, the terms and conditions and the performance of contracts will be eligible for mediation where they relate to the new consumer protection provisions. This also reflects developments in the market, since issues are increasingly arising between customers and providers on precisely these matters.

Text and video relay service

The public contract between the Bundesnetzagentur and the current provider of the text and video relay service, Tess GmbH, runs until 31 December 2012. This is also the date on which the determinations on the extent and degree of coverage of the service (Bundesnetzagentur Order 29/2010) expire. Accordingly, requirements will be reviewed and redetermined in 2012 and the service put out to tender for 2013/2014. A new provider is to be contracted as from 1 January 2013. A new public law contract will then be signed with the successful company. Several tenderers are expected to take part, judging by the interest that companies in Germany and elsewhere have shown in the last few months.

Frequency management

Updating the Frequency Usage Plan

Sub-plans will be updated, partly to achieve further flexibilisation but mainly to bring them into line with EU targets, to implement CEPT/ECC Decisions and to make changes needed on account of urgent national planning requirements.

The procedure for drawing up the Frequency Usage Plan, observing the principle of transparency and involving all interested parties, will be revised following the amended TKG expected for 2012. A basic element will be strengthening the central role the Plan already has for frequency usages in Germany.

Extension of the PAMR assignments

Most of the PAMR assignments expire on 31 December 2015. Attention was drawn to the possibility of using assignments beyond this date in a Communication published in the Official Gazette in July 2011. Taking decisions on extending usage rights will involve concretising the requirements that an application for extension must meet and determining the kind of supporting documents that have to be submitted against the background of technological advance and the past period of validity on the one hand and the demand for PAMR frequencies on the

other. The applications for extension will then be assessed and decided on.

National implementation of coordination agreements in the 410-430 MHz band

In most cases, the coordination agreements with neighbouring countries are still based on analogue 12.5 kHz technology. In light of the introduction of TETRA, digital trunked radio access based on 25 kHz channel spacing, it will be necessary to modify the coodination agreements, bearing in mind the protected assignments. The multilateral agreements will then have to be implemented at national level. Our priority in 2012 will be to coordinate the western border completely.

Use of 900 MHz and 1800 MHz spectrum for wireless access

The demand identification proceedings opened in 2011 were the first step in providing clarification, for the companies concerned, well before the GSM usage rights expire on 31 December 2016 about use of the 900 MHz and 1800 MHz spectrum from 2017. In the interests of the mobile operators we are looking to complete proceedings in 2013 and to grant the new spectrum usage rights. We will first identify demand for spectrum in the two bands and, based on this, decide whether, and if so to what extent, spectrum is scarce. Our measures for further steps will likewise be based on what we identify. Should scarcity be determined, preparations will be made for a beauty contest and an auction prior to the decisions. Concerning an auction, we will look into what design is suitable, how the regulatory decisions can be incorporated in the auction rules and what measures are needed for the auction software.

Flexibilisation of wireless access usage rights

At the assignment level, the existing spectrum usage rights, particularly at 900 MHz, are currently limited to the GSM standard. To achieve the regulatory aims set out in section 2(2) TKG we will lift restrictions in the bands at 450 MHz, 900 MHz, 1800 MHz, 2 GHz and 3.5 GHz upon application by the assignees and in accordance with the Directive of the European Parliament and of the Council amending Directive 87/372/EEC so that the network operators can use the spectrum on a technology-neutral basis at the earliest possible opportunity.

Introduction of the new coordination philosophy for broadcasting

One of the tasks in implementing the digital dividend in the band between 790 and 862 MHz is to maintain equal access while observing the new interface between broadcasting and the phased introduction of mobile services (LTE).

In border coordination, special attention must always be paid to the neighbour state's different requirement profiles. Whereas France, for instance, is planning 13 DVB T networks in all, Germany is currently planning seven. The aim of this "new" coordination philosophy is thus to secure a balance of resources in relation to the neighbour states, despite the different requirements.

Technical regulation

Technical compatibility studies

Compatibility studies are carried out in international CEPT and ITU bodies with input from parties affected before new radio applications are introduced. Some selected projects for 2012 are listed below.

- Studies on the use of UMTS / LTE in aircraft, with protection afforded to all the terrestrial mobile networks,
- Studies on opening up extended spectrum for wireless microphone use,
- Enhancing spectrum efficiency for radio relay systems through asymmetric data transfer,
- Studies on radio applications for industry (automatisation processes) and medicinal applications in or adjacent to ISM bands (2.4 GHz, 5.8 GHz),
- Study of the conditions for sharing Short Range Devices (SRDs) (eg for smart metering/ smart grids) in the bands at 863-870 MHz and 870-876/915-921 MHz with other SRDs in the same band and of compatibility with LTE and GSM-R in the same or adjacent bands,
- Study of the conditions for sharing different SRD applications at 169 MHz, 17 GHz, 60 GHz, 77 GHz and 122 GHz,
- Continuation of the studies on compatible use of the white spaces in the TV-band 470-790 MHz by other radio services,
- Technical studies on Internet connectivity between aircraft and ground stations in Europe in selected bands,
- Modification of the block edge mask for the band 3.400–3.800 MHz for future high speed mobile systems,
- Compatibility studies depending on the results of the ITU World Radiocommunication Conference in January/February 2012; a possible topic could be worldwide harmonisation of the spectrum for mobile broadband.

Telecommunications Networks and Safety Services Protection Ordinance measures

As a result of the large number of leaks found over the last two years, technical investigations to eliminate inadmissible radiation from cable networks will continue in 2012 as provided for by sections 3 and 5 of the Telecommunications Networks and Safety Services Protection Ordinance (SchuTSEV). These measures relate in particular to protection of the Instrument Landing System (ILS), aeronautical and air navigation applications and the radio applications of public safety authorities and organisations.

Electromagnetic compatibility standardisation

We will continue our engagement in the work of CENELEC and IEC/CISPR, the International Special Committee on Radio Interference, to increase the immunity of sound and TV broadcasting receivers and components of broadband cable TV networks and to add to the EMC product standards.

Systematic engagement will be particularly necessary in the following areas:

- smart grids and smart metering: EMC requirements for electrical and electronic products in the band from 2 kHz to 150 kHz,
- LED lamps: adequate consideration of interference potential in EMC standards,
- multimedia equipment: limiting interference in the band below 30 MHz as well,
- electromobility: EMC requirements on equipment for the inductive charging of electric vehicles.

At IEC level it is particularly important that the standardisation activities are carefully coordinated between the bodies responsible for immunity and for interference, to avoid overburdening the market players.

In the international working groups the Bundesnetzagentur will advocate the inclusion of cables for broadcast receivers in the arrangements in the EMC Directive. Only with adequately shielded cables can mutual interference be avoided when cable and radio use the same frequency; eg broadcasts from cable TV networks can cause interference to safety services, LTE mobile communications and the DAB Plus transmitters can degrade the transmission of broadcast programmes or Internet data in cable TV networks.

Market surveillance

Under its market surveillance activities the Bundesnetzagentur monitors compliance with the requirements of Directive 2004/108/EC (EMC Directive) on the electromagnetic compatibility of equipment and Directive 1999/5/EC on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity (R&TTE Directive) with a view to restricting, or preventing, non-compliant products from being placed on the market, in the interests of consumer protection and fair competition. The following activities are planned in addition to the regular checks:

- Extended cooperation with customs authorities. This centres on preventing non-compliant products from non-EU countries from being imported (and also from being offered in electronic media such as Internet auction platforms and online shops).
- Active participation in implementing the information system the Commission is providing for the European market surveillance authorities in addition to its rapid exchange of information system (RAPEX), already in place;
- Conducting a joint, bilateral campaign with the market surveillance authorities of the Netherlands;
- Aligning the working and assessment methods of the national market surveillance authorities. A fundamental part of this will be developing a uniform electronic aid to carry out risk assessment for products that come under the R&TTE Directive.

We will also support the Market Surveillance Forum planned by the Ministry of Economics for spring 2012. This will provide a platform for consumers, radio users and the industry to make proposals on further improvements in market surveillance and to exchange experiences.

Emergency Calls Technical Directive

The Emergency Calls Technical Directive lays down the technical details for routing emergency calls with reference to administrative borders. The proper administrative and technical environment must be created before conversion from the old method of routing, based on the local network, to the new procedure can begin. The Bundesnetzagentur's databases must be structured so as to allow an IT-based approach to administering the areas of origin of emergency calls, based on the 12,000 or so municipalities in Germany.

The amended TKG and the Emergency Calls Ordinance necessitate amendments to the technical directive. Most notably, the criteria for the accuracy and reliability of location data,

transmitted along with the emergency call, must be established in agreement with the federal state authorities and the telecommunications industry and set out in the new version of the Emergency Calls Technical Directive.

At European level, standards must be drafted to ensure that the location data are established and transmitted for nomadic telephone services as well. This is difficult because the existing international standards in this area, particularly in IETF, are not compatible with the data protection requirements in Germany.

Technical implementation of intercept measures

Our activities in implementing intercepts are a valuable contribution to public safety. Most notably, the technical directive as per section 110(3) TKG provides the basis for the implementations of the telecommunications companies, the manufacturers and the security authorities. The directive must be adapted as necessary to accommodate new communications technologies.

On 1 April 2011 the "new" Post and Telecommunications Service Provision Act (PTSG) of 24 March 2011 took effect. The old Act of 14 September 1994 and the ordinances issued by virtue of it were repealed at the same time. The Bundesnetzagentur sent out 23,500 letters to parties with priority service rights, telecommunications companies and public authorities informing them of the new and the provisional arrangements. It also posted this information on its website. In future, it will also be possible to accord priority in the mobile sector to calls for the use of data transfer and Internet access services. To this end the Bundesnetzagentur has started work on drafting the technical specifications and timescales for implementation in line with section 6 of the Act and intends to publish these in 2012 after consultation with the industry associations.

Versions 6.1 and 6.2 of the technical directive Telecommunications Interception Ordinance appeared in the period 2010/2011. Version 6.1 was published to include the fourth mobile generation (LTE); Version 6.2 is expected to take effect in the first six months of 2012. Version 6.2 addresses the interface first laid down in Version 6.0 for requests for traffic data on the basis of an ETSI specification, and incorporates the experience of the companies taking part, the authorised bodies and the interface manufacturers.

International activities

BEREC

We will continue to provide input in 2012 for the many debates of BEREC, the Body of European Regulators for Electronic Communications. BEREC will focus its attention on three of the topics in the Work Programme adopted in December 2011, improving harmonisation, new regulatory challenges and implementing the revised EU regulatory framework. Specifically, it will address NGA, net neutrality and the review of the Roaming Regulation in 2012.

At the end of 2011 the European Commission, for the first time since expiry of the period for transposing the new telecommunications regulatory framework, opened proceedings on a planned national regulatory measure on account of serious doubt about its conformity with EU legislation. As a result of the new provisions on the so-called Article 7/7a proceedings BEREC will take part in the proceedings and provide its views. In 2012, BEREC will not only need to continue to draw up its internal rules on the organisation of these

complex proceedings but will also need to demonstrate this new role in practice. The Bundesnetzagentur will provide input in the ad hoc groups and assist in drawing up BEREC positions.

We will also actively engage in the discussions and activities on the recommendations the European Commission plans to make on harmonising the methods of cost accounting to determine the rates payable for central access products (eg access to unbundled loops, bitstream access) and on non-discrimination. The Commission, on 3 October 2011, opened two public consultations on access by alternative providers to the telephone networks and broadband networks of established operators. The first consultation concerned non-discriminatory access for alternative operators to the infrastructure and services of dominant companies. The second consultation, against the background of the expansion of next generation access networks, invited comments on the cost accounting methods NRAs use to calculate the wholesale charges payable by the operators for this access. The Commission plans to issue recommendations on both in early 2012, based on the consultation outcomes, and to ask BEREC for its comments.

Also scheduled for 2012 are the Commission's preparations for evaluating the operation of BEREC, set up in 2010. As required by Article 25 of Regulation 1211/2009, the Commission must publish an evaluation report on the experience acquired as a result of BEREC's activities within three years of the start of its operation. The evaluation report covers the results achieved by BEREC and its working methods in relation to its objectives, mandates and tasks as defined in the Regulation and its annual work programme. The report, which takes into account the views of stakeholders at both Community and national level, is provided to the European Parliament and to the Council. It is drawn up in close cooperation with BEREC. Here, too, the Bundesnetzagentur will contribute its expertise, and in particular the experience it has gained to date.

ECC

The Electronic Communications Committee (ECC) of the European Conference of Postal and Telecommunications Administrations (CEPT), the chair of which is currently held by the Bundesnetzagentur, will concentrate on the following work items with a view to resolving radio and spectrum issues in Europe:

- Reorganisation of the L-band (1,452–1,492 MHz),
- Spectrum for broadband applications for public safety services,
- Harmonising spectrum for wireless means of production,
- Optimising technical regulatory parameters in the band at 3.4–3.8 GHz,
- Optimising unpaired mobile bands at 2 GHz.

The EU Radio Spectrum Decision (2002/676/EC) gives the ECC an important part to play in drafting harmonisation decisions in the Radio Spectrum Committee, on which the Bundesnetzagentur is also represented. Expected in 2012 are decisions on, for instance, innovative mobile applications on board aircraft and updates to the decision on low power radio devices. The Radio Spectrum Committee will also be mainly responsible for implementing the EU's first multi-annual Radio Spectrum Policy Programme (RSPP), publication of which is scheduled for early 2012.

RSPG

In 2012 again we will be taking part in the meetings of the Radio Spectrum Policy Group (RSPG) and providing input for its opinions. The RSPG advises the European Commission on current spectrum issues; its opinions are to be taken into the utmost account in the EU activities. In addition to diverse sectoral issues, attention will also focus on the Radio Spectrum Policy Programme (RSPP) and care taken that national structures and resources are reflected.

WEDDIP/NEDDIF German coordination initiatives

The following multilateral coordination groups have been initiated by the German administration in order to implement the digital dividend as smoothly and efficiently as possible.

- Western European Digital Dividend Implementation Platform (WEDDIP) – Belgium, France, Ireland, Luxembourg, the Netherlands, Switzerland, the UK and Germany,
- North-Eastern Digital Dividend Implementation Forum (NEDDIF) – Estonia, Finland, Latvia, Lithuania, Poland, Hungary, Slovakia, the Czech Republic and Germany, Russia, Belarus and Ukraine.

The main work items of these multilateral bodies are as follows

- implementing mobile services above 790 MHz,
- relocating broadcasting services below 790 MHz, observing the principle of equitable access,
- deciding where to apply the "new" coordination philosophy,
- working out solutions in connection with other primary services that might otherwise have a restrictive effect on implementing the digital dividend in the band at 790–862 MHz.

Twinning project

The twinning project with the Israel Ministry of Communications that was begun in 2011 will be completed in 2012. Taking part in the project are staff from the Bundesnetzagentur as short-term experts, along with members of the Italian regulatory authority AGCOM and the Spanish regulatory authority CMT, whose job it is to support the Ministry in creating a regulatory framework for efficient wholesale regulation. The aim is to draw up recommendations for action in the individual modules in order to promote competition and accommodate the interests of the retail customers.

EAP Regulators Group

Together with other EU regulators, within the framework of European Neighbourhood Policy, the Bundesnetzagentur will support the establishment of the Eastern Partnership (EAP) Regulators Group for telecommunications, members of which are the non-EU states of eastern Europe and the countries of southern Caucasus. This group will be set up in similar fashion to the Euro-Mediterranean Network of Regulators, EMERG, a cooperation between telecommunications regulators which has been working successfully for some years now. Here too, the intention is to build on the experience of the European regulatory authorities by exchanging expertise and recommending action in order to promote alignment with the European regulatory framework and sustained, efficient telecommunications regulation in the countries concerned.

WCIT 2012

The World Conference on International Telecommunications (WCIT 2012) is taking place in December 2012. On the agenda is the revision of the International Telecommunication Regulations. In conjunction with the Federal Ministry of Economics, the Bundesnetzagentur will participate in the ITU Working Group set up to prepare for the Conference, and will also take an active part in WCIT. Our main aim in this is to ensure that the revised International Telecommunication Regulations, or a new set of rules, are consistent with the European regulatory framework for telecommunications services and do not stymie competition in the markets.

WTSA

The Bundesnetzagentur will actively support the national preparations for and coordination of the German delegation to the ITU World Telecommunication Standardization Assembly (WTSA), taking place in late autumn 2012, which falls under the remit of the Federal Ministry of Economics. The responsibilities of this second highest standardisation body include the structuring of the Study Groups, allocating the fields of activity, the (formal) workflows within the ITU and relations with other organisations. The Assembly will focus on streamlining the structure of the Study Groups with a view to improving efficiency and the transparency of the ITU's Rules of Procedure.

WRC-12 and RA-12

The World Radiocommunication Conference 2012 (WRC-12) will take landmark decisions on a number of individual issues and related radio applications. These will create exciting new possibilities of use for innovative services, for unmanned aviation, for instance.

To safeguard national interests in respect of the various radio services the Bundesnetzagentur puts forward the German positions for inclusion in the many international studies conducted under the aegis of the ITU and CEPT. The positions are the outcome of an extensive national preparation process, which is open to all interested parties and guarantees a broad consensus for the German positions. Besides CEPT and the ITU, the Bundesnetzagentur has also provided full input for the RSPG opinion on WRC-12.

We are providing considerable staffing resources, for instance the vice chair of the European preparatory group, the chairs of two multi-topic project groups, the heads of national working groups and European spokespersons for diverse items on the WRC agenda.

It will be important to bring to a successful conclusion at the four-week WRC-12 the joint European proposals drawn up by CEPT on the basis of international ITU studies and its own internal studies.

The WRC outcomes will then be implemented in the CEPT bodies and nationally, too, in matters of frequency allocation and usage. The new study period for the World Radiocommunication Conference 2015 (WRC-15), the provisional agenda for which will then be to hand, will begin immediately after the conclusion of WRC-12.

The Bundesnetzagentur will again be involved in the preparations for WRC-15 through providing the vice chair of the European preparatory group and the chair of one multi-topic project group. We hope to chair a second project group as well.

The ITU Radiocommunication Assembly (RA-12) likewise meets every four years. In addition to

addressing organisational and procedural matters of the radiocommunication arm of the ITU it will adopt a number of recommendations on the most diverse radio services and applications. Of particular importance here are European initiatives on cognitive radio and wireless means of production, to which the ITU wishes to give greater attention.

Standardisation activities in the ITU, 3GPP, ETSI CEN and CENELEC

"Internet of Things"

The Bundesnetzagentur is involved in developments in and standardisation of the "Internet of Things" primarily through taking part in the group of experts set up by the European Commission and in related technical groups such as ITU Study Groups or ETSI's technical committees. In addition to diverse "traditional" technical aspects of standardisation there will also be central governance issues to resolve.

Interoperability in broadcasting

The purpose of standards and specifications for digital TV is to enable consumers to use broadcasting and broadband multimedia services from a variety of providers, and thus to encourage competition. The use of different conditional access/digital rights management (CA/DRM) systems and middleware must therefore be promoted.

The top-level representatives of all the market players directly involved working together to this end in the Action Pact for Consumer-Friendly Terminals for Horizontal Markets – Interchangeable CA/DRM Systems (Aktionsbündnis verbraucherfreundliche Endgeräte für horizontale Märkte – Austauschbare CA/DRM-Systeme), headed by the Bundesnetzagentur, have described the commercial, technical and essential consumer requirements for loadable CA/DRM systems and submitted these to ETSI. The subsequent proposals, some of which have already been drafted, for a technical specification for standardisation and the design of a Trusted Third Party to protect the security aspects will now be introduced to standardisation at European level. The framework conditions for the worldwide use, too, of this future standard will be created in the international standardisation environment at the ITU.

ATRT, the Telecommunications Technical Regulation Committee advising the Bundesnetzagentur, is now addressing middleware issues. A suitable process must be developed and standardised here too for interoperable digital television.

LTE Advanced standardisation

In the 3rd Generation Partnership Project (3GPP) the work on Release 10 of LTE Advanced was largely completed and work on Release 11 begun. Two of the features of both releases are carrier aggregation and multistandard base stations, both of which require new conditions of coexistence with adjacent radio services. This may be accompanied by a review of the existing regulatory conditions. Refining the technical specifications and terminals will largely determine work in 3GPP for the rest of 2012. In this phase it is particularly important that we do what we can to have the regulatory aims embedded in this standardisation. Prominence will continue to be given in the coming years to issues of the global circulation of IMT Advanced mobile stations and femto cells.

Standardisation of M2M communication

Standardisation in machine-to-machine (M2M) communication has gathered speed in the ETSI Technical Committee M2M as a result of

Commission Mandate M/441 on smart metering. Activities will focus on designing a joint architecture involving communication protocols with existing radio interfaces such as GSM/UMTS/LTE, DECT, WLAN and Bluetooth, etc. Care must be taken to see that these wireless technologies are supplemented by the M2M components in the bodies responsible. The aim is comprehensive standardisation for linking and administering applications in the areas of industrial machinery, smart metering, e-health, connected consumer, home control, security and automotive/intelligent transport systems.

eCall and harmonised eCall European Pilot (HeERO)

This electronic safety system providing emergency calls from vehicles will be officially introduced across Europe in 2015. The standards developed with our input will now be tested in the pilot project, called HeERO, and any inconsistencies fed back to the standardisation bodies for correction.

Concepts for flexible spectrum use

ETSI has focused on standardisation for Software Defined Radio and Cognitive Radio (SDR/CR) since early 2011. And so the Bundesnetzagentur, in collaboration with partners from the industry, has begun developing concepts for more flexible spectrum use within the framework of EU research projects (FARAMIR, OneFit and Quasar), introducing the relevant research findings into the standardisation activities. In the EU bodies we will work for a formal standardisation mandate to encourage the provision of harmonised SDR/CR standards for application under the R&TTE Directive.

Broadband Direct Air to Ground (BDA2G)

Demand for Internet access everywhere is growing constantly. It now includes broadband access on board aircraft for use both by passengers (eg email, Internet, infotainment, voice communication) and by the air services and/or aircraft manufacturers to optimise processes. The existing satellite-based solutions have not achieved the acceptance that was hoped for. Alternative broadband wireless solutions with which access can be provided via direct connections between ground stations and aircraft are now being studied by the European standardisation bodies. It is particularly important for the Bundesnetzagentur to make sure that this work takes account of the regulatory aims (such as securing compatibility with other radio services, both on the ground and in the air).

Transport telematics

The standardisation of Intelligent Transport Systems (ITS) is progressing apace as a result of European Commission Mandate M/453. This requires the adoption, by mid-2012, of some 65 standards and specifications by ETSI alone, in order to harmonise the communications infrastructure, the interoperability and security of the applications planned. Further standards will be supplemented by CEN and CEN/CENELEC. This package of standards and specifications will be adopted for the first release of ITS communication before the end of 2012. The Bundesnetzagentur is giving particular support to the development of the digital air interface through chairing ETSI ITS WG 4.

QUALIFIED ELECTRONIC SIGNATURE

Qualified electronic signatures are becoming ever more widespread as a result of both the existing applications (eg verification proce-

dures for recycling and waste disposal, electronic mailbox for the courts and public administration, electronic land register) and future applications (eg electronic civil status records).

Whereas these examples are relevant mostly only for a particular group of persons, one of the major federal projects, the electronic ID introduced on 1 November 2010, will open up new opportunities for individuals generally. In 2012, holders are to be able to use the signature function of their ID so as to generate qualified electronic signatures. This will also bring about a further increase in the Bundesnetzagentur's advisory services in the use of qualified electronic signatures, for instance in business processes.

We will also provide input in the further proceedings opened by the Federal Ministry of Economics to amend the Electronic Signatures Act and the Electronic Signatures Ordinance. The amendment is undergoing interdepartmental coordination and the process will be vigorously continued in 2012.

At European level, too, the importance of binding electronic signatures is growing. One example is the revision of Directive 1999/93/EC on a Community framework for electronic signatures, which is receiving priority attention. A first draft is to be available in March 2012 for attention by the Member States. Here, too, the Bundesnetzagentur will continue in its active role and advisory capacity.

Existing European projects will be taken forward. The trusted lists of certification service providers supervised/accredited by the Member States that are to be established and maintained under Directive 2006/123/EC of the European Parliament and of the Council of 12 December 2006 on services in the internal market and under Commission Decision 2009/767/EC will be updated, checked for mutual verificability and refined. For the Federal Republic of Germany it is the Bundesnetzagentur that is responsible for establishing, updating and revising this list. The Bundesnetzagentur is also involved in the EU bodies addressing the technical requirements on these lists.

In addition to this, European standardisation on matters of qualified electronic signatures is progressing. Here, the Bundesnetzagentur will continue its involvement in national, European and international bodies. Its focus is its work in the European Telecommunications Standards Institute/Electronic Signatures and Infrastructures (ETSI/ESI) and in the Forum of European Supervisory Authorities for Electronic Signatures (FESA), where the Bundesnetzagentur has been a member of the Board since April 2010.

Consulting services on building infrastructures on the German model will continue to be provided for foreign governments in 2012, especially for countries seeking to join the EU and for non-European countries wanting greater cooperation with the EU.

POST

The following postal regulation activities should be highlighted from those scheduled for 2012.

Advantages and promotion of cooperation models

Recently, a number of companies joined forces in the letter market, forming delivery networks more or less across the country and giving each other the possibility of having mail delivered by

partner companies in their particular delivery area.

The Bundesnetzagentur welcomes these activities, as they are an important element in reviving competition in a stagnating market. It would therefore like to take a closer look at the requirements for creating and promoting such cooperation models.

Initially, the two models currently in the market will be described and their characteristics distilled. Their success and risk factors will be analysed and compared in the next step. The factors affecting how competition develops will then be identified and evaluated. Subsequently, it should be possible for the Bundesnetzagentur to derive ways of promoting these cooperation models and the conditions for doing so. Finally, an assessment will be made of the development potential and prospects of success for these models in the letter market.

Level of competition in the postal markets of other EU Member States

In the coming year, the Bundesnetzagentur will benchmark the level of competition in the postal markets of other EU Member States so as to gain a better picture of developments in other countries following the full opening of the markets to competition on 1 January 2011 in a number of Member States. One of the aims of doing so is to assess the potential for German postal service providers to compete in other EU markets. It will also allow the level of competition in Germany to be assessed against that in the markets of the other Member States and its development potential in the context of the development of the internal market.

Regulatory treatment of bundled products

Responding to the growing pressure of competition, Deutsche Post AG (DPAG) is increasingly offering bundled products. This is why the Bundesnetzagentur still finds it necessary to have principles against which bundled products and special types of contracts can be examined.

In respect of postal services, a growing price and product differentiation trend can be identified. Bundled products are being sold more and more in connection with integrated logistics services. DPAG is offering letter and parcel conveyance services with customised systems solutions for instance, taking elements from the upstream and downstream levels of the value chain. Also observable is a DPAG trend towards individual and regionalised pricing. Consequently, the criteria set out in section 20 of the Postal Act will need to be tightened up.

This applies all the more, since hybrid products also constitute bundled products as a result of the need to include preparatory services such as printing, enveloping and franking. Thus the development of DPAG's E Postbrief, in particular, will need to be watched. This is bundled with online access in addition to the preparatory services. The coming year is likely to see the commercial introduction of "De Mail" a rival product; TNT Post Holding Deutschland GmbH has also been offering a hybrid product of its own since November 2010 which it calls "print my post". Other postal service providers have similar hybrid products in their portfolios.

ENERGY

The following activities should be highlighted from the large number scheduled for 2012 in the energy sector.

Electricity Network Development Plan

In 2012 the TSOs will submit their draft Ten Year Network Development Plan to the Bundesnetzagentur for the first time. The public is to be involved to a large extent. Future transport requirements will be identified by the TSOs with reference to the Scenario Framework document consulted on and approved by the Bundesnetzagentur, which sets out assumptions on the main energy supply development lines for the future.

The outcome will be a Network Development Plan featuring all the optimisation, expansion and reinforcement measures needed in the next ten years for reliable and secure operation of the grid.

This process will be monitored by experts and the draft Network Development Plan, following submission by the TSOs, scrutinised and made the subject of a wide public consultation. This is the basis upon which we will transmit the Network Development Plan, together with the federal government's Environmental Report (see page 245) as a draft Federal Requirements Plan.

Expansion requirements in the electricity distribution networks

2011 was notable for discussion of how high future requirements for conventional and/or "smart" grid expansion and the associated financing requirements not yet part of the network charges would be in the electricity distribution networks. Various figures were estimated and discussed in the political sphere. The issue of "smart grids" further complicated the discussion, as the cost-relevant net effect of intelligent measures, eg additional metering, controlling and IT technology, cannot yet currently be quantified. The Bundesnetzagentur will examine this topic more closely with an expert report.

Network Development Plan Gas

A nationwide network development plan is to be drafted by the TSOs in the gas sector for the first time in 2012. Its objective is to ascertain future demand for transport capacities and – based on this – to identify the necessary investments in the transmission system.

The TSOs will submit the draft Network Development Plan, taking into consideration the results of the consultation, to the Bundesnetzagentur in April 2012. The Bundesnetzagentur will then carry out its own consultation which will aim in particular to establish whether the input provided during the TSO's consultation has been sufficiently taken into account in the draft. The Bundesnetzagentur is entitled to call for changes to the Network Development Plan in light of this.

Electricity Access Regulation

Redispatch Determination

Following the decommissioning of eight nuclear power plants in early 2011 as part of the exit from nuclear power, generation capacity in Germany has been reduced by around 8,400 MW. This has led to considerable changes in the electricity flows in the transmission network. The different network and feed-in situation has meant in particular that in order to ensure the security and reliability of the electricity supply, intervention by TSOs into power plant scheduling has been required much more often than was previously the case. This method, also known as "redispatch", aims to both avoid temporary overload situations and support the voltage.

The use of redispatch and reactive power has thus far been based on bilateral agreements

between the TSO and the power plant operators. However, to the knowledge of the Bundesnetzagentur, only some of the operators currently cooperate with the TSOs on redispatch and reactive power. Furthermore, there is no uniform bilateral agreement between the TSOs and the operators.

In April 2011 the Bundesnetzagentur opened determination proceedings to develop clear, uniform, nationwide specifications and standards for future TSO intervention in the active power feed-in of power plants. The legal obligation that all power plants with a capacity of over 50 MW must participate in redispatch was anchored in section 13(1a) of the new version of the EnWG. Based on this obligation, the Bundesnetzagentur plans to determine substantiating rules on redispatch design between TSOs and plant operators.

The Bundesnetzagentur hopes to complete proceedings as early as possible in 2012.

Restructuring of accounting system for portfolio balancing energy

In order to balance discrepancies between forecast and actual electricity consumption, the balancing groups responsible for supplying the electricity consumers make use of so-called portfolio balancing energy. This first involves balancing groups in which the actual consumption is lower than forecast being netted with balancing groups in which the actual consumption is higher than forecast. The remaining discrepancy – ie the surplus or shortfall in the total of all balancing groups – is balanced by the TSOs through system balancing energy.

The costs incurred through the use of these types of energy are billed to the balancing groups under the so-called balancing energy price. In this way the balancing group managers should be encouraged to operate their group in as balanced a way as possible, so that the forecast and actual electricity consumption are as close as possible.

However in some situations, the current system for determining balancing energy prices as set out in the Electricity Network Access Ordinance (StromNZW) leads to an apparent loss of sufficient financial incentives for careful and balanced management of the balancing groups.

These findings are supported by the fact that according to an EPEX Spot survey, the market does not perceive any need for 15-minute products, although at present only hourly products are available on the spot markets that offer dealers no means of ensuring that the groups settled on a 15-minute basis are constantly balanced. Particularly in the event of a strong increase or decrease in consumption or generation within an hour, for example at particular times of day or due to spikes in renewables generation, serious balancing group discrepancies can occur in individual 15-minute periods, which regularly lead to full use of the system balancing energy. The costs incurred by the balancing group managers are clearly not high enough under the current accounting system to encourage a willingness to replenish the divergent volumes on a 15-minute basis and thus to promote the introduction of such products on the spot market.

The Bundesnetzagentur plans to examine the balancing group accounting system currently in place for existing systematic false incentives and other undesirable developments and reform it where necessary. A study is to be commissioned first, proposing possible alter-

native billing models which provide greater incentives for improved balancing group management. The plan is to involve the relevant market players in the discussion and to implement changes through a determination. This, however, requires a change to section 8 of the Electricity Network Access Ordinance (StromNZW), which contains the current billing model.

Standardisation and development of profiling

The Bundesnetzagentur had opened determination proceedings in 2010 with the aim of standardising and, where necessary, developing the conditions under which electricity providers supply standard load profile customers. Competition is to be stimulated in this way, particularly in unusual supply constellations such as heating current and in customers with separate peak/off-peak metering. The Bundesnetzagentur is aiming to complete these proceedings in the course of 2012. Under current planning, the proceedings should also draw conclusions regarding metering and balancing of electricity consumption for customers who consume their own renewables.

Offshore determination

In 2012, the Bundesnetzagentur plans to make use of the determination powers bestowed to it in the offshore sector under the new EnWG of 2011. The Bundesnetzagentur had already specified the existing obligation of the TSOs under section 17(2a) of the EnWG to connect offshore wind farms in a 2009 position paper, which now requires further development in light of the experiences gained.

The focus of the determination will be to establish binding criteria required for setting up of network connections which allow the probability of offshore facility realisation to be ascertained, and which enable non-discriminatory use of such facilities in order to bring together as best possible the various objectives of the law - namely the timely creation of the network connection along with cost-effective and environmentally responsible provision to the public.

Energy information network

The Bundesnetzagentur will continue to drive forward the discussions already started with the industry regarding the establishing of an energy information network, in order to reach as swift a solution as possible. In particular, the ever-increasing share of volatile and/or decentralised generation facilities in Germany means that forecasted and up-to-date generation, consumption and status data is required in order for the networks to operate securely. TSOs can only fulfil their obligation to ensure this secure operation if they receive the information necessary for network operation, maintenance and expansion without delay from the operators of generation facilities and electricity distribution networks, industrial and commercial end consumers and electricity suppliers.

Gas Access Regulation

Gas capacity auction

On 24 February 2011, the capacity arrangements and auctions in the gas sector (also known as KARLA Gas) were determined. The central objective of this is to make capacities that have been booked but not used available economically in the event of contractual congestion and thus to enable simultaneous network access to a larger number of transport customers. Unused capacities which can be predicted will be returned to the market at the latest at short notice (day-ahead) to allow other transport customers to use them. Whereas until now, a booking inclu-

ded the unlimited right to adjust use of the booked capacity up to two hours prior to transport ("renomination"), this will be slightly restricted as of 1 February 2012. The capacities which become available in this way can be provided to other transport customers, who then transport the gas between two neighbouring market areas and can ultimately connect gas markets with each other. KARLA Gas also sets out the key elements of the primary capacity platform and the auction proceedings to be used from 30 August 2011.

The regulatory treatment and implementation of the determination will be a focus of the Ruling Chamber in 2012.

Biogas

A topic of key importance to the Bundesnetzagentur is the creation of greater legal certainty for the connection of biogas facilities and for access by those feeding biogas into the gas supply networks. The focus here is on resolving questions of interpretation regarding the key regulations of part 6 of the Gas Network Access Ordinance, and on moderating informal negotiations between those wishing to connect and the network operators. It is to be borne in mind that under the new version of the EnWG, the Bundesnetzagentur alone is responsible for issues relating to the connection of biogas facilities to the gas supply network, as stipulated in section 54(2) sentence 3 of the EnWG. What's more, under section 3 subpara 10c of the EnWG, biogas no longer only includes biogas in the classical sense, but also hydrogen and synthetic methane. Resolving the legal issues arising from this development will also assume increasing importance.

More new legislation relating to biogas facilities can be found in section 33i of the EEG. Under this provision, operators of facilities which generate electricity from biogas and feed this into the electricity grid can claim payment of a flexibility premium from electricity network operators for the provision of additional installed electrical capacity which enables needs-oriented electricity generation. In order to make a valid claim, the facility operator must notify the Bundesnetzagentur of the facility location, installed capacity and that they are claiming the flexibility premium.

Gas network information – data collection and analysis

From 2012, the Bundesnetzagentur is to be provided with the relevant gas network information from the network operators responsible for the market areas. This includes, for example, detailed information on physical load flows, reservation rates, interrupted capacities and storage levels. Analysis of this data should provide information about the actual utilisation of the German gas network which can then be incorporated into the risk report under article 13 of EU Regulation 994/2010 of 20 October 2010. In addition, Germany can thus fulfil its reporting obligation to the International Energy Agency (IEA), which is to receive aggregated flow data for the cross border points on a monthly basis.

Rates regulation

Cost examination and efficiency benchmarking in the gas sector

The cost examination to establish the output parameters for determining the revenue caps which will apply in the second regulatory period should be completed in the first half of 2012.

This data is based on the year 2010, with the relevant information collected from the network operators by 1 July 2011. The operators submitted their data regarding cost examination in simp-

lified proceedings under section 24 of the Incentive Regulation Ordinance by 1 September 2011. This is the first complete cost examination as per the requirements of the Gas Network Charges Ordinance since the introduction of incentive-based regulation.

For the first regulatory period, efficiency benchmarking models for gas TSOs and DSOs were developed as part of the introduction of incentive regulation of 1 January 2009. The Bundesnetzagentur must carry out efficiency benchmarking again for the gas network operators in 2012. The aim is to identify the respective suitable cost drivers in order to ensure a fair comparison between the network operators in each efficiency benchmarking in terms of their supply. The identification of suitable comparison parameters is therefore of considerable significance for reliable benchmarking. In order to identify the parameters, incentive regulation provides for the application of qualitative, analytical or statistical methods that must be based on current knowledge.

The second regulatory period for gas network operators (TSOs and DSOs) begins on 1 January 2013. In order to determine the respective revenue cap for each operator, individual efficiency values need to be calculated.

National efficiency benchmarking is planned in order to determine efficiency requirements for the gas TSOs and DSOs. The Bundesnetzagentur will be supported in this by external consultants.

Efficiency benchmarking preparations - Electricity distribution system operators

The first efficiency benchmarking model for electricity DSOs was established mid-2008 in preparation for the introduction of incentive regulation on 1 January 2009. In 2013, in light of the second regulatory period which begins on 1 January 2014, an efficiency benchmarking model for the electricity DSOs needs to be created once again.

In order to increase transparency and understanding for the companies affected, analysis and development of this model will start in early 2012. The aim here is to analyse identified problem zones and to indicate areas of potential optimisation which can be implemented in the efficiency benchmarking for the second regulatory period. Furthermore, in 2012 the Bundesnetzagentur will collect the necessary structural data from the network operators and check this for plausibility.

Cost examination in electricity sector

In the second half of 2012 the Bundesnetzagentur will carry out an extensive cost examination of the electricity network operators using data from the base year 2011. This enables output parameters to be established for determining the revenue caps applicable in the second period of incentive regulation from 2014. It is the first complete cost examination as per the requirements of the Gas Network Charges Ordinance since the introduction of incentive-based regulation.

Through an administrative arrangement, the federal state of Brandenburg has now been entrusted by the Bundesnetzagentur with carrying out tasks under the Energy Act via the delegation of powers. The planned cost examination is to be carried out for 25 additional network operators in this way.

According to a decision by the Federal Court of Justice, as an energy supply network the traction current network is subject to approval of charges under the Energy Act and thus to efficiency-oriented cost examination. DB Energie GmbH is now required to submit its network charges to the Bundesnetzagentur for examination and approval.

Incentive regulation account

In the second half of 2012, the balance of the incentive regulation account for the previous years in the first period of incentive regulation will be established.

The balance on the account is cleared at the end of the first period of incentive regulation in equal (amortisation) instalments which are added to or deducted from the revenue caps in the second regulatory period. In addition, interest is applied to the average committed balance of the particular calendar year (ie the mean value of the opening and closing balances).

New tasks under NABEG

Expansion of the very high voltage network is necessary in order to permanently ensure security of supply, as the location of renewable energy generation facilities often does not match the locations where there is the greatest energy demand. Consequently, transmission network expansion needs to occur quickly, in order to allow the post-nuclear energy era to get off to a smooth start with dramatically reduced fossil fuel generation.

The Bundesnetzagentur has received new responsibilities in the fields of planning and approval of network expansion following the adoption of the Grid Expansion Acceleration Act on 28 July 2011.

The necessary organisational structures are being created in the Bundesnetzagentur for its entirely new tasks of specialist federal planning and planning approval for specific projects, along with the environmental assessments required for these procedures. Another new task is to carry out the strategic environmental assessment in preparation for the respective Federal Requirements Plan. In addition to the general impact of individual transmission technologies on the environmentally relevant natural resources to be protected, this assessment will investigate restrictions in potential line regions and will be carried out for the first time in 2012. The Bundesnetzagentur has invited over 150 authorities and associations to be involved in determining the scope of the investigation. This will take place at a two-day conference held at the end of February 2012 in Bonn.

The strategic environmental assessment will lead to the creation of an environmental report describing the prospective environmental impact of the Federal Requirements Plan. The environmental report will be consolidated together with the approved network development plan in a draft of a Federal Requirements Plan which will then be submitted to the Federal Government to allow the Requirements Plan to pass into law.

The new organisational structures are currently being established. Preparation of staff and specialist knowledge for the tasks at hand is underway. In addition to the strategic environmental assessment these tasks include federal specialist planning and potentially the planning approval procedures for the new electricity lines, where these have been designated transboundary in the Federal Requirements Plan. However, the Bundesnetzagentur will only carry this out

when an ordinance is issued by the Federal Government.

All of these tasks represent new territory for the Bundesnetzagentur; however there are many crossover areas with market regulation and the unbundling of former monopolies, resulting in valuable synergies. In particular, the Bundesnetzagentur will be able to use its well-founded knowledge of the energy industry when it comes to planning justification. Furthermore, the authority will be able to draw on its international experience regarding the integration of the German grid into an interconnected European grid. Due to the nature of the new responsibilities, staff are being employed from fields which have not been represented at the authority in the past: regional planners, biologists, communications specialists etc.

The Bundesnetzagentur sees its particular obligation in the invigoration of the legally required participation by the authorities and the public. The planning requirements and, where necessary, the alternatives are to be discussed and weighed up with all interested parties. It is therefore planned to establish a new online solution as a means of introducing new forms of participation.

Close cooperation with the federal states is also aimed for. The respective specialist authorities in the states have many years of experience in regional planning and planning approval and will continue to be responsible for expansion of electricity networks, with synergies possible in many projects. The Grid Expansion Act provides for the creation of a Federal Specialist Planning Council, to be set up in 2012 and which will assume a key role in the coordination of work between states and with the Bundesnetzagentur.

"Energy of the Future" Monitoring Administrative Unit

The Federal Government's energy concept "Energy of the Future" sets out the framework for a new direction in energy supply. The Federal Government has decided to accompany this reorientation with targeted monitoring in order to ensure the energy objectives of security of supply, economic viability and environmental compatibility are achieved.

Implementation of the programme is initially to be examined annually from 2012 on the basis of in-depth monitoring. The Ministry of Economics and Technology will provide information regarding grid and plant expansion, replacement investment and energy efficiency. The Ministry for the Environment will report on the expansion of renewables. On this basis, the Federal Government will inform the Bundestag and, where necessary, make recommendations.

To accompany this monitoring process, a cabinet decision of 19 October 2011 established an expert commission, along with an administrative unit at the Bundesnetzagentur to support the ministries in creating the monitoring report.

Certification

In 2011, the new version of the Energy Act transposed the provisions of the EU's Third Energy Package for certifying TSOs into German law. Under sections 4a et seq of the Energy Act, the Bundesnetzagentur is to carry out procedures for the certification of TSOs. Companies may submit applications for certification by 3 March 2012 at the latest. The certification proceedings comprise several time-intensive stages that involve a great deal of examination. The involvement of various authorities is thus required, eg the European Commission and, where necessary,

ACER, before the final decision can be made by the Bundesnetzagentur. The objective of certification is to establish the TSO's compliance with the unbundling and organisational requirements. Three models can be used here:

- Full-ownership unbundled TSO ("FOU", section 8 of the Energy Act),
- Independent transmission operator ("ITO", section 10 et seq of the Energy Act), and
- Independent system operator ("ISO", section 9 of the Energy Act).

Following the initial certification, compliance with its requirements is to be permanently monitored by the Bundesnetzagentur. If reassessments are necessary, certifications can for example be revoked, expanded or supplemented with conditions by the Bundesnetzagentur under sections 4a and 4b of the Energy Act.

Trade and transparency: Implementation of the EU Regulation

In recent years the significance of energy trading in the EU has increased dramatically and become a key instrument for hedging against energy price fluctuations, both for generators and for large-scale users. The importance of gas and electricity trade is also increasing, as small companies in particular are able to gain competitive advantages in supplying customers through more flexible trade strategies. Furthermore, trading on exchanges is taking on a greater role in the integration of renewable energies. Energy trading is also a key instrument in the creation of the European single market.

In light of this, the focus of trading has moved to the need for a fundamental improvement to European supervision. In addition to the considerable advantages, energy trading also poses risks, particularly for smaller traders (eg municipal utilities). The new Regulation on Energy Market Integrity and Transparency (REMIT) entered into force in December 2011.

This prohibits market manipulation and insider trading on the energy wholesale market. Comprehensive data surveys and analyses aim to identify potential infringements which are subsequently pursued by the national energy regulatory authority. Member States are to equip the NRAs with the necessary implementation and penalty-imposing powers within 18 months. The market participants' duty to report trading and generation data enters into effect six months after implementing acts have been issued by the Commission.

In addition, market participants must first register with the Bundesnetzagentur before they can trade wholesale products that must be reported to ACER. The Bundesnetzagentur transmits the information on registered companies to ACER.

In addition to improving energy trade supervision, the Regulation also aims to improve the transparency of fundamental data. This refers to the energy sector data regarding utilisation of the energy infrastructure and generation.

In this respect, the Bundesnetzagentur will continue its efforts to encourage the companies to publish all relevant data on the EEX platform and to make data reports on time.

International affairs

Framework guidelines and network codes

A core element of the Third Energy Package on electricity and gas market liberalisation is the development of network codes in order to promote cross-border trade and competition

on the pan-European energy market. The process for the development of these network codes is laid out in the European regulations. It begins with the preparation of framework guidelines by ACER, to create the foundation and framework for the network codes. The responsibility for drafting the network codes based on this framework belongs to the European network operator associations ENTSO-E and ENTSOG.

In the electricity sector, the Bundesnetzagentur will continue in 2012 to actively participate in the development of the framework guidelines and the coordination with ACER. The focus will be on completion of the framework guidelines on system balancing energy, which aim for an improvement in the cross-border system balancing energy market. The Bundesnetzagentur will continue to monitor network code development following completion of these guidelines. In 2012, these include in particular the network code on system balancing energy and the network code on capacity allocation and congestion management, which comprises capacity calculation and timeframes for trade (forward, day-ahead and intraday).

The focal point of European activity in the gas sector is the continuing work on new framework conditions for capacity allocation and congestion management. The aim is to promote competition through the reduction of contractual congestion at central connection points in the European gas network association. The first ACER framework guideline on this was published in August 2010, upon which basis ENTSOG is developing the respective network code. ENTSOG will continue to closely monitor the development of the network code in 2012. Examination of the code will start from March 2012. The comitology procedure is expected in January for congestion management, which will also be overseen by the ACER. Further areas of focus include the framework guidelines on tariffs and interoperability, along with monitoring of the network code on balancing.

Practical implementation: Market coupling and harmonisation

The Bundesnetzagentur will continue its activities regarding the coupling and harmonisation of the European electricity markets with undiminished vigour in 2012.

Coupling of the day-ahead electricity markets in North West Europe already took place in November 2010. This move was given particular significance by the immediate integration into the German-Scandinavian market coupling already in place since November 2009. The Bundesnetzagentur was able to contribute to the coupling as they led the political negotiations regarding the creation of the necessary coordination mechanisms. Such coordination was necessary as the two associations were still organised differently in terms of operation. Combining the two electricity markets led to wholesale prices aligning with each other to a large extent, creating an overall price dampening effect.

Further operational improvements to this North West European market coupling are expected in 2012 through the introduction of uniform price coupling. At the same time the move is to be expanded with the inclusion of Great Britain. Together with the Danish regulatory authority, the Bundesnetzagentur is leading the relevant implementation project comprising around 60 percent of the European electricity wholesale volume on the Spot market.

Market coupling across Europe is an important component in the completion of the electricity single market by 2014, as decided by the EU Council of Ministers on 4 February 2011. The next step in this process is the uniform price coupling in North West Europe by the end of 2012 and the successive expansion of this over the next two years. One important objective in this respect is the swift creation of market coupling between the Central West Europe region and Switzerland. The Bundesnetzagentur is in charge of the process at ACER for spreading uniform price coupling of electricity wholesale markets across all of Europe.

Compensatory mechanisms for cross-border electricity flows

Since 23 September 2010, the Inter-TSO-Compensation (ITC) mechanism has been laid out in EU Regulation 838/2010. The Regulation primarily codifies the compensation for cross-border electricity flows which had already previously been contractually agreed by the TSOs. In future, however, ACER will also assume an important role in the ITC mechanism - amongst other things, within two years following the Regulations adoption, it will draft a proposal for the annual amount of compensation for cross-border infrastructures on the basis of an EU-wide evaluation of the transmission infrastructure required to promote such electricity flows. It will then submit this to the European Commission, which determines the amount of compensation.

The Regulation also gave the Agency numerous supervisory rights along with ENTSO-E reporting duties. The NRAs will also need to be involved in this process.

In this context the Bundesnetzagentur will continue its commitment to the development and improvement of the existing ITC mechanism. In light of the urgently required network expansion – not only in Germany – discussions deal with the extent to which the ITC mechanism can be connected constructively with cross-border cost allocation and cross-border network expansion (also taking into consideration the so-called projects of common European interest - PCI).

European efficiency benchmarking of transmission network operators

In preparation for the network tariff regulation for the TSOs in the second incentive regulation period, a European efficiency benchmarking of the TSOs is to be carried out as per section 22 of the Incentive Regulation Ordinance. The background to this is that while most NRAs only regulate one or two TSOs, in Germany there are four. The aim of the European effiency comparison is to establish efficiency values for the German and European TSOs. The 2012 European efficiency benchmarking is planned in the form of an expert report.

In order to ensure a fair structural comparison, the European efficiency benchmarking is to be carried out using established, well-founded scientific methods, to allow the results to be compared with each other. Amongst other things, a detailed functional breakdown of the TSO activities/features to be evaluated is required here.

RAIL

The Bundesnetzagentur expects some fundamental changes to its work environment in 2012 as a result of the planned amendment of rail regulation law. The review of the European regulatory framework, the recast, will also affect our acti-

vities. In our day to day business we will be looking at the level of charges and the costs underlying DB Netz AG's and DB Station&Service AG's pricing. The activities set out below are just some of those that rail regulation will address in 2012.

Price regulation

DB Netz AG's train path pricing system

After a closer study of DB Netz AG's train path pricing for non-discrimination, we also began to look at general anti-competitive pricing issues in 2011. These will have greater prominence in 2012. One of the questions to be clarified will be whether the infrastructure manager gains disproportionate returns as a result of charging levels that are generally too high.

Charging guide

The Bundesnetzagentur is planning to issue a charging guide for 2012. This guide, initially intended for track operators, will give infrastructure managers information on the legal environment and the requirements for compliant charging levels and structures. We hope in this way to show the sources of frequent mistakes and thus to reduce the time and effort needed to draw up and check the network statements and lists of charges.

DB Netz AG's noise-differentiated price component

DB Netz AG intends to introduce, under section 21(2) of the Rail Infrastructure Usage Regulations, a price component in its 2012/2013 network statement that reflects the costs of the environmental effects of train operation. This noise differentiation component will be applied to freight as from December 2012 with the change of the working timetable.

We have already addressed the issue of noise-differentiated train path pricing in a working group (AG 3) set up by the Federal Ministry of Transport, Building and Urban Development. The conceptual aspects were completed in 2011. The group was chaired by the Bundesnetzagentur, which compiled the findings of the working group in a final report and closed with a recommendation to the political decision-makers.

The price component introduced by DB Netz AG follows this recommendation to the greatest possible extent. Nevertheless, we will continue to monitor its progress and check whether the form it has been given is compliant with section 21(2) of the Rail Infrastructure Usage Regulations.

Progress of DB Station&Service AG's station pricing

The part the so-called train length factor should play in station pricing will be a continued subject of discussion with DB Station&Service AG in 2012. This is because of the significant change in 2011 which saw the introduction of a new station pricing system, connected with which was the introduction of changed train length factors. To date, however, the Bundesnetzagentur has given only conditional acceptance to the arrangements on the train length factor, giving orders instead for new, legally clear arrangements to be drawn up by the beginning of 2013 at the latest. Thus DB Station&Service AG is required to provide a compliant model under the watchful eye of the Bundesnetzagentur.

We also plan to look at how station price levels are calculated. We will be particularly interested in ideas on how periodic expenditure can be evened out, possibly through the introduction of multi-annual surveys.

Another of our work items in 2012 will be a review of DB Station&Service AG's cost basis. This will examine the cost estimate on which the station prices are calculated, the main determinant of the level of charges.

Preparing for efficiency-oriented regulation

The new regulatory framework includes charging rules and provides for a transition from the current cost plus regulation to efficiency-oriented regulation. Determining efficient costs is a challenging task for the economist and one that presupposes extensive knowledge and a high degree of theoretical know-how. Wide-ranging experience of the methods of efficiency-oriented cost regulation appears absolutely necessary, given the complexity involved. An assessment of economic regulatory approaches in other countries and in comparable industries will be a useful way of deriving possible strategies for an efficiency-oriented approach.

Access regulation

Setting up freight corridors

Setting up the freight corridors as per Regulation (EU) No 913/2010 of the European Parliament and of the Council of 22 September 2010 will continue to occupy the Bundesnetzagentur in 2012. The first of three corridors running through Germany must be in place by 10 November 2013. A number of legal, procedural and competition issues, also as regards cooperation beyond borders, must be clarified by that time. The preparations for introducing the freight corridors are being made not just at national level but also bilaterally, in conjunction with the European Commission and in the various European specialist bodies, most notably the Rail Freight Working Group of IRG-Rail (see page 244).

Difficult operating conditions

In connection with the "Fahren und Bauen" (Travel and Construct) approach the Bundesnetzagentur has opened proceedings to look into how, in its construction planning, DB Netz AG deals with the costs of difficult operating conditions for the access beneficiaries. When normal operation is disrupted by construction measures, the access beneficiaries incur costs as a result of both delays to their schedules and capacity restrictions. In the Bundesnetzagentur's view, the costs involved for the railway undertakings as a result of construction measures must be addressed better in order to achieve a satisfactory economic outcome.

Line operating hours

The arrangements in DB Netz AG's network statement allow tracks to be used beyond the existing line operating hours if DB Netz AG is notified in good time and the local operating control points can be staffed. The market would like this relatively vague wording to be made more precise. Moreover, the line operating hours can be seen only on the list of service breaks and closure periods; a reliable period for which they are valid is not given on the lists, which are, moreover, subject to change during the particular timetable period. This is the background against which the line operating hours will be the subject of proceedings under section 14f of the General Railways Act.

Capacity

As implementation of the first European freight corridor (Amsterdam – stretches of the Rhine – Basle – Milan/Genua) approaches, the question needs to be answered of how, without detriment to competition, the requirements of freight, long distance passenger and local passenger rail traffic can be met with the scarce capacity available

and what contribution a new track management system could make. We will be primarily concerned in 2012 with the market requirements of the access beneficiaries to make sure that their interests are accommodated to the best possible extent.

Service facilities construction measures

Construction measures for new and replacement investment, just as infrastructure maintenance measures, can strongly affect access to service facilities in the short, medium and long term. Thus good communication between the operators and the users of the service facilities is vital. While disruptions to operation cannot be ruled out in the normal course of events, the extent of the disruption can be lessened, however, by sufficient advance notice and the quality of the information provided to the access beneficiaries.

Given the growth figures forecast on all sides for freight in particular, we expect a clear increase in the disruption statistics and in the effects of individual disruptions.

Although construction measures affect access to service facilities, the Rail Infrastructure Usage Regulations contain no specific requirements to address this. All the same, it is the Bundesnetzagentur's duty to take a good look at the infrastructure managers' procedures in order to secure non-discriminatory access for the access beneficiaries.

This is made more difficult, however, by the range and different character of the service facilities and the different degrees of relevance to operations of the particular construction measures. And the task is made yet more complex by the different communication concepts of the infrastructure managers.

We will scrutinise the effects of service facility construction measures on operations, the planning procedures for construction measures and the information chains for announcing these measures, looking particularly at how the access beneficiaries are tied into all of this.

International duties

European framework

In close cooperation with the Federal Ministry of Transport, Building and Urban Development and the other European NRAs we will continue to engage in discussions on taking the European framework forward.

The fourth railway package will be a focus of our work, alongside the Rail Recast Directive, already the subject of debate in 2011. This addresses, most notably, the further opening of the European rail markets, unbundling and the introduction of a European regulator. The Commission has announced presentation of a draft fourth railway package for 2012.

Independent Regulators Group (IRG-Rail)

The Independent Regulators Group – Rail (IRG-Rail) was set up with the formal signing of a Memorandum of Understanding in The Hague in June 2011. Five Working Groups were established and the first Work Programme, showing the main activities until the end of 2012, was adopted. The Working Groups cover the following areas; first package recast, freight, economic equilibrium, market monitoring and charges. They draw up joint approaches and positions on these topics and will publish further position papers in 2012.

The Recast Working Group, in particular, is following the negotiations on the first package recast, seeking to bring its influence to bear on the negotiations by publishing position papers

on selected aspects. The Rail Freight Working Group is addressing the new freight regulations and has set itself the task of developing guidelines for setting up international freight corridors.

The next step for the Market Monitoring Working Group will be to have the national regulatory bodies incorporate the agreed list of common indicators in their data surveys for 2012. This will facilitate a comparison of market developments and market structures in the Member States.

Whereas the first four Working Groups had informal sessions before IRG-Rail was officially set up, the Charges Working Group is new. It plans to meet regularly in 2012. Its main activities were agreed for the Work Programme and include determining marginal costs, defining market segments, capacity-dependent pricing of rail infrastructure, the internalisation of external effects, and incentive systems: how they work and how they should be drawn up.

TABLE OF CONTENTS

List of abbreviations

3

3 GPP
3rd Generation Partnership Project

A

ABP-RNI
General Terms and Conditions for Use of the Infrastructure at Passenger Railway Stations

ACER
Agency for the Cooperation of Energy Regulators

ACTA
Allensbacher Computer- und Technik-Analyse

ADCO R&TTE
Group of Administrative Cooperation under the R&TTE Directive 99/5/EC

AEG
General Railway Act

AFuG
Amateur Radio Act

AFUR
African Forum for Utility Regulators

AGAB
Association of recognised evaluation and certification bodies

AGB
General terms and conditions

AGCOM
Italian communications regulatory authority

ARCEP
French communications regulatory authority

ARegV
Incentive Regulation Ordinance

ARIAE
Association of Ibero-American Energy Regulators

ARPU
Average Revenue per User

ASTRA
Satellite company

ATRT
Technical Telecommunications Regulation Committee

B

BDA2G
Broadband Direct Air to Ground

BfDI
Federal Commissioner for Data Protection and Freedom of Information

BEREC
Body of European Regulators in Electronic Communications

BGB
Civil Code

BGH
Federal Court of Justice

BIPT
Belgian communications regulatory authority

BITKOM
German Association for Information Technology, Telecommunications and New Media e. V.

BK
Ruling Chamber

BMI
Federal Ministry of the Interior

BMU
Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

BMVBS
Federal Ministry of Transport, Building and Urban Development

BMWi
Federal Ministry of Economics and Technology

BOS
Authorities and organisations concerned with public safety

BSI
Federal Office for Information Security

BVerfG
Federal Constitutional Court

BVerwG
Federal Administrative Court

BZ
Operations control centre

BZA
Outbound mail sorting centre

BZE
Inbound mail sorting centre

C

CA/DRM
Conditional Access/Digital Rights Management

CAPM
Capital Asset Pricing Model

TABLE OF CONTENTS CHAPTER

CAST
Competence Center for Applied Security Technology

CB-Funk
Public, free radiotelephone and radio data service

CE
Conformité Européenne

CEER
Council of European Energy Regulators

CEN
European Committee for Standardization

CENELEC
European Committee for Electrotechnical Standardization

CEPT
European Conference of Postal and Telecommunications Administrations

CERP
European Committee for Postal Regulation

CHP
Combined Heat and Power

CISPR
Comité International Spécial des Perturbations Radioélectriques

CLI
Calling Line Identification

CMT
Spanish regulatory authority

CNSA
Contact Network of Spam Authorities

Com-ITU
Committee for ITU Policy

CR
Cognitive Radio

ct/kWh
Cent per kilowatt hour

ct/min
Cent per minute

D

DAB
Digital Audio Broadcasting

DBAG
Deutsche Bahn AG

DECT
Digital Enhanced Cordless Telecommunications

DHL
Deutsche Post DHL

DOCSIS
Data Over Cable Service Interface Specification

DPAG
Deutsche Post AG

DPD
Dynamic Parcel Distribution

DSL
Digital Subscriber Line

TABLE OF CONTENTS CHAPTER

DTAG
Deutsche Telekom AG

DTM
German Touring Car Championship

DTMF
Dual-tone multi-frequency

DVB
Digital Video Broadcasting

DVB-T
Digital Video Broadcasting – Terrestrial

DVV
DVV Media Group

E

e
expected

EAP Regulators Group
Eastern Partnership Regulators Group

EC
European Community

ECC
Electronic Communications Committee

EEG
Renewable Energy Sources Act

EEX
European Energy Exchange

EIBV
Rail infrastructure Usage Regulations

EMC
Electromagnetic Compatibility

EMERG
Euro-Mediterranean Network of Regulators

EMF
Electromagnetic fields

EMV-RL
Electromagnetic Compatibility of Equipment Directive

EMVG
Electromagnetic Compatibility Act

EMVU
Electromagnetic compatibility and the environment

EN
European standard

EnLAG
Power Grid Expansion Act

ENTSO-E
European Network of Transmission System Operators for Electricity

ENTSOG
European Network of Transmission System Operators for Gas

EnWG
Energy Act

EP
European Parliament

TABLE OF CONTENTS CHAPTER

EPEX
European Power Exchange

ERC
European Research Council

ERG
European Regulators Group

ERGEG
European Regulators Group for Electricity and Gas

ERGP
European Regulators Group for Post

ESI
Electronic Signatures and Infrastructures

ETSI
European Telecommunications Standards Institute

EU
European Union

EuGH
European Court of Justice

EWG
European Economic Community

F

FARAMIR
Flexible and Spectrum Aware Radio Access through Measurements and Modelling in Cognitive Radio Systems

FERC
Federal Energy Regulator Commission

FESA
Forum of European Supervisory Authorities for Electronic Signatures

FNB
Transmission system operators (gas)

FOU
Full-ownership unbundled TSO

FreqBZP
Frequency Band Allocation Plan

FreqNP
Frequency Usage Plan

FreqNPAV
Frequency Usage Plan Ordinance

FTEG
Radio Equipment and Telecommunications Terminal Equipment Act

FTS
Russian regulatory authority

FTTB
Fiber to the building

FTTC
Fiber to the curb

FTTH
Fiber to the home

G

GABi Gas
Basic model for balancing services and balancing rules in the gas sector

TABLE OF CONTENTS CHAPTER

GasNEV
Gas Network Charges Ordinance

GasNZV
Gas Access Charges Ordinance

GB
Gigabyte

GeLi Gas
Business processes for change of gas supplier

GG
Basic Law

GHz
Gigahertz

GIS
Geographic information system

GPKE
Business processes for supplying customers with electricity

GPR
Ground Probing Radar

GPS
Global Positioning System

GSM
Global System for Mobile Communications

GSM-R
Global System for Mobile Communications – Rail

GW
Gigawatt

GWB
Act Against Restraints of Competition

GWh
Gigawatt hour

H

HeERO
Harmonised eCall European Pilot

HFC
Hybrid Fiber Coax

H-Gas
High Calorific Value Gas

HSPA
High Speed Packet Access

HT
Peak price

HVt
Main distribution frame

I

IARN
International Audiotex Regulators Network

ICA
Port

IEA
International Energy Agency

IEC
International Electrotechnical Commission

TABLE OF CONTENTS CHAPTER

ILS
Instrument Landing System

IM
Rail infrastructure manager

IMT
International Mobile Telecommunications

IP
Internet Protocol

IPDP
Integrated Postal Reform and Development Plan

IPR
Intellectual Property Rights

IPTV
Internet Protocol Television

IQ-C
International Group for Improving the Quality of Rail Transport in the North-South Corridor

IRG
Independent Regulators Group

IRG-Rail
Independent Regulators' Group – Rail

ISDN
Integrated Services Digital Network

ISDN-PMx
Primary rate multiplex access

ISG
International Strategy Group

ISO
Independent system operator

IT
Information technology

ITC
Inter-TSO Compensation

ITO
Independent transmission operator

ITS
Intelligent Transport Systems

ITU
International Telecommunication Union

IVD
Real estate business association

IWES
Fraunhofer Institute for Wind Energy and Energy System Technology

K

KARLA Gas
Capacity management and capacity allocation for gas transports

kbit/s
Kilobit per second

KeL
Cost of efficient service provision

KEP
Courier, express and parcel services

TABLE OF CONTENTS CHAPTER

kHz
Kilohertz

KPI
Key Performance Indicators

kV
Kilovolt

KVz
Cable distributor

kW
Kilowatt

kWh
Kilowatt hour

KWKG
Combined Heat and Power Act

L

LED
Light Emitting Diode

L-Gas
Low Calorific Value Gas

LNG
Liquefied Natural Gas

LTE
Long Term Evolution

M

M2M
machine-to-machine

Mbit
Megabit

Mbit/s
Megabit per second

MEDREG
Association of the Mediterranean Regulators for Electricity and Gas

MGWS
Multiple Gigabit WAS/RLAN Systems

MHz
Megahertz

MMS
Multimedia Messaging Service

MRU
Manner-Romberg Unternehmensberatung GmbH

MVNO
Mobile Virtual Network Operator

MW
Megawatt

MWh
Megawattstunde

N

NABEG
Grid Expansion Acceleration Act

NARUC
National Association of Regulatory Utility Commissioners

TABLE OF CONTENTS CHAPTER

NBS
Service Facilities Statement

NEDDIF
North-Eastern Digital Dividend Implementation Forum

NEL
North German natural gas pipeline

NGA
Next Generation Access

NGN
Next Generation Network

NGNA
Next Generation Network Access

NotrufV
Emergency Services Access Ordinance

NRA
National Regulatory Authority

NT
Off-peak price

O

OLG
Higher Regional Court

OneFit
Opportunistic networks and Cognitive Management Systems for Efficient Application Provision in the Future Internet

OPAL
Baltic Sea Pipeline Link

OTC
Over-the-Counter

OVG
Higher Administrative Court

OVG NRW
Higher Administrative Court of North-Rhine Westphalia

P

PCI
Projects of common European interest

PDLV
Postal Services Ordinance

PEntgV
Postal Rates Regulation Ordinance

Pkm
Passenger kilometre

PLC
Powerline Communication

PMD
Radio monitoring and inspection service

PostG
Postal Act

PPDR
Spectrum for broadband public protection and disaster relief applications

PSTN
Public Switched Telephone Network

PTB
Physikalisch-Technische Bundesanstalt, National Metrology Institute

PTS
Swedish communications regulatory authority

PTSG
Law Ensuring the Provision of Posts and Telecommunications Services

PUDLV
Postal Universal Service Ordinance

PZA
Service of documents

Q

Quasar
Quantitative Assessment of Secondary Spectrum Access

R

RAPEX-System
Rapid Exchange of Information System

Recast
Directive establishing a single European railway area

Reg TP
Regulatory Authority for Telecommunications and Post

REMIT
Regulation on wholesale energy market integrity and transparency

RL
Directive

RSC
Radio Spectrum Committee

RSPG
Radio Spectrum Policy Group

R&TTE
Radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity

R&TTE-RL
R&TTE Directive

RU
Railway undertaking

S

SAIDI
System Average Interruption Duration Index

SchuTSEV
Ordinance concerning the Protection of Public Telecommunications Networks and Transmitters and Receivers

SDR
Software Defined Radio

SEA
Strategic Environmental Assessment

SES
Société Européenne des Satellites

SFA
Stochastic Frontier Analysis

TABLE OF CONTENTS CHAPTER

SGV
Rail freight

SigG
Electronic Signatures Act

SIM
Subscriber Identity Module

SMS
Short Messaging Service

SNB
Network Statement

SoSt
Special Unit

SPFV
Long-distance passenger rail services

SPNV
Regional passenger rail services

SRD
Short Range Device

SSB
Interface description

SSC
Shared Service Center

StromNZV
Electricity Network Access Ordinance

T

TAIEX
Technical Assistance and Information Exchange Instrument

TAL
Local loop

TC-331
Technical Committee 331

TETRA
Terrestrial Trunked Radio

TK
Telecommunications

TKG
Telecommunications Act

tkm
Tonne kilometre

TL
Trusted List

TPS
Train path pricing system

TR Notruf
Technical directive on emergency calls

TR TKÜV
Telecommunications Interception Technical Directive

TWh
Terawatt hour

U

UBA
Federal Environment Agency

UKE
Polish communications regulatory authority

UMTS
Universal Mobile Telecommunications System

ÜNB
Transmission system operator

UPS
United Parcel Service

URL
Universal service directive

UWB
Ultra Wideband

UWG
Unfair Competition Act

V

VDB
German Railway Industry Association

VDSL
Very High Speed Digital Subscriber Line

VDV
Association of German Transport Undertakings

VG
Administrative Court

VNB
Distribution system operators

VoIP
Voice over Internet Protocol

VPI
Association of Private Freight Wagon Stakeholders

VwGO
Code of Administrative Court Procedure

W

WCIT 2012
World Conference on International Telecommunications 2012

WEDDIP
Western European Digital Dividend Implementation Platform

WIK
Wissenschaftliches Institut für Infrastruktur und Kommunikationsdienste (Scientific Institute for Communication Services)

WLAN
Wireless Local Area Network

WRC
World Radio Conference

WRC-12
World Radio Conference 2012

WTSA
World Telecommunication Standardization Assembly

Z

ZDA
Certification service provider

TABLE OF CONTENTS

Contact points

The Bundesnetzagentur offers useful information and expert advice to those seeking assistance.

General enquiries regarding telecommunications, post and rail
Tel.: +49 30 22480-500
Fax: +49 30 22480-515
verbraucherservice@bnetza.de

General enquiries regarding electricity and gas
Tel.: +49 30 22480-500
Fax: +49 30 22480-323
verbraucherservice-energie@bnetza.de

Number misuse, spam, cold calling
Tel.: +49 291 9955-206
Fax: +49 6321 934-111
rufnummernmissbrauch@bnetza.de

Radio interference
Nationwide number
Tel.: 0180 3 232323
(9 ct/min from landlines; mobile rates max. 42 ct/min)
This service number is available 24 hours a day. You will automatically be forwarded to the relevant regional office.

Number information rights
Queries regarding (0)137 and 118
Fax: +49 6131 18-5637
E-mail regarding (0)137:
nummernauskunft-137@bnetza.de
E-mail regarding 118:
nummernauskunft-118@bnetza.de
Queries regarding (0)180
Fax: +49 208 4507-180
nummernauskunft-180@bnetza.de

Number administration
Tel.: + 49 661 9730-290
nummernverwaltung@bnetza.de

Publication dispatch
Tel.: +49 361 7398-272
Fax: +49 361 7398-184
druckschriften.versand@bnetza.de

PV system registration
Tel.: +49 561 7292-120
Fax: 0180 5 734870 1001
(14 ct/min from a landline; mobile rates max. 42 ct/min)
kontakt-solaranlagen@bnetza.de

TABLE OF CONTENTS

TABLE OF CONTENTS

**Bundesnetzagentur für Elektrizität, Gas,
Telekommunikation, Post und Eisenbahnen**

Tulpenfeld 4
53113 Bonn
Tel.: +4922814-0
Fax: +4922814-8872