

**ANNUAL REPORT
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CONTENTS

1 FOREWORD	1
ACRONYMS	3
2 MAIN DEVELOPMENTS IN THE GAS AND ELECTRICITY MARKETS	5
3 THE ELECTRICITY MARKET.....	11
3.1 Unbundling.....	11
3.2 Network regulation	13
3.2.1 Technical functioning.....	13
3.2.1.1 Balancing.....	13
3.2.1.2 Connections.....	15
3.2.1.3 Quality of Service.....	16
3.2.1.4 Safeguard measures	17
3.2.2 Network tariffs for connection and access	17
3.2.3 Cross-border issues	23
3.2.4 Compliance.....	27
3.2.5 Dispute settlement.....	28
3.3 Promoting Competition	29
3.3.1 Price monitoring on wholesale and retail level	29
3.3.1.1 Wholesale market	29
3.3.1.2 Retail market.....	34
3.3.2 Monitoring the level of transparency, including compliance with transparency obligations, and the level and effectiveness of market opening and competition	35
3.3.2.1 Wholesale market	35
3.3.2.2 Retail market.....	45
3.3.3 Recommendations on supply prices	49
3.3.4 Carry out investigations and imposing measures to promote effective.....	49
3.4 Consumer protection.....	50
3.5 Security of supply.....	51
3.5.1 Monitoring balance of supply and demand	51
3.5.2 Monitoring investment in generation capacities in relation to SoS.....	55
4 THE GAS MARKET	57
4.1 Unbundling.....	57
4.2 Network regulation	58
4.2.1 Technical functioning.....	58
4.2.1.1 Balancing.....	58
4.2.1.2 Access to storage infrastructures, Linepack and auxiliary services	59
4.2.1.3 Third party access to storage.....	59
4.2.1.4 Connections.....	60
4.2.1.5 Quality of Service.....	60
4.2.1.6 Safeguard measures	61
4.2.2 Network and LNG tariffs for connection and access	62
4.2.3 Cross-border issues	66

4.2.4	Compliance.....	69
4.2.5	Dispute settlement.....	69
4.3	Promoting Competition	70
4.3.1	Price monitoring on wholesale and retail level	70
4.3.1.1	Wholesale Market	70
4.3.1.2	Retail Market.....	70
4.3.2	Monitoring the level of transparency, including compliance with transparency obligations, and the level and effectiveness of market opening and competition	71
4.3.2.1	Wholesale market	71
4.3.2.2	Retail market.....	73
4.3.3	Recommendations on supply prices	79
4.4	Consumer protection.....	80
4.5	Security of supply.....	80
4.5.1	Monitoring balance of supply and demand	80
4.5.2	Expected future demand and available supplies as well as envisaged additional capacity	81
4.5.3	Measures to cover peak demand or supplier shortfalls	83

FIGURES

Figure 3-1 – Impact of daily markets and ancillary services market on the costs allocated to suppliers operating in Portugal, in 2011	13
Figure 3-2 – Breakdown of the ancillary services market costs in 2011	14
Figure 3-3 - Evolution of Imbalances in 2011	15
Figure 3-4 – Breakdown per regulated activity of the average price of Grid Access Tariffs	19
Figure 3-5 – Structure of the average price per regulated activity for each voltage level.....	20
Figure 3-6 - Use of Portugal-Spain interconnection capacity.....	25
Figure 3-7 – Evolution of the annual average price in the spot market and market splitting	29
Figure 3-8 – Volatility of spot price	31
Figure 3-9 – Spot market price and market splitting time.....	32
Figure 3-10 – Evolution of the average price for the negotiation of the annual futures contract delivery in Portugal and in Spain	33
Figure 3-11 – Evolution of the average price for the negotiation of the monthly futures contract delivery in Portugal	34
Figure 3-12 – Communication of relevant facts.....	36
Figure 3-13 - Characterisation of the power plant generation system in Portugal By technology and installed capacity	37
Figure 3-14 - Installed capacity quotas by agents in the different technologies	38
Figure 3-15 - Concentration in generation in terms of installed capacity	39
Figure 3-16 - Quotas of electricity generated by agent	40
Figure 3-17 - Quotas of electricity generated by agent in the different technologies.....	41
Figure 3-18 - Concentration in generation in terms of electricity generation	42
Figure 3-19 - Breakdown of the amount of energy offered between markets.....	43
Figure 3-20 - Spot market demand and total monthly consumption	44
Figure 3-21 - Volumes in the MIBEL forward market	44
Figure 3-22 - Breakdown of consumption between the regulated and the liberalised market	46
Figure 3-23 - Evolution of the liberalised market in mainland Portugal (no. of customers)	47
Figure 3-24 - Penetration of the liberalised market by customer segment	48
Figure 3-25 - Supply structure in the liberalised market by supplier	49
Figure 4-1 – Breakdown of the average price of Network Access Tariffs	63
Figure 4-2 – Structure of the average price of Network Access Tariffs	64
Figure 4-3 - Breakdown of supply by infrastructure	72
Figure 4-4 – Effective opening of the natural gas market Total energy consumption, excluding electricity generation centres.....	75
Figure 4-5 – Effective opening of the natural gas market Customers with annual consumption greater than 10,000 m ³ (Energy)	75
Figure 4-6 - Number of customers switching supplier in the scope of the platform managed by REN Gasodutos.....	77
Figure 4-7 – Breakdown of the number of customers and consumption in the liberalised market by customer segment at the end of 2011	77

Figure 4-8 – Breakdown of customers attracted by suppliers in the market in December 2010 and December 2011	78
Figure 4-9 – Breakdown of consumption supplied by suppliers in the market in December 2010 and December 2011	78
Figure 4-10 - Breakdown of consumption supplied by suppliers in market regime in 2011 and by distribution and transmission network	79
Figure 4-11 – Evolution in the capacity offered in SNGN, annual average consumption and peaks in consumption between 2000 and 2010.....	81
Figure 4-12 – Forecast for the evolution in the capacity offered in SNGN, annual average consumption and peaks in consumption between 2011 and 2015	82

TABLES

Table 3-1 – Continuity of supply indicators registered in mainland Portugal, 2011	17
Table 3-2 – Grid access tariffs	19
Table 3-3 – Monthly evolution of revenue from congestion in 2011	24
Table 3-4 – Capacity margin	52
Table 3-5 – Breakdown of generation	53
Table 3-6 – Consumption supply.....	54
Table 3-7 – Maximum annual power	54
Table 3-8 – Power plant generation system.....	55
Table 3-9 - Forecast for SRG generation.....	56
Table 4-1 – Variation in Infrastructure Access Tariffs for the 2011-2012 gas year.....	63

1 FOREWORD

The electricity and natural gas sectors were marked, in 2011, by a dynamism that has been imposing structural changes in the consolidation of the liberalisation of these sectors.

Among the most significant events, we refer the transposition into Portuguese law of the European directives on electricity and natural gas and the decision by the Portuguese Government to extinguish the end user last resort tariffs of electricity and natural gas, which are, from a national point of view, challenges for the organization and functioning of the energy sector and, from a European point of view, a significant contribution to the consolidation of the internal energy market.

International cooperation was another milestone in the year under review, namely in Iberian terms, where the deepening of the Iberian Electricity Market (MIBEL) and the creation of the Iberian Natural Gas Market (MIBGAS) were the target of actions, in the first case developed by MIBEL Council of Regulators and, in the second, by the regulatory authorities of the two Iberian countries, the Portuguese National Regulatory Authority (ERSE) and Spanish National Commission of Energy (CNE) as well by the South GRI Initiative, seeking better conditions both for the agents and for the consumers.

As a global perspective for 2011, and taking into account the different maturities of the electricity and gas markets, we underline that in Portugal, significant steps towards liberalisation were taken, and ERSE in accordance with their duties, followed this trend through the increasing of its intervention in terms of the supervision of markets and prices, as well as consumer protection.

ACRONYMS

- ACE – Energy Consumers Support office.
- ACER - Agency for the Cooperation of Energy Regulators
- CCGT – Combined Cycle Gas Turbine
- CEER – Council of European Energy Regulations.
- CNE – Comisión Nacional de Energía (Spain).
- CRE – Commission de Régulation de l'Énergie (France).
- DGEG – Directorate-General for Energy and Geology.
- DSO - Distribution System Operator.
- DUoN – Distribution Use of Network.
- DUoN (HV) – Distribution Use of Network in HV.
- DUoN (LV) – Distribution Use of Network in LV.
- DUoN (MV) – Distribution Use of Network in MV.
- ERGEG – European Regulators Group of Electricity and Gas.
- ERI - Electricity Regional Initiative
- ERSE – Energy Services Regulatory Authority (Portugal).
- GRI – Gas Regional Initiative
- GUoS – Global Use of System.
- HP – High pressure (pressure of more than 20 bar in relation to atmospheric pressure)
- HV – High Voltage (RMS voltage between phases greater than 45 kV and equal to or lower than 110 kV).
- LNG – Liquefied Natural Gas.
- LP – Low pressure (pressure of less than 4 bar in relation to atmospheric pressure).
- LRS – Last Resort Supplier.
- LV – Low Voltage (RMS voltage between phases equal to or lower than 1 kV).
- MIBEL – Iberian Electricity Market.
- MP – Medium pressure (pressure of 4 bar or more and equal to or less than 20 bar in relation to atmospheric pressure).

- MV – Medium Voltage (RMS voltage between phases greater than 1 kV and equal to or lower than 45 kV).
- NES - National Electricity System.
- OMEL – Operador del Mercado Ibérico de Energia – Pólo Español, SA (spot market).
- OMIP – Operador do Mercado Ibérico de Energia – Polo Português, (derivatives market).
- OTC – Over The Counter
- PPA – Power Purchase Agreement
- PDIR - RNTIAT Development and Investment Plan.
- RNT – National Electricity Transmission Network (Mainland Portugal).
- RNTGN – National Natural Gas Transmission Network.
- RNTIAT – National Transmission, Storage Infrastructure and LNG Terminal Networks.
- SNGN – National Natural Gas System.
- SpLV – Special Low Voltage (LT supply or delivery where subscribed power is (i) Mainland Portugal - above 41.4 kW, (ii) Autonomous Region of the Azores – equal to or above 20.7 kW and is achieved by way of maximum power at 15 minute intervals, (iii) Autonomous Region of Madeira - above 62.1 kW).
- SRG – Special Regime Generation.
- StLV – Standard Low Voltage (LT supply or delivery where subscribed power is (i) Mainland Portugal - 41.4 kW or lower, (ii) Autonomous Region of the Azores – 215 kW or lower and is not achieved by way of maximum power at 15 minute intervals, (iii) Autonomous Region of Madeira - 62.1 kVA or lower).
- TSO – Transmission System Operator.
- TUoN – Transmission Use of Network.
- VHV – Very High Voltage (effective voltage between phases greater than 110 kV).

2 MAIN DEVELOPMENTS IN THE GAS AND ELECTRICITY MARKETS

The year of 2011 was marked by two events which had a significant impact on the development of the electricity and natural gas sectors. On one hand, the signing of the Programme for Financial Assistance between the Portuguese Government, the European Union, the International Monetary Fund and European Central Bank; and on other, the transposition into Portuguese law of the electricity and natural gas directives which are comprised in the European Union's "Third Energy Package". At the same level it should be noted, the actions undertaken within the international cooperation"

Regarding the programme of the financial assistance, a relevant event for the electricity and natural gas sectors, arises,, from the inclusion, as one of the objectives of the Programme in the energy market issues, the extinction of the end user last resort tariffs for electricity and natural gas, to be implemented by the 1st of January 2013.

This extinction means for the electricity sector, the low end user last resort tariffs for contracted power of less than or equal to 41.4 kVA and, for the natural gas sector, end user last resort tariffs for annual consumption of less than or equal to 10,000 m³.

Aiming to achieve this, the resolution of the Council of Ministers no. 34/2011 of the 1st of August defined the following extinction schedule:

- From the 1st of July 2012: (i) in the case of electricity, for clients with contracted power greater than or equal to 10.35 kVA and (ii) in the case of natural gas, for clients with an annual consumption which exceeds 500 m³;
- From the 1st of January 2013, for all remaining clients.

However, for clients who do not exercise their right to change to a market supplier, transitory periods are defined where the Last Resort Suppliers must continue to provide electricity and natural gas:

- Until the 31st of December 2014: (i) in the case of electricity, for consumers with contracted power of between 10.35 kVa, and 41.4 kVA, inclusive, and (ii) in the case of natural gas, for consumers with an annual consumption of less than or equal to 10,000 m³ and greater than 500 m³.
- Until the 31st of December, 2015: (i) in the case of electricity, for consumers with contracted power of less than 10.35 kVa and (ii) in the case of natural gas, for consumers with an annual consumption of less than or equal to 500 m³.

During these periods, transitory tariff, published by ERSE, will be in force, and will incorporate a factor which encourages clients to move to the market.

Another event with an impact on the electricity and natural gas sector relates to the transposition into Portuguese law of the Directives 2009/73/EC, (natural gas) and 2009/72/EC (electricity), both of 3th of

July, achieved through Decree-law no. 77/2011 and Decree-Law no. 78/2011, both the 20th of June, which introduced new rules in the organisational context of the electricity and natural gas sectors.

Among the several principles established by the transposition, we refer the following:

(i) the adoption of measures reinforcing the separation of production and sales activities and the operation of transmission networks as an instrument to achieve the establishment of an internal energy market in the European Union. In this scope the Portuguese Energy Services Regulatory Authority (ERSE), started to collect information regarding the certification procedures for the transmission network operators of electricity and natural gas.

(ii) the attribution of new powers to the regulatory entity, reinforcing its independence in carrying out its functions of regulating, monitoring and certifying entities;

(iii) the strengthening of the rules to ensure the protection of consumers and non-discriminatory third party access to the networks;

(iv) the strengthening of consumer protection principles already established, particularly within the scope of the public service of providing natural gas and electricity, as well as the protection of the vulnerable clients.

With regard to the electricity and natural gas sectors, the specific following points should be noted:

(v) in the case of natural gas, third party access to networks maintains the structure of regulated access to the infrastructure of the National Natural Gas System (SNGN), opening up, however, the possibility of new concessions for underground storage, not destined for the constitution and maintenance of emergency stocks, benefiting from a system of negotiated access.

This access is based on tariffs freely negotiated with the respective users and should be developed exclusively at the risk of the respective operator.

(vi) In the case of electricity, the planning rules of transmission and distribution networks are reinforced, in line with community objectives for the coordination of networks at a European level, thereby ensuring the security of supplies in the European Union.

In the context of unbundling, as referred above, ERSE started to collect data in order to prepare the REN - Rede Eléctrica Nacional, S.A. certification processes, as operator of the National Transmission Network (RNT), and REN Gasodutos, S.A. as an RNTGN operator.

These developments occurred in a coordinated manner between ERSE and DG ENER services.

Regarding the differentiation of the image and the Compliance Programme, they were also themes that, already in 2011, were subject to the implementation of measures to strengthen what had already been developed by ERSE in line with European legislation.

Under the legislation that established the transposition of the directives, we also refer to the sending to ERSE for an opinion (i) the Development and Investment Plan for the Electricity Transmission System (PDIRT) for the period 2012-2017, prepared by the NTS operator and (ii) the Development and Investment Plan for Electricity Distribution Networks (PDIRD) 2012-2016, prepared by the operator of the HV and MV distribution network.

For the natural gas sector, the RNTIAT Development and Investment Plan, referring to the period between the second semester of 2011 and the 1st semester of 2014, was presented to ERSE. This involved the main development and investment options in the transmission network and underground storage infrastructure and LNG terminal in the period indicated.

In terms of international cooperation, the main aspects that characterised the intervention of ERSE in the Iberian and European context are underlined.

A first reference to electricity has to do with the active collaboration with the French (CRE) and Spanish (CNE) regulators in the work inherent to the Southeast Europe region (SWE REM), and with the CNE and financial regulators in Portugal (CMVM) and Spain (CNMV), through the MIBEL Council of Regulators, in the further development and European integration of the Iberian Electricity Market.

Pertaining to the MIBEL Council of Regulators, two events which occurred in 2011 should be noted: (i) the signing, in May, of the Memorandum of Understanding to reinforce cooperation and the exchange of information between the entities responsible for regulating and supervising MIBEL; and (ii) the realisation of a public consultation, in November, on the “Regulatory Harmonisation of the Integration of Production under a Special Regime and in the operation of the respective Electricity Systems”, aimed at promoting reflection and discussion among all interested parties.

Further regarding the MIBEL Council of Regulators, a notice issued in November made public their commitment to work in close cooperation with the Iberian Market Operator – OMI – and with the system operators in Portugal and Spain – REN and REE – to take all the measures needed so that MIBEL can join forces with the markets in the Northeast region of Europe before the end of 2012.

In the case of natural gas, in 2011, the efforts undertaken jointly by ERSE and CNE for the creation and consolidation of MIBGÁS should be noted, underlining the cooperation for the establishment of a Mechanism for the Allocation of Joint Capacities in the Portugal/Spain Interconnections, as a result of which, the cooperation between the operators, in the scope of the technical management of the systems, became more effective, with more ambitious objectives having been established regarding the allocation of capacity in the interconnections.

Further regarding this, the two Iberian regulators undertook efforts to progressively eliminate the *pancaking* of tariffs and the mutual recognition of the market agents.

Working towards this objective, in 2011, ERSE and CNE prepared a comparative study of the network access tariffs applicable to the transmission between Portugal and Spain. The study was submitted for public consultation in January 2012 and its results will provide significant input towards the preparation of a proposal of rules for the setting of network access tariffs to be adopted in both Iberian countries.

Regarding more specific issues approached in this report, such as the regulation of the networks, the promotion of competition and the protection of consumers, a brief mention is made of the main aspects which characterised their progress in 2011.

Pertaining to the regulation of networks, in the case of the electricity sector, the redefinition of the regulation models with the objective of preparing the new 2012-2014 regulatory period should be noted.

The main alterations are aimed at promoting increased investment, service quality, support for innovation in networks and, as a consequence, a greater demand in terms of economic efficiencies in operating costs.

Pertaining to the promotion of competition, it should be noted that the rules of transparency in the wholesale electricity market in Portugal already benefit from a regulatory system which imposes obligations to disclose inside information to the market.

Indeed, the requirements to report relevant facts under the Regulation of Commercial Relations have already been in force for 5 years and are comparable to the prerogative expressed in the Regulation on Wholesale Energy Market Integrity and Transparency (REMIT) regarding the requirement to report inside information.

In order to promote competition, ERSE approved in 2011 the existence of a mechanism for long-term placement of energy generated by the special regime (SRG), oriented to provide traders access to this source of energy and / or price risk hedging tools suitable to their needs.

This regulatory measure was achieved with the holding of the first SRG energy auction in December 2011.

Regarding the natural gas sector, the monitoring of the wholesale market operation is marked by the fact that the intense use of *take-or-pay* contracts in this sector is known to make the transparency and symmetry of market information more difficult. This is also the case in the natural gas sector in Portugal, where, in spite of the existence of regulated mechanisms for wholesale contracting, information about the operation of the market is still limited.

Moreover, the absence of a specific negotiation *hub* in the Iberian context, which allows an explicit reference price and registration of negotiation volumes, whether spot, or with a fixed term, is an added difficulty in the task of providing the natural gas market with more information and transparency.

Lastly, a reference to the protection of consumers which, of course, is a matter that deserves special attention. In this respect, it is important to mention that mechanisms were defined to safeguard economically vulnerable clients, in addition to the discounts applied to the tariffs paid by these consumers, namely the setting of a social tariff in 2011 for natural gas, similar to the one introduced for electricity in 2010, and also the extraordinary social support for the energy consumer, instituted by the Government in September 2011.

3 THE ELECTRICITY MARKET

3.1 UNBUNDLING

CERTIFICATION OF THE TRANSMISSION NETWORK OPERATOR

In 2011, ERSE began to collect information regarding the REN - Rede Eléctrica Nacional, S.A. certification process as National Transmission Network (RNT) operator, under the combined provisions of article 10 of Directive 2009/72/EC from the European Parliament and Council of the 13th of July, article 3 of Regulation (EC) no. 714/2009 of the European Parliament and Council of the 13th of July, article 25-B of Decree-Law no. No. 29/2006 of the 15th of February, with wording amended by Decree-Law no. 78/2011 of the 20th of June, and article 27 of the Commercial Relations Code (CRC) for the electricity sector.

From the information collected, ERSE saw that the Portuguese Government had control over the company REN – Rede Eléctrica Nacional, S.A., as 100% of it was held by the company REN – Redes Energéticas Nacionais, SGPS, S.A, which in turn was 51% owned by the Portuguese Government, which also had the capacity to appoint the majority of the members of the Board of Directors of REN – Rede Eléctrica Nacional, S.A.

However, the Portuguese Government decided to re-privatize part of the share capital of REN - Redes Nacionais, SGPS, SA, thereby losing control over REN - Rede Eléctrica Nacional, S.A.

To this end, on 8/2/2012, Resolution of the Council of Ministers no. 13/2012 was published in the official Portuguese Gazette (Diário da República), whereby the companies Oman Oil Company S. A. O. C. and State Grid International Development Limited are selected to proceed with the acquisition of 15% and 25%, respectively, of the share capital of REN – Redes Energéticas Nacionais, SGPS. The completion of the sale process is expected to occur by the 30th of June 2012.

Based on this information and, in a coordinated manner with DG ENER services, ERSE continued with the certification process of REN - Rede Eléctrica Nacional, S.A.

IMAGE DIFFERENTIATION

In accordance with no. 3 of article 26 of Directive 2009/72/EC, the regulatory authorities or other competent organisms will integrate, in their attributions, the inspection of the division of system activities and electricity supply activities in the scope of the vertically integrated companies, including the differentiation of communications and brand images used.

For the purposes of transposition of this directive into Portuguese law, Decree-Law no. 78/2011 of the 20th of June was published establishing the responsibility of the distribution network operator and the last resort supplier to differentiate their images and communications in relation to each other and to other entities that operate in the NES, reiterating the regime that was already in operation under the previous national legislation. However, companies which serve a number of customers of less than 100,000 are exempt from the obligations to keep their various parts and corresponding images legally separate.

A new feature in this respect is the fact that the law itself refers to the CRC terms under which the separation of images between companies which belong to the same group must be processed.

The new CRC for the electricity sector was approved by the regulator and published in the official Portuguese Gazette (*Diário da República*) on the 19th of August 2011, stating that the distribution network operator and last resort supplier must submit, for approval from the regulator, the respective image differentiation proposals. In the case of the distribution network operator, the proposal must identify the actions and means through which the electricity distribution activity will be carried out, in an impartial and neutral manner, relating to all the other entities which operate in the NES.

For last resort suppliers, the proposal must identify the actions and means through which the last resort supplier will perform their activity so as to prevent the creation of any type of identity confusion with suppliers in the market regime and the distribution network operator that belong to the same corporate group.

The image differentiation proposals for the distribution network operator and the last resort supplier were presented to the regulator at the end of 2011 as a result of the alterations verified during this year regarding the vertically integrated company's own brand, which distinguishes the various group companies through different logos and images.

COMPLIANCE PROGRAMME

The duty of the distribution network operator to prepare a compliance programme, established in no. 2 (paragraph d)) of article 26 of Directive 2009/72/EC was transposed to Portuguese law through Decree-Law no. 78/2011. This law says that the compliance programme must be submitted for approval from the regulator, under the terms provided for in the CRC. The compliance programme required from the distribution network operator that belongs to a vertically integrated company and serves a number of customers greater than or equal to 100,000 must include measures to check its compliance and an ethical code of conduct aimed at the exclusion of discriminatory behaviour. To this end, the distribution network operator presented to the regulator, in 2011, a compliance programme proposal which includes the distribution network operator's code of conduct, which was then already in force, thereby complying with the provisions of the CRC which had been approved in 2011.

3.2 NETWORK REGULATION

3.2.1 TECHNICAL FUNCTIONING

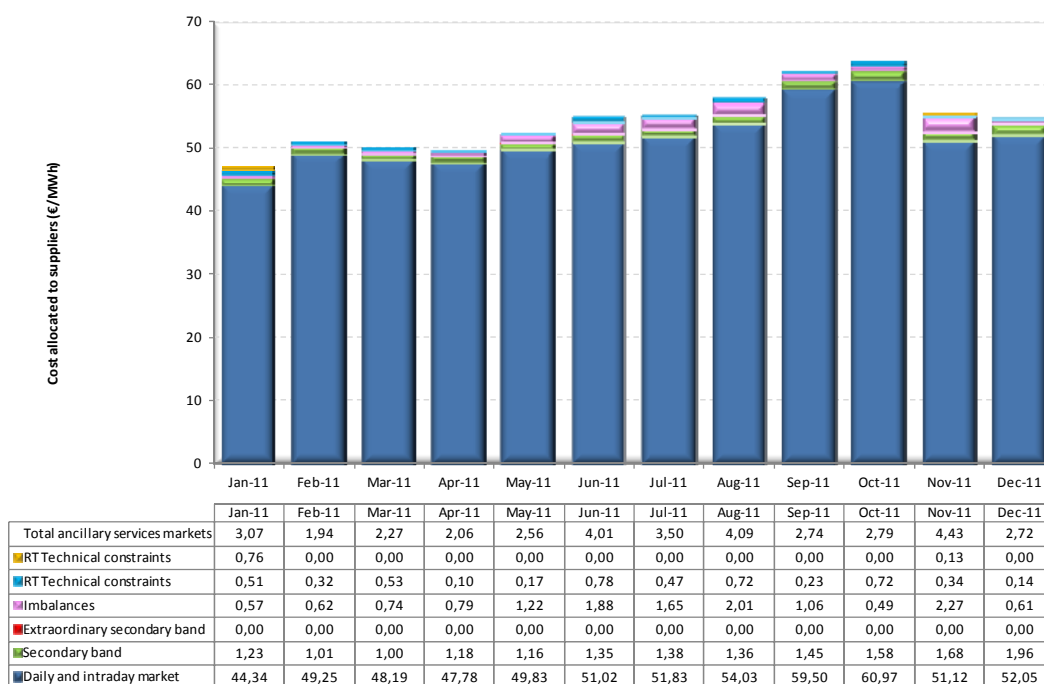
3.2.1.1 BALANCING

In 2011, as in the previous year, the service to compensate electricity generation and consumption imbalances and to resolve technical constraints was mobilized in accordance with the ancillary services market, which REN is responsible for putting into operation due to its role as Global Technical Manager of the System.

The energy mobilised to resolve technical constraints and the secondary regulation band contracted involve costs that are paid by all customers. Additionally, the costs of secondary regulation energy and regulated reserve energy mobilisation used to cancel the agents' imbalances in real time are paid by all the market agents that have deviated in a certain period.

Figure 3-1 represents the impact of daily, intraday and ancillary services markets on the costs attributed to demand in 2011. Therefore, in addition to the portion related to the daily market, another portion is shown, which relates to the ancillary services market and presents its main components.

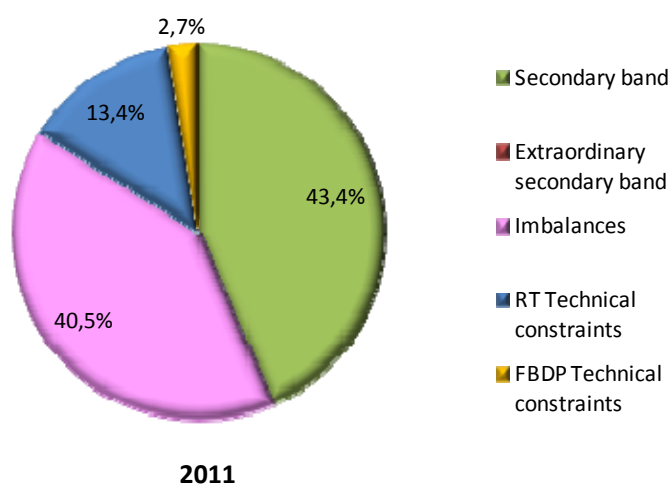
Figure 3-1 – Impact of daily markets and ancillary services market on the costs allocated to suppliers operating in Portugal, in 2011



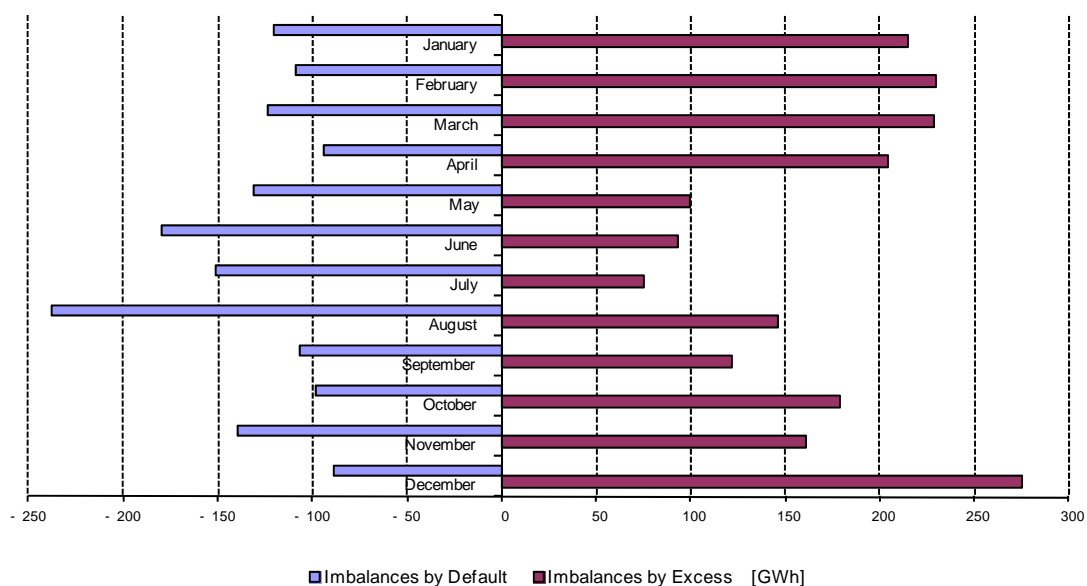
Throughout 2011, the ancillary services market represented an average weighted cost of approximately €3.00/MWh sold in comparison to the weighted marginal price in the daily and intraday market of approximately €51.60/MWh.

Figure 3-2 shows the breakdown of the ancillary services market costs, where it can be seen that the most important components relate to imbalances and secondary band contracting.

Figure 3-2 – Breakdown of the ancillary services market costs in 2011



The valuation of the imbalances for each hour corresponds exactly to the variable costs of regulation payable to those agents that rectify the imbalance by participating in the ancillary services market. Figure 3-3 shows the evolution of the energy imbalances throughout 2011 with the representation of the imbalances by default and imbalances by excess.

Figure 3-3 - Evolution of Imbalances in 2011

3.2.1.2 CONNECTIONS

The Quality of Service Regulation Code (QSRC) (for mainland Portugal) sets general indicators and respective standards for the budgeting activity and the construction of connections to low voltage networks, tasks performed by the network operators. The indicators apply to simple situations, or in other words, when there is a network with available capacity in the proximity of the installation to be connected.

The indicators and standards set are the following:

- Budget made within 20 working days - standard 95%
- Connections carried out within 20 working days - standard 95%

In addition to what is set out in the QSRC, the CRC obliges the network operators to send to ERSE, every semester, information on the number of connections made, applicants' contributions broken down by type of item, total extension of the items built, average quote periods and average execution periods.

The QSRC provides a general indicator and the respective standards for the repairing of defects in the customer's individual supply. This is an obligation imposed on network operators. Therefore, after being contacted by the customer, the network operator must arrive at the customer's installation to carry out the repair within a maximum period of between 3 to 5 hours.

Regarding accidental interruptions, the QSRC sets a general indicator and respective standard which guarantees that, in at least 85% of cases, the customer's supply is re-established within 4 hours.

3.2.1.3 QUALITY OF SERVICE

For mainland Portugal, both the Tariff Regulation Code (TRC) and the QSRC present provisions related to the regulation of service continuity.

INCENTIVE TO IMPROVE SUPPLY CONTINUITY

The TRC establishes an incentive to improve the continuity of supply with repercussions on the allowed revenue for the MV and HV distribution network operators in Mainland Portugal. The value of the incentive depends on the annual value of energy not distributed and is calculated by a method established in the regulations.

In 2010, the value of energy not distributed was greater than the reference value fixed for the regulation period, representing a penalty of around 908,000 euros on the activity of MV distribution in 2012.

Based on the information available to date, in 2011, the value of energy not distributed in the MV and HV distribution networks in 2013 will represent a premium of approximately 726,500 euros.

CONTINUITY OF SUPPLY IN 2011

The transmission and distribution networks are described in terms of continuity of supply, based on three indicators for each system (transmission and distribution):

- EIT – Equivalent Interruption Time: indicator applying to the transmission network. This expresses the system interruption time based on the average value of the expected annual capacity (Pme).
- ICEIT – Installed Capacity Equivalent Interruption Time: indicator applying to the MV distribution network. This shows the duration of the interruption of installed capacity in the transformer stations.
- SAIDI – System Average Interruption Duration Index: indicator applying to the transmission and distribution networks.
- SAIFI – System Average Interruption Frequency Index: indicator applying to the transmission and distribution networks.

The delivery points (PdE) are the points on the network where electricity is delivered to customers' premises or to another network. The transmission network indicators are calculated taking into account all interruptions at the delivery points and the distribution network indicators take into account interruptions lasting more than 3 minutes.

Table 3-1 shows the figures for continuity of supply indicators registered in mainland Portugal, in 2011.

Table 3-1 – Continuity of supply indicators registered in mainland Portugal, 2011

Voltage Level	Indicator	Interruptions	
		Programmed	Accidental
Transmission	EIT (min)	-	1.158
	SAIFI	-	0.105
	SAIDI (min)	-	0.682
MV Distribution	ICEIT (min)	0.073	150.603
	SAIFI (int/PdE)	0.004	4.151
	SAIDI (min/PdE)	0.248	252.762
LV Distribution	SAIFI (int/customer)	0.010	4.324
	SAIDI (min/customer)	1.569	276.039

Note: Provisional figures.

Source: REN, EDP Distribuição

In 2011, 16,254 instances of non-compliance with the individual standards of continuity of supply were recorded. The total value of compensation to customers was approximately 78,700 euros.

3.2.1.4 SAFEGUARD MEASURES

During 2011, there were no incidents which required the implementation of the safeguard measures established in article 42 of Directive 2009/72/EC.

3.2.2 NETWORK TARIFFS FOR CONNECTION AND ACCESS

PROCEDURES AND METHODOLOGY FOR CALCULATING ELECTRICITY GRID ACCESS TARIFFS

ERSE is responsible for preparing and publishing the Tariff Regulation Code which establishes the methodology to be used for calculating tariffs and prices and the ways of regulating the revenues allowed. Before approval, the Tariff Regulation Code must be submitted for public consultation and be the subject of an opinion from the Tariff Board. The ERSE tariff fixing process, including the time frame, is also defined in the regulations.

With the objective of contextualising the tariff calculation methodology for the grid access tariffs, the following provides a brief explanation of the current Portuguese tariff system.

The Grid Access Tariffs are charged to all electricity consumers for the use of the infrastructure. Generally speaking, these tariffs are paid by suppliers on behalf of their customers. In addition, they may be paid directly by customers benefiting from the status of Market Agent, which means customers buying energy directly on the markets, and who are responsible for managing their programming imbalances.

The revenue generated by regulated activities is recovered through specific tariffs, each with its own tariff structure and characterised by a given set of billing variables.

The following tariffs are approved for each regulated activity: Global Use of System, Use of the VHV and HV Transmission Network and Use of HV, MV and LV Distribution Networks.

Tariff prices are established in each activity so as to ensure that their structure follows the structure of the marginal costs and also enables the recovery of the allowed revenues in each activity.

Tariff charging and billing are based on the principle of non-discrimination of the energy's end use. The tariff options are available to all consumers.

Grid access paid by all electricity consumers includes the following tariffs: Global Use of System, Use of Transmission Network and Use of Distribution Network. Prices of access tariffs for each billing variable are determined by adding up the corresponding tariff prices per activity.

Insofar as the tariffs making up the sum are based on marginal costs, this situation prevents cross-subsidisation between customers and ensures an efficient allocation of resources.

This tariff calculation methodology allows for detailed knowledge of the various tariff components by activity or service. Therefore, each customer can know exactly how much they pay, for example, for the use of the MV distribution network, and how that value is considered in terms of billing. The transparency in the formulation of the tariffs, which is a consequence of the implementation of this type of system, gains special importance for customers who have no experience in selecting of supplier and in particular for customers who are less informed.

In 2011, the Tariff Regulation Code of the electricity sector was revised, with effects on tariffs in 2012, including, in particular, the following alterations:

- The introduction of tariff entry prices for the Use of the Transmission Network to be paid by electricity producers under an ordinary regime and special regime. This tariff will therefore no longer be fully paid by the consumers, with the objective of harmonisation, in the scope of MIBEL.
- The creation of a regulatory framework for the introduction of innovation in Grid Access tariffs allowing the adoption of dynamic tariffs similar to the Critical Peak Pricing type as an option made by customers, as an alternative to the current Time of Use tariffs, allowing demand to keep in step with the variety of network and generation options.

NETWORK ACCESS TARIFFS PRICES IN 2011

The variation in the average price of the Grid Access Tariffs, in mainland Portugal, is presented in the table below:

Table 3-2 – Grid access tariffs

	2010 Tariffs* €/kWh	2011 Tariffs €/kWh
Network Access Tariffs	0,0572	0,0643
Access to VHV Networks	0,0073	0,0160
Access to HV Networks	0,0100	0,0197
Access to MV Networks	0,0254	0,0381
Access to SpLV Networks	0,0505	0,0601
Access to StLV Networks	0,0970	0,0989

* Application of 2010 tariffs to the demand forecast for 2011

The figures below also give, for each voltage level, the breakdown, by regulated activity, of the average price of the Grid Access tariffs in 2011 and the structure of the average price per regulated activity for each voltage level.

Figure 3-4 – Breakdown per regulated activity of the average price of Grid Access Tariffs

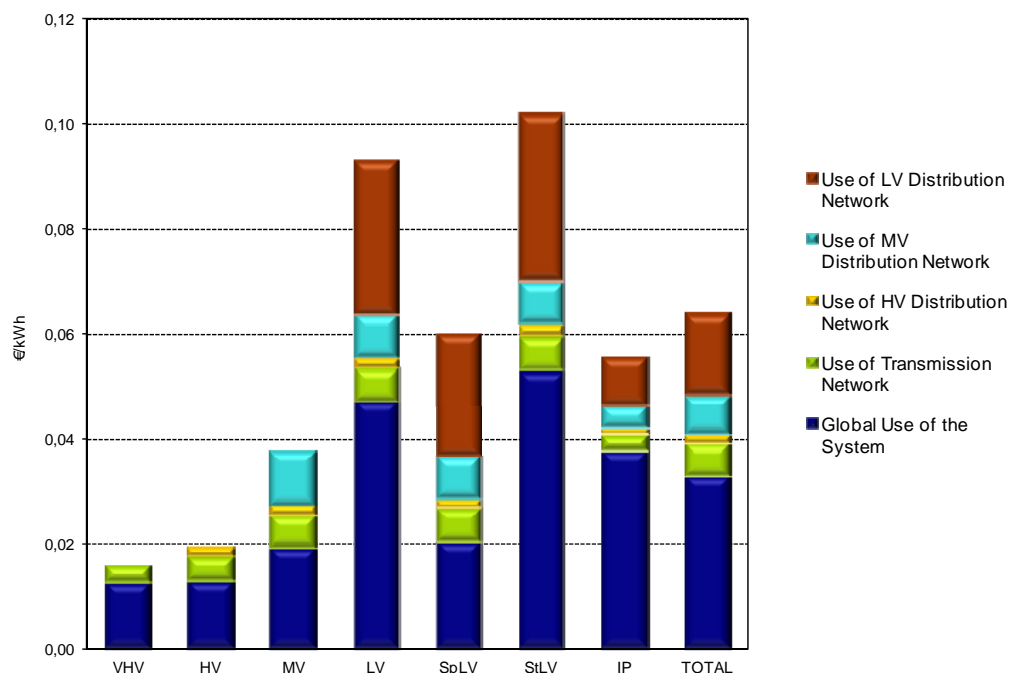
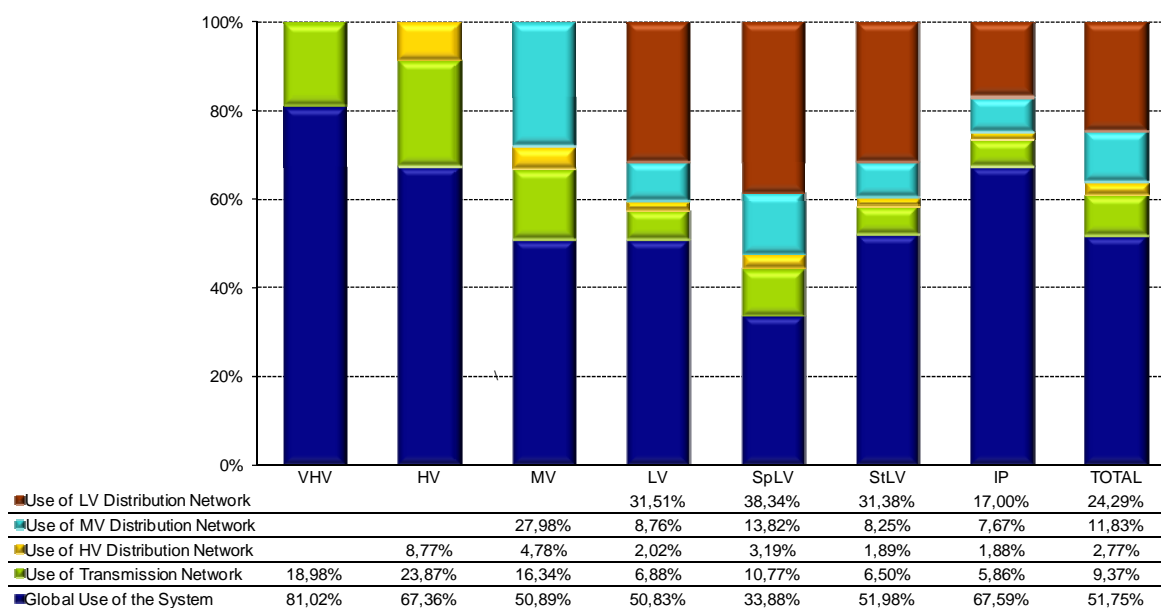


Figure 3-5 – Structure of the average price per regulated activity for each voltage level

FORMS OF REGULATION IN THE DEFINING OF ALLOWED REVENUE

2011 was the last year for the application of the methodologies defined in the 2009-2011 period of regulation, during which ERSE sought to extend the regulation by incentives to activities which traditionally were regulated by accepted costs. In short, per operator, the regulatory models subjacent to this regulatory period consist of:

- Transmission Network Operator - Model based on economic incentives: (i) application of a revenue cap type methodology on operational costs; (ii) incentive for efficient investment in the transmission network through the use of reference prices in valuing new equipment to be incorporated into the network, whose greatest risk is offset by a differentiated rate of return; (iii) the incentive to increase availability of the elements of the RNT; (iv) incentive for maintaining equipment in operation at the end of its useful life; (v) incentive to improve environmental performance.
- Distribution network operator – Regulation by incentives: (i) incentive for efficient management of operating costs via a price cap type methodology; (ii) incentive to improve quality of service; (iii) loss reduction incentive; (iv) incentive to improve environmental performance.
- Last resort supplier - Price-cap type regulation plus a remuneration which is aimed at compensating the working capital needs arising from the differential between the average payment period and the average billing period.

- Companies with electricity transmission and distribution concessions in the Autonomous Regions of the Azores and Madeira - increase in the application of a regulation through economic incentives: (i) regulation of the electricity Distribution and Sales activities via a price cap methodology for calculating allowed revenues; (ii) definition of reference costs of fuel oil consumed in electricity generation.¹ and (iii) incentive to improve environmental performance.

In order to guarantee that the consolidation of the extinction of the regulated sales tariffs to end customers does not prevent the operation of the electricity market, measures which distribute the costs associated with the liberalisation to all consumers and which guarantee its sustained development.

The definition of the economic targets was based on benchmarking studies of international scope, in the case of electricity transmission, and national scope for electricity distribution through the application of both parametric and non-parametric methods. The annual efficiency factors applied to the unit costs were 0.5%² for transmission and 3.5% for distribution. In the case of supply³, the annual efficiency factor was 3%.

The studies initiated in 2009, namely the study related to the definition of reference costs to be applied to investments in the electrical energy transmission network and the study related to fuel oil reference prices in the Autonomous Regions were finalised during 2011.

Lastly, it is important to mention that, in 2011, ERSE re-evaluated the regulation models in force, with the objective of preparing the new 2012-2014 regulation period. The main alterations for the forthcoming period are described below:

- Distribution activity: under the new model, the price cap type methodology will apply only to OPEX. Capital expenditure (CAPEX), accepted annually and taking into account the investment plans proposed by the company, will be analysed separately. Regarding the new regulatory context, it is important to note the development and implementation of intelligent networks which led to the differentiation, for regulation purposes, of investments in networks considered innovative. The principle of the differentiation of the investment in innovative networks is the recognition of greater remuneration from these assets, in exchange for greater operating efficiency.

¹ Electricity generation in the Autonomous Regions of the Azores and Madeira is regulated, and it is not liberalised because these regions have benefited from a derogation of the application of Directive 2003/54/EC.

² 3% if we consider an evolution of the activity of 2.5% per annum and that operational costs are mainly variable costs.

³ Due to the dimension of the Supply activity, the application of efficiency targets resulted from the analysis of the company's historical data but no benchmarking study was carried out.

- Supply Activity - new efficiency factors were defined and, thanks to the recent tariff extinction process, new cost drivers are expected to be defined, which will be able to reliably measure the activity undertaken.
- Regulated activities in the Autonomous Regions - regulation by incentives were introduced in activities until now regulated by accepted cost methodologies was introduced, and new cost drivers, considered more appropriate, were defined.

CONNECTIONS TO NETWORKS

The rules and costs for connecting installations to the networks take into consideration criteria of economic rationality (adherence to the connection construction costs) and the need to ensure consumer access to electricity. The rules are approved by ERSE following public consultation processes in which all interested parties participate. The rules applicable to connections to networks were updated in 2011.

DEVELOPMENT AND INVESTMENT PLAN FOR THE ELECTRICITY TRANSMISSION NETWORK

The DGEG sent to ERSE for its opinion the proposal for the Development and Investment Plan for the Electricity Transmission Network (PDIRT) for the period 2012-2017, prepared by the RNT operator under the terms of Decree-Law no. 78/2011 of the 20th of June.

The PDIRT (2012-2017) proposal sent to ERSE for its opinion justifies the main investment decisions with scenarios related to the evolution of demand for electricity (consumption and load points) which, according to ERSE's understanding, were clearly maladjusted to the current economic climate.

Therefore, ERSE informed the DGEG that prior to the issue of their opinion the PDIRT 2012-2017 proposal and its objectives would have to be updated, whereby the new investment targets should be revised and adapted to demand evolution scenarios more in line with reality, while considering the commitments from the memorandum of understanding signed by the Portuguese government, the European Commission, the European Central Bank and the International Monetary Fund.

DEVELOPMENT AND INVESTMENT PLAN FOR THE ELECTRICITY DISTRIBUTION NETWORKS

The DGEG sent to ERSE for its opinion the proposal for the Development and Investment Plan for the Electricity Distribution Network (PDIRD) for the period 2012-2016, prepared by the HV and MV distribution network operator, under the terms of Decree-Law no. 29/2006 of the 15th of February, in the wording given by Decree-Law no. 78/2011, of the 20th of June, proceeding to the transposition of Directive no. 2009/72/EC.

Generally speaking, ERSE considered that the PDIRD 2012-2016 proposal was based on general principles and criteria considered appropriate to the planning of the distribution networks, highlighting the fact that this proposal stands out due to the documents presented beforehand, corresponding to a real evolution in the sense of what is expected from a distribution network development and investment plan.

Considering the analysis carried out in 2011, and benefitting from the consultation of the Consulting Board and the Tariff Board, in 2012, ERSE gave its favourable opinion on the PDIRD 2012-2016 proposal, while calling attention to the comments and suggestions which must be considered when preparing future PDIRD proposals.

3.2.3 CROSS-BORDER ISSUES

In 2011, there were no changes made regarding the management model for interconnections between Portugal and Spain, namely regarding the model for the assignment of capacity, with this being assigned solely to the MIBEL daily and intraday market. Congestion is resolved through the application of a market splitting mechanism.

MIBEL began operating officially on the 1st of July 2007 and is based on a single daily market (OMEL) which sustains the Mechanism for Joint Management of the Portugal-Spain Interconnection. This is regulated by the rules and principles established in the following laws and regulations:

- EC Regulation no. 714/2009 of the European Parliament and Council.
- Access to Grids and Interconnections Regulations.
- Procedures Manual for the Mechanism for Joint Management of the Portugal-Spain Interconnection.
- Joint Rules for Contracting Capacity in the Portugal–Spain Interconnection.

Regarding the fixed term management of the Portugal–Spain interconnection capacity, the Committee of Chairmen confirmed their preference for the use of financial products, of an option type, in line with the proposal from the Board of MIBEL Regulators, “Joint fixed term management mechanism for the Spain-Portugal interconnection”, from May 2010. Lastly, the Board of MIBEL Regulators gave a positive valuation to the possibility of auctioning financial products for the future fixed term management of the interconnection on a harmonised platform on a European level. Therefore, it was considered opportune to analyse the possibility of using the CASC.EU platform with which the operators of the Spanish and Portuguese system have already initiated contacts.

REVENUE FROM CONGESTION ON INTERCONNECTIONS

In 2011, revenue from congestion on the interconnections between Portugal and Spain arising from the zonal price difference after the application of market splitting dropped sharply in comparison to 2010, dropping to 4.1 million euros compared with 11.9 million euros in 2010.

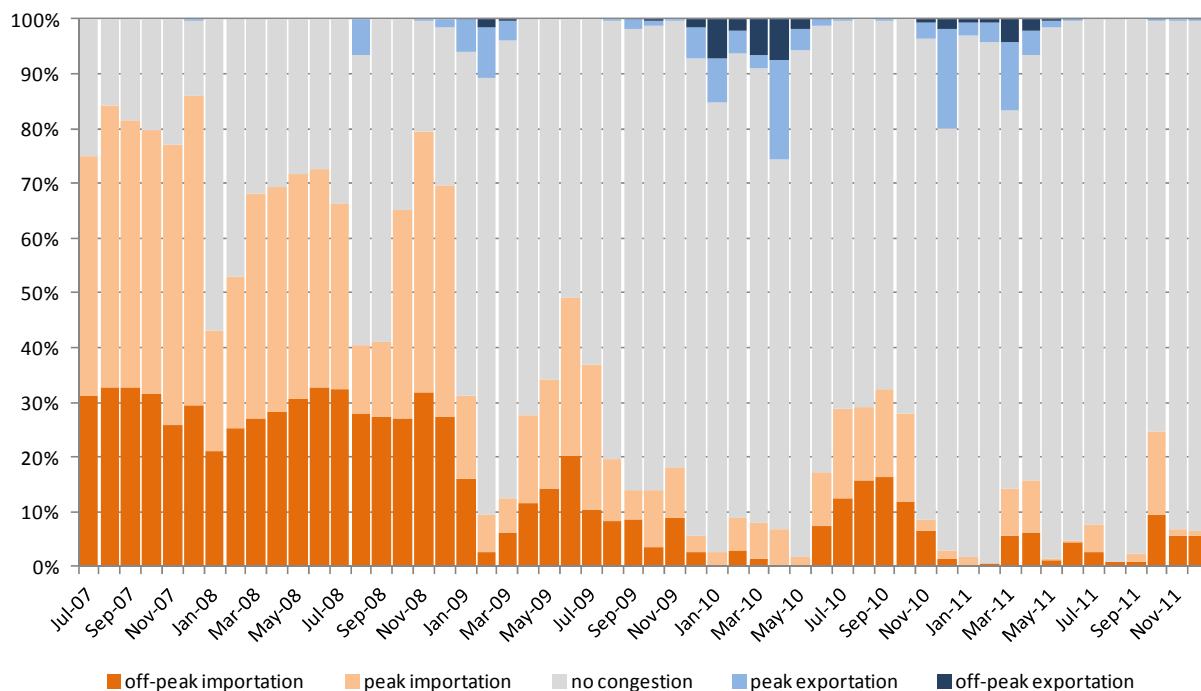
This reduction in revenue of approximately 2/3 was mainly due to the reduction in the number of congestion hours in the interconnection, in a total of almost 1100 less hours (reduction of 60%). Notwithstanding this reduction in the number of congestion hours, the price differential between the Portuguese area and the Spanish area worsened to €0.53/MWh, in comparison to €0.32/MWh in the previous year.

Table 3-3 – Monthly evolution of revenue from congestion in 2011

Month	Congestion (monthly hours)		Average price PT	Average price SP	Average price differential	Import (SP->PT)	Export (PT->SP)	Congestion income
	no. hours	% hours	(€/MWh)	(€/MWh)	(€/MWh)	(MWh)	(MWh)	(thousand €)
January	36	5%	41.26	41.19	0.08	206,908	341,029	388
February	29	4%	47.91	48.03	-0.12	274,688	160,917	143
March	155	21%	47.32	46.70	0.62	297,350	321,235	586
April	109	15%	46.85	45.45	1.40	24,576	581,130	525
May	22	3%	49.02	48.90	0.12	267,068	215,004	44
June	38	5%	50.64	50.00	0.64	98,969	380,395	192
July	58	8%	51.15	50.82	0.34	46,180	471,813	296
August	7	1%	53.60	53.53	0.07	109,925	370,691	45
September	17	2%	58.56	58.47	0.09	69,071	466,431	106
October	180	24%	59.22	57.46	1.76	70,795	419,351	898
November	48	7%	49.10	48.38	0.72	140,668	324,608	419
December	45	6%	50.66	50.07	0.59	121,013	481,194	441
								4,083

Source: ERSE, OMEL

The figure below shows the use of available capacity, in both directions, for the Portugal-Spain interconnection.

Figure 3-6 - Use of Portugal-Spain interconnection capacity

Source: ERSE, OMEL

The reduction of almost 1100 hours in interconnection congestion is explained by 153 fewer hours in the export direction, Portugal-Spain (a reduction in comparison to the 570 hours recorded in 2010) and 590 fewer hours in the import direction, Spain-Portugal (a reduction in comparison to the 1265 hours recorded the previous year).

COLLABORATION

ERSE regularly cooperates with the other European regulators in the scope of the CEER and ACER in the pursuit of the internal energy market.

As Portugal is geographically located in the Iberian Peninsula, ERSE actively collaborates with the French (CRE) and Spanish (CNE) regulators in the work inherent in the Southwest Europe region (SWE REM), and in particular with the CNE and financial regulators in Portugal and Spain, through the Board of MIBEL Regulators, in the further development and European integration of the Iberian Electricity Market.

- MEMORANDUM OF UNDERSTANDING TO REINFORCE THE COLLABORATION AND EXCHANGE OF INFORMATION

In May 2011, the Portuguese and Spanish authorities responsible for the regulation and supervision of the MIBEL – Comissão do Mercado de Valores Mobiliários (CMVM), Comisión Nacional del Mercado de

Valores (CNMV), Comisión Nacional de Energía (CNE) and ERSE – signed a memorandum of understanding to reinforce the collaboration and exchanging of information with a view to more effective supervision of the market.

This memorandum is aimed at establishing a principle of mutual collaboration and includes, among others, the exchanging of information regarding the following matters:

- Negotiation, compensation and settlement made in the MIBEL organised markets or outside of them regarding instruments of the same nature or with the same underlying asset;
- Market management entities, compensation systems or those that act as central counterparties and settlement systems;
- Other entities which operate in the MIBEL;
- Alteration proposals presented by managing entities on market operating rules, compensation systems, central counterparty functions and settlement systems.

The authorities which signed this memorandum include the Board of MIBEL Regulators whose responsibilities include, among others, coordinating the activities of its members with regards to market regulation, as well as the exercising of the respective responsibilities of supervising and monitoring MIBEL development and the issuing of opinions on the sanction of very serious offences under the scope of MIBEL.

- PUBLIC CONSULTATION ON THE “REGULATORY HARMONISATION OF THE INTEGRATION OF PRODUCTION UNDER A SPECIAL MIBEL REGIME AND IN THE OPERATION OF THE RESPECTIVE ELECTRICITY SYSTEMS”

In November 2011, the Board of MIBEL Regulators submitted, for public consultation, the document “Regulatory Harmonisation of the Integration of Production under a Special MIBEL Regime and in the operation of the respective Electricity Systems”, aimed at promoting reflection and discussion among all interested parties and whose object is the regulatory harmonisation, both existing and required, to encourage the integration of the SRG in the scope of MIBEL.

This document covers various aspects related to the SRG and its integration in the operation and working of the systems and the market, from the guidelines for the security of supply, the efficiency in the implementation of the commitments assumed regarding environmental sustainability and the economic efficiency imposed by an environment of fiscal austerity and the need to improve competitiveness.

➤ COUPLING COMMITMENT OF THE IBERIAN MARKET WITH THE NORTH-WEST REGION OF EUROPE BEFORE THE END OF 2012

In a press release on the 30th of November 2011, the Board of MIBEL Regulators confirmed their Coupling Commitment of the Iberian Market with the North-West region of Europe before the end of 2012.

The Board of MIBEL Regulators accepted the commitment of the regulators, in a close cooperation with the Iberian Market Operator– OMI – and with the system operators in Portugal and Spain – REN and REE – to take all the measures needed so that MIBEL can join forces with the markets in the Northwest region of Europe (North-West Europe, NWE, which includes the markets of France, Belgium, Holland, Germany, Luxembourg, UK, Norway, Denmark, Sweden and Finland) before the end of 2012.

Regarding the fixed term management of the Portugal–Spain interconnection capacity, the Committee of Chairmen confirmed their preference for the use of financial products, of an option type, in line with the proposal from the Board of MIBEL Regulators, “Joint fixed term management mechanism for the Spain-Portugal interconnection”, from May 2010.

Lastly, the Board of MIBEL Regulators gave a positive valuation to the possibility of auctioning financial products for the future fixed term management of the interconnection on a harmonised platform on a European level. Therefore, it was considered opportune to analyse the possibility of using the CASC.EU platform with which the operators of the Spanish and Portuguese system have already initiated contacts.

MONITORING OF RNT OPERATOR INVESTMENTS

In addition to the critical analysis carried out in the scope of the opinions on the Development and Investment Plan for the Electricity Transmission Network (PDIRT), every year, ERSE carries out an analysis of the investments made by the RNT operator for the purpose of their consideration of the allowed revenue and consequent reflection in the tariffs.

3.2.4 COMPLIANCE

For the purposes of transposition of Directive 2009/72/EC into Portuguese law, Decree-Law no. 78/2011, of the 20th of June was published.

This law, in the chapter dedicated to Regulation, set the general objectives for the ERSE regulation and attributed the powers needed for the pursuit of these objectives.

In the scope of the powers attributed by their Statutes and other applicable legislation, ERSE:

- l) Issues decisions which are binding on electricity companies.

II) Conducts inquiries into the functioning of the electricity markets.

III) Has the ability to demand information that electricity companies must provide to fulfil their functions.

ERSE directly intervenes in the resolution of disputes by encouraging the use of voluntary arbitration and making use of other mechanisms for settling disputes on a voluntary basis, through which it can recommend the resolution of specific cases.

ERSE promotes frequent inspections of records of complaints and of the installations of the electricity suppliers to assess their compliance with the law and sector regulations, particularly in relation to specific obligations relating to the Complaints Book.

3.2.5 DISPUTE SETTLEMENT

In 2011, ERSE received 4,561 complaints, of which 3,324 related to the electricity sector.

Of the total complaints received, 3,290 (approximately 72%) were complaints from the Complaints Books, with 2,388 of these relating to the electricity sector and 902 relating to the natural gas sector.

Billing, service quality and supply contracts are the topics most commonly requiring intervention by ERSE in both the regulated sectors.

Where service quality is concerned, matters raised include customer service, friendliness and the quality of the service provided by operators and suppliers at service desks and over the telephone, in addition to issues related to the characteristics of the voltage and the continuity of the supply of electricity (interruptions). The weight of complaints related to the customer service of the service providers is significant. Typically, complaints are made on impulse the existence of the Complaints Book is a contributing factor.

In 2011, ERSE received a total of 880 requests for information, of which 583 (about 66%) related to the electricity sector.

3.3 PROMOTING COMPETITION

3.3.1 PRICE MONITORING ON WHOLESALE AND RETAIL LEVEL

3.3.1.1 WHOLESALE MARKET

The evolution of price which is formed in the wholesale market in Portugal is intrinsically related to the Iberian integration and the participation of the Portuguese agents in the MIBEL context.

The price formed in the spot market is common to Portugal and Spain, except in situations in which there is congestion in the interconnection resulting in a need to apply the market splitting mechanism and so apply different prices in the two countries.

The evolution of the annual average price in the spot market, both in Portugal and in Spain, is presented in Figure 3-7.

Figure 3-7 – Evolution of the annual average price in the spot market and market splitting



As can be seen from this figure, the average price in the spot market for Portugal, in 2011, was about €50.45/MWh, approximately 35% higher than the price set in 2010 (average annual price of

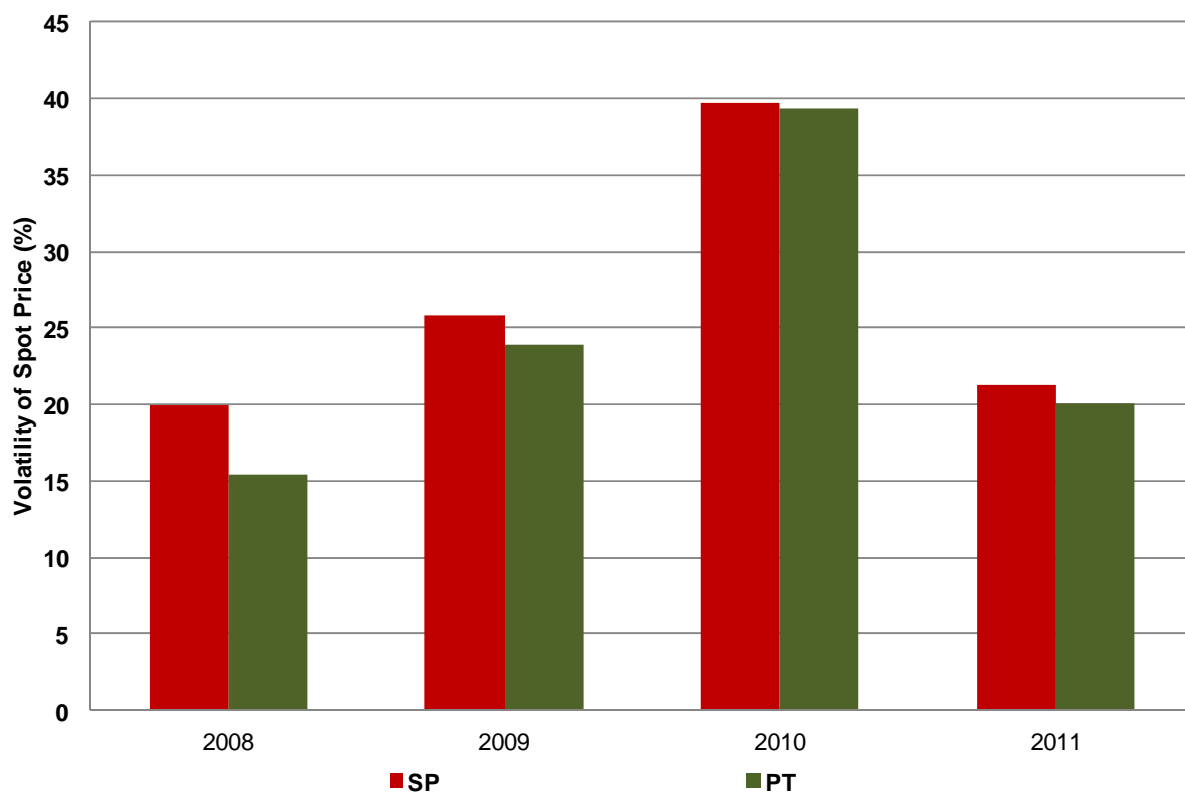
€37.33/MWh). This increase was mainly due to the evolution in water availability, greater in 2010 than in 2011, which determined the setting of the price below the marginal costs of the combined thermal plant cycle. In any case, the average value of the market price in 2011 in Portugal was approximately 15% below the marginal cost⁴ of the combined natural gas cycle plants and approximately 7% above the marginal costs of the coal thermal plants.

Regarding the setting of the spot market price, the market's volatility represents an important aspect considered by market agents, namely regarding the price risk coverage needs. In 2011, the volatility of the spot market price for Portugal, measured as a coefficient between the standard imbalance of prices in the year and the respective average price, was approximately 20%, which means that prices varied on average between €40/MWh and €60/MWh.

Figure 3-8 presents the evolution of the volatility of the annual price for the spot market, from 2008 to 2011, for both Portugal and Spain. A significant reduction in the volatility of the spot price between 2010 and 2011 is visible. These circumstances are related to the aforementioned evolution in water availability in 2010 and 2011. On the other hand, the Portuguese market has been slightly less volatile in price than the Spanish market.

⁴ Estimated marginal cost including CO₂ emissions costs.

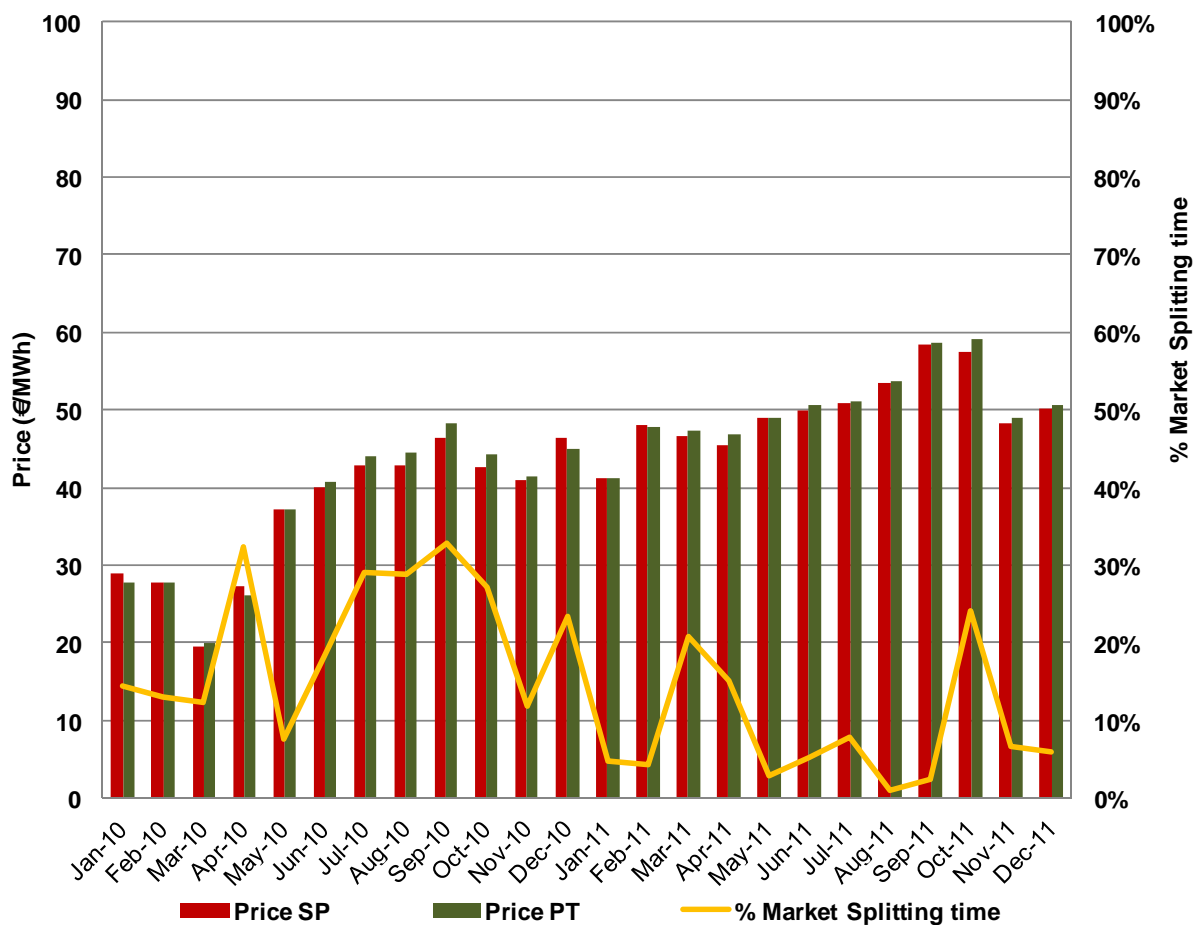
Figure 3-8 – Volatility of spot price



Note: volatility measured as a ratio between the standard imbalance of the spot price and the respective annual average

Figure 3-9 presents the evolution of prices in Portugal and Spain and the percentage of market splitting time broken down by month for 2010 and 2011. Regarding 2011, one can see (i) greater stability in the average price set in the market in 2011 in comparison to what had happened in 2010; (ii) the occurrence, in 2011, of some congestion periods in the Portugal-Spain interconnection, particularly so in the months of March and October.

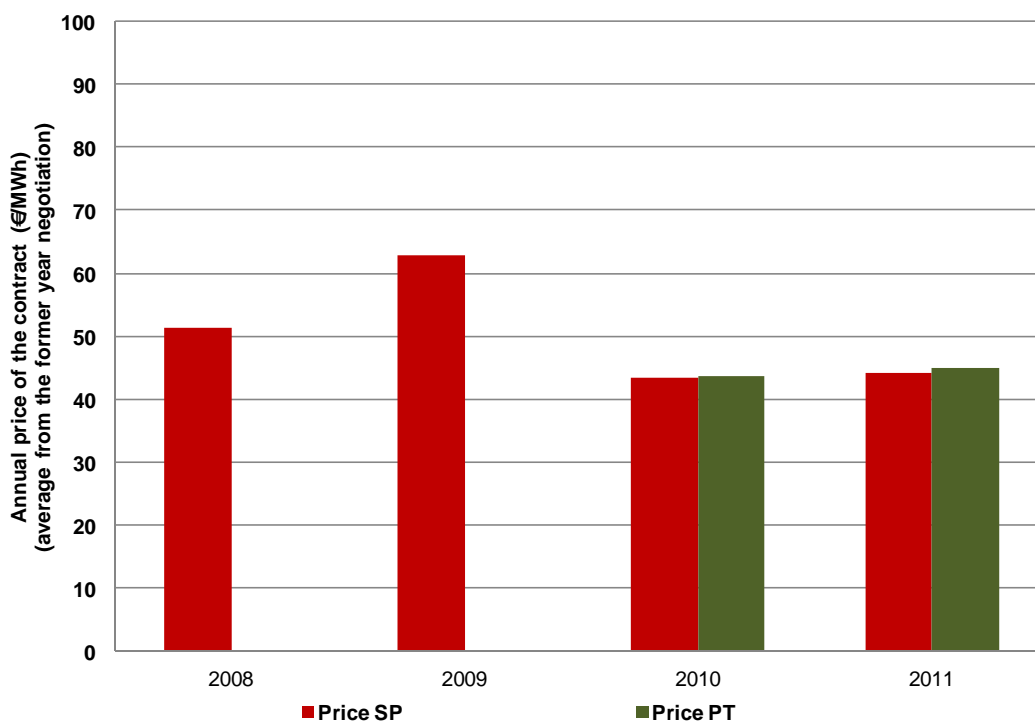
Figure 3-9 – Spot market price and market splitting time



The MIBEL operating model provides for the existence of references for forward contracting in an organised market regime, where agents can place part of their electricity needs, namely for the partial definition of the future price for the electricity to be supplied to end customers. The operating of the forward market is, in fact, an additional tool for agents to be able to mitigate the risks of the volatility of prices and ensure the availability of electricity (supply) or meet demand with characteristics of greater predictability and stability.

The evolution of the price set in the forward market, in this case the market formally forecast in the scope of the agreement for the creation of MIBEL - OMIP -, demonstrated an expectation for an increase in price between 2010 and 2011 which was below what actually occurred. In fact, the market agents who, in 2010, acquired a position in the delivery contract with a base load for 2011 would have benefitted from an average price (€44.86/MWh for Portugal) approximately 11% less than what was set in the spot market. However, the operation of the forward market already incorporated, in 2010, the expectation for a slight increase in the price differential between Portugal and Spain. Figure 3-10 presents the evolution of the average market closing prices related to the annual contract, in a delivery contract with a base load.

Figure 3-10 – Evolution of the average price for the negotiation of the annual futures contract delivery in Portugal and in Spain

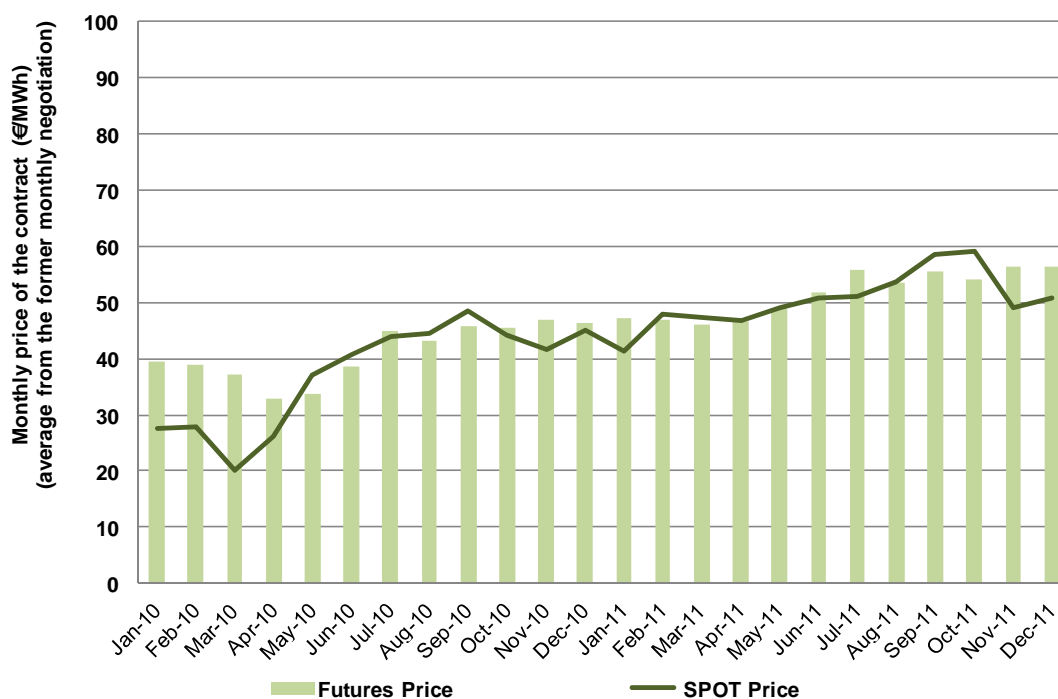


Note: the average closing price for the year prior to delivery, for a base load delivery; 2011 price corresponds to the average price set during 2010.

On the other hand, the evolution of the negotiation of monthly futures contracts with a base load delivery shows an expected redefining of expectations regarding the price set in the spot market, with the average risk premium in forward contracts being set at €1.18/MWh, or in other words, with a forward market closing price above the spot market price, contrary to what happened with the annual contract.

Figure 3-11 presents the evolution of monthly futures contract prices in the market managed by the OMIP, and also the spot negotiation price, both for Portugal. The evolution of the futures price for monthly contracts shows a trend, throughout 2011, for an increase in the price of energy traded on the organised market, in line with the evolution of the spot market, but with less variability.

Figure 3-11 – Evolution of the average price for the negotiation of the monthly futures contract delivery in Portugal



3.3.1.2 RETAIL MARKET

METHODOLOGY FOR GATHERING REFERENCE PRICES AND AVERAGE PRICES PRACTISED ON THE RETAIL MARKET

ERSE monitors the retail electricity market and informs customers and other agents in order to foster transparency. In this context it is responsible for analysing the market evolution at various levels, including those relating to prices practised. This monitoring of market prices is supplemented by the reports issued by the official bodies (INE and EUROSTAT) and is of great importance for the electricity sector.

Electricity suppliers have to send ERSE the reference prices each year⁵ and inform consumers of them and also send, quarterly, the average prices actually practised.

With the objective of improving the collection of reference price information and average prices practised, in 2011 ERSE published the new rules for the monitoring of reference prices and average prices

⁵ Reference prices should be viewed as a set of tariffs, tariff options and respective prices and indexes per billing variable offered by suppliers to their customers, and also the conditions for the application of the tariffs, namely the characteristics for minimum consumption, duration of contracts and conditions for the revision of prices.

practised in the retail electricity market. This process was based on consulting electricity suppliers operating in mainland Portugal and in the Autonomous Regions.

The reference prices sent by the various suppliers operating in the market, in mainland Portugal, allow ERSE to provide a price simulator for StLV on its website. In the scope of the new rules which were approved at the end of 2010, suppliers will also send ERSE the reference prices for facilities in SpLV, which will allow ERSE to make this information available also to all those who are interested. The average prices practised enabled a database to be set up in order to analyse retail market operations. Based on the information sent, ERSE prepares a bulletin where it carries out the analysis and treatment of the information received regarding both the reference prices and the average prices practised.

SIMULATORS

With the aim of continuing to provide information to electricity consumers on the reference prices practised in the market, as well as the computer tools to help customers choose a supplier, ERSE continues to update and offer simulators on its website that will give electricity consumers objective information to help them make an informed choice, namely regarding the selection of the best offer on the market, based on the following simulators:

- Simulation of power to contract.
- Market price comparison simulator for StLV supplies in mainland Portugal.
- Billing simulator for VHV, HV, MV and SpLV electricity in mainland Portugal.
- Billing simulator for MV and SpLV electricity in the Autonomous Region of the Azores.
- Billing simulator for HV, MV and SpLV electricity in the Autonomous Region of Madeira.

3.3.2 MONITORING THE LEVEL OF TRANSPARENCY, INCLUDING COMPLIANCE WITH TRANSPARENCY OBLIGATIONS, AND THE LEVEL AND EFFECTIVENESS OF MARKET OPENING AND COMPETITION

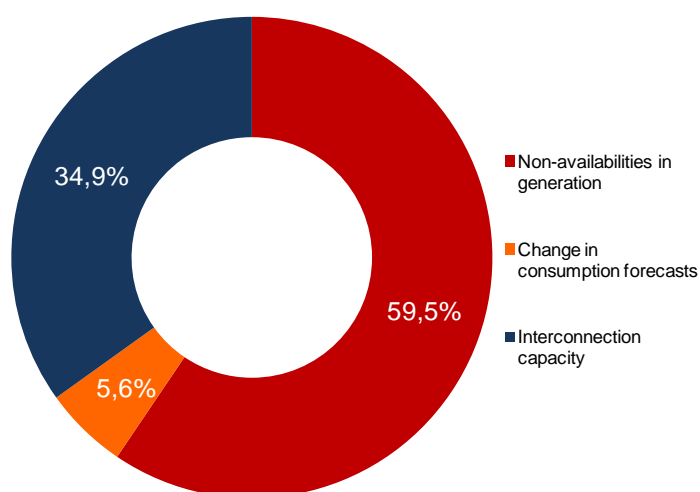
3.3.2.1 WHOLESale MARKET

From a market monitoring point of view, it is important to consider the rules of transparency in the markets. The wholesale electricity market in Portugal benefits from a regulatory system which already imposes obligations to disclose inside information to the market. Indeed, the requirements to report relevant facts under the Regulation of Commercial Relations have already been in force for 5 years and are comparable with the prerogative expressed in the Regulation on Wholesale Energy Market Integrity and Transparency (REMIT) regarding the requirement to report inside information.

Among the facts subject to the reporting requirement, are the non-programmed non-availabilities of electricity generation centres, and also their updating, in addition to the non-availabilities of networks (transmission and distribution) which may affect consumption or price setting. The alterations in the capacity commercially available in the Portugal-Spain interconnection are also subject to the requirement to provide information by REN, as the system manager, and also the significant imbalances in the forecast of aggregated consumption of the system and/or of each agent in particular.

The communication of inside information is made in a centralised manner, and is available on an internet portal managed by REN⁶. During 2011, 1,152 relevant facts were communicated. Of these, approximately 60% correspond to the communication of production non-availabilities, their updating or alteration, and 35% to alterations in the interconnection capacity available for the market and respective price setting in the context of MIBEL, as can be seen in the following figure.

Figure 3-12 – Communication of relevant facts



CHARACTERISATION OF THE MARKET

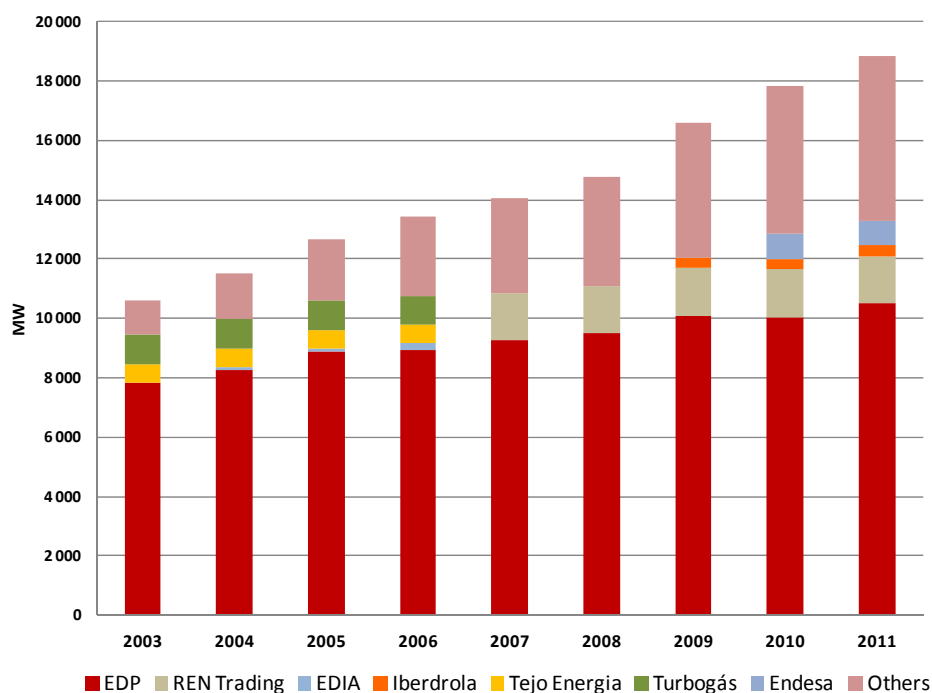
The evaluation of the wholesale market should be done through the characterisation of the power plant generation system installed and its actual generation. For this, it is important to analyse the evolution of the installed power plant generation system in terms of primary electricity used, developed in chapter 3.5.

As a complement to the analysis of the breakdown of installed capacity by technology, it is important to characterise the breakdown of the power plant generation system by owning or managing company, as in Figure 3-13, from which we can see that EDP owns most of Portugal's power plant generation system.

⁶ Available on <http://www.mercado.ren.pt/Informa/Paginas/default.aspx>.

However, its importance has been reduced in relative terms, even though there was an increase in absolute terms, in 2011, when the increase in the power from two hydro plants came into operation.

**Figure 3-13 - Characterisation of the power plant generation system in Portugal
By technology and installed capacity**



The EDP Group share in terms of installed capacity has been falling, mostly due to the growth in the special regime generation (SRG) segment in which EDP has an individual minority position. Additionally, the continuity of the validity of the measure to minimise competition risks decided on by the Competition Authority under the scope of the concentration process which consisted of the acquisition, by EDP, of operating rights in the hydropower plants in Alqueva and Pedrogão (EDIA), which led to the assignment of operating rights of the Agueira-Raiva hydropower plant for a 5-year period, with Iberdrola being the successful bidder in an international tender to award the respective operating rights.

During the period 2003 to 2011, the EDP share in total installed capacity fell approximately 18%, with a reduction between 2009 and 2011 of approximately 5%.

The characterisation of the wholesale market also includes an evaluation of the corporate concentration, both in global terms and also in terms of each of the generating technologies.

The evolution of the share of the different agents in terms of installed capacity by technology and/or regime is presented in Figure 3-14. Combining all the factors, it can be concluded that the level of concentration in the electricity generation segment in Portugal is high in terms of installed capacity, as

can be seen in Figure 3-15 showing the Hirschman-Herfindall Index (HHI), which measures corporate concentration.

Figure 3-14 - Installed capacity quotas by agents in the different technologies

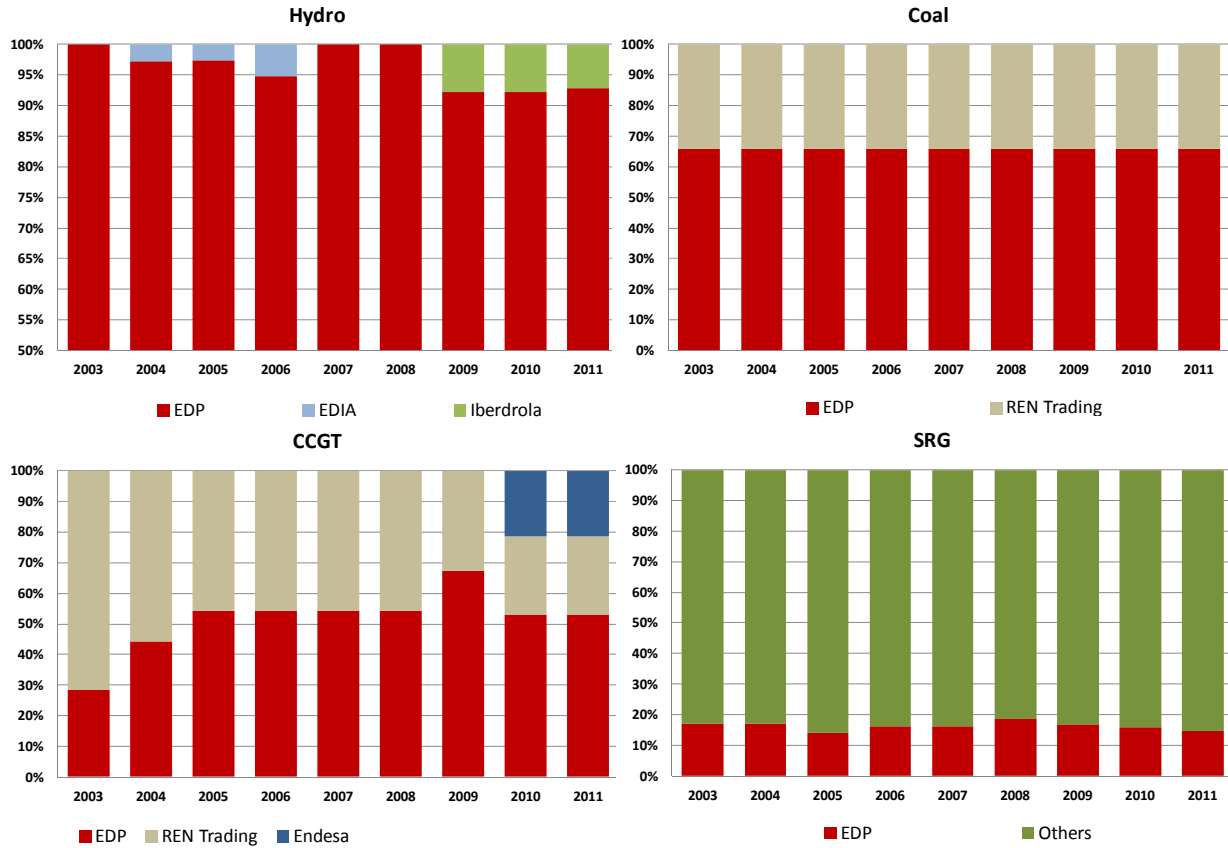
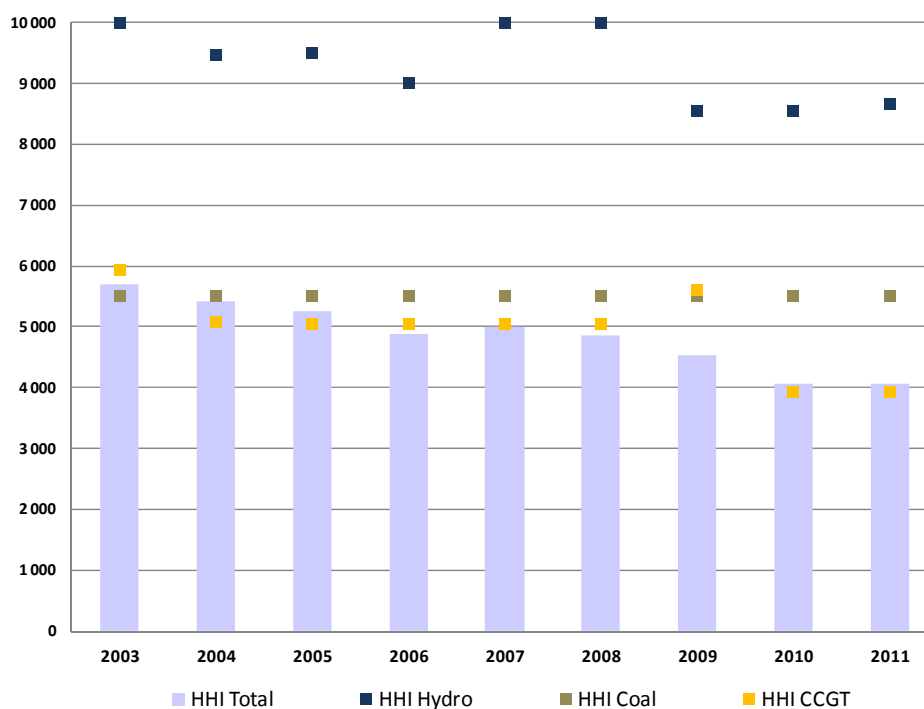
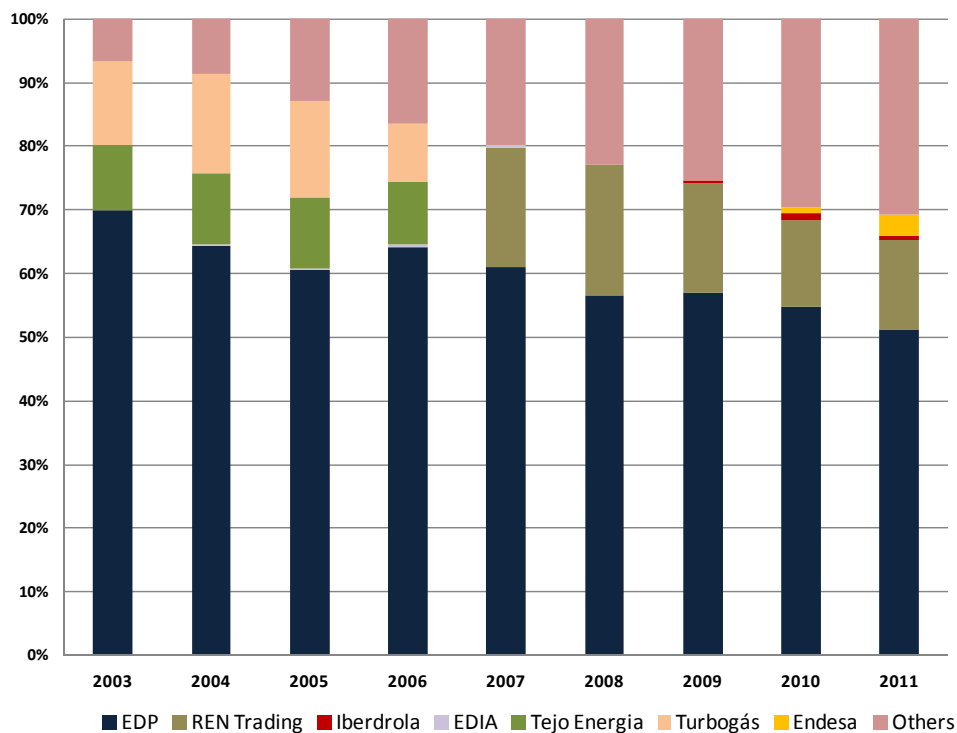


Figure 3-15 - Concentration in generation in terms of installed capacity

The HHI figures for installed capacity show an evolution, between 2003 and 2011, of a gradual reduction in the overall concentration of capacity supply in the Portuguese system, particularly via the aforementioned increase in SRG capacity. In an evolutionary perspective, the entry in 2010 of a new CCGT plant, belonging to a group of companies competing with EDP, should be noted. In the coal segment, no alterations in the corporate concentration were registered and, in the case of hydro, the entry into operation of the power reinforcements of the two plants held by EDP led to an increase in corporate concentration in this technology.

The evolution in quotas of electricity generation by agent is shown in Figure 3-16, while the same evolution in the different technologies and special regime are presented in Figure 3-17.

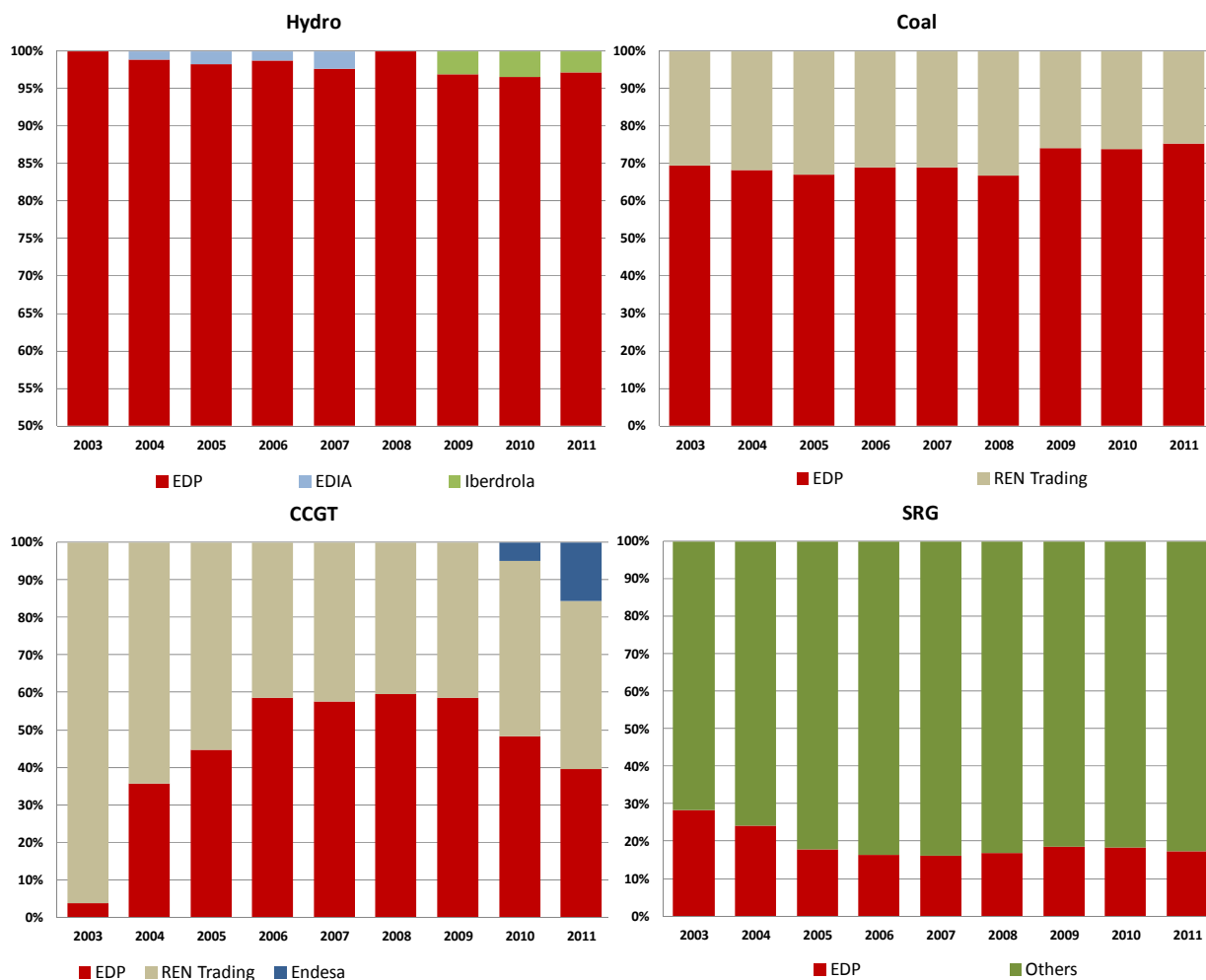
Figure 3-16 - Quotas of electricity generated by agent



Source: REN, prepared by ERSE – does not include figures for imported energy.

Overall, in 2011 there was a fall in the EDP group's participation in total generation in mainland Portugal, basically because of the increased contribution of other agents in the standard regime generation segment and the entry into operation of a new combined cycle plant owned by Endesa.

Figure 3-17 - Quotas of electricity generated by agent in the different technologies



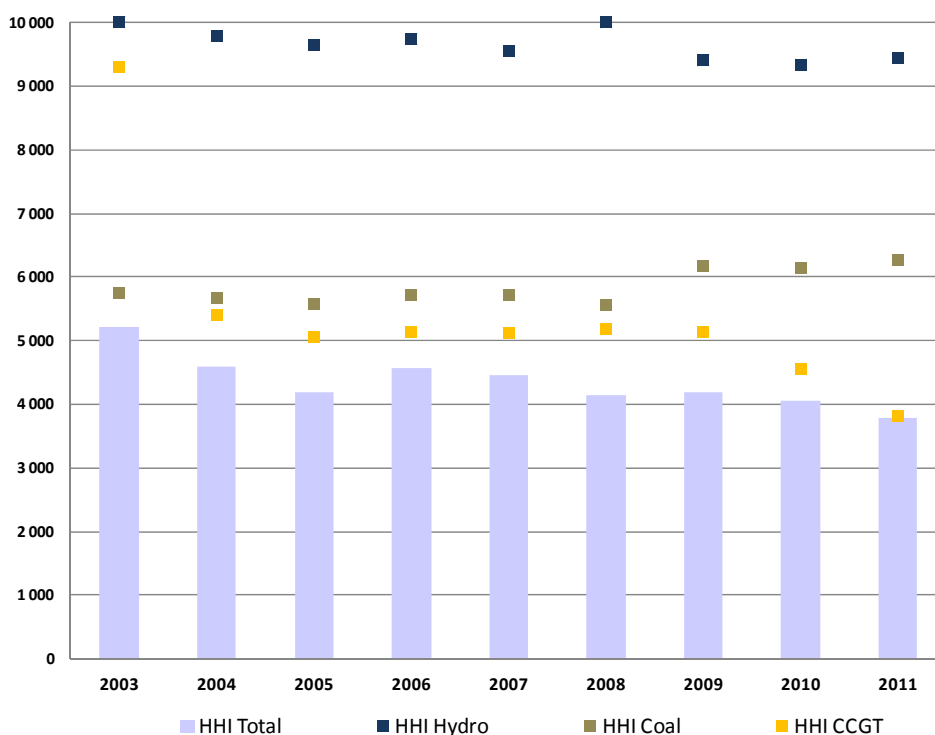
In terms of electricity generated, the trend seen between 2003 and 2011 points towards a distinct evolution in EDP's quota of generation in the main technologies. A relative stabilisation of the incumbent's quotas in the hydroelectric and coal segments was also registered with a slight increase between 2009 and 2011 in the second case.

In the case of combined natural gas cycles, after the period of entry into operation of investments made by the incumbent, the second half of 2010 was marked by the entry into service of Endesa, a fact which contributed to the reduction in the relative participation of the incumbent in this generation sector.

In the case of coal, the increase in importance of the incumbent from 2009 to 2011 is explained by the hierarchy of marginal costs of the two plants in mainland Portugal. In fact, even though the plant held by EDP has lower nominal revenue than the one which is currently operated by REN Trading, the proximity of the Sines (EDP) plant to the coal unloading terminal makes the cost of transport minimal in comparison to the Pego plant, which is located approximately 200 km away from the same coal point of delivery.

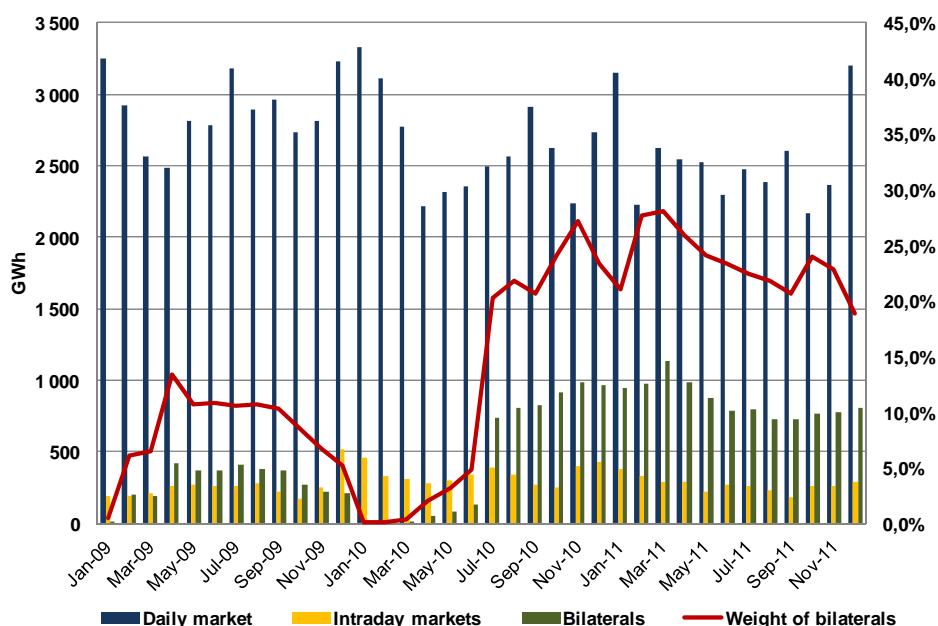
The concentration indicators for the generation of electricity, presented in Figure 3-18 show that, overall, generation in 2011 was less concentrated corporately than in 2010. This is mainly sustained by the reduction in the concentration in the CCGT units, while the position of the EDP group in special regime generation remains a minority in relation to the segment as a whole.

Figure 3-18 - Concentration in generation in terms of electricity generation



At the same time, one should bear in mind that, as a more detailed analysis is not possible, the special regime generation not controlled by EDP is, for the purposes of calculating the concentration indicators, wholly in the hands of a single entity (a single market share). Accordingly, on the one hand, the true evolution of corporate concentration in the special regime generation cannot be seen and, on the other, the figures for global concentration will be equal to or greater than those that actually exist in the current market structure.

Spot market (daily and intraday markets) trading in Portugal is much higher than trading in bilateral contracts, as shown in Figure 3-19. It is useful, however, to bear in mind that the acquisition of fixed term products listed on the MIBEL forward market is settled in cash through the daily market.

Figure 3-19 - Breakdown of the amount of energy offered between markets

Nevertheless, for 2011, the average value of the weight of the bilateral contracting in the total volume of contracting can be seen to be greater than the value recorded in the recent past. Indeed, the trend throughout the year was an increase in the weight of bilateral contracting; however, its magnitude is more stable than it was in recent years. Some of the increase and variability in the spot market contracting (daily market) can be explained by the year's high hydraulicity as the country's entire hydroelectric power plant system is included in this market reference.

The spot contracting for the wholesale market in Portugal fits into the context of deepening MIBEL in which there is a single market for Portugal and Spain with an associated mechanism for the resolution of congestion on a daily basis based on market splitting whenever the flow of electricity generated by aggregated demand and supply exceeds the commercial capacity available on the interconnection. The contracting structure in the spot market is characterised by the following aspects:

- On the demand side, the Portuguese agents, including the last resort suppliers, manage most of their demand in the spot market, and, in the case of the last resort suppliers, the quantity of electricity acquired from the special regime producers (legal imposition) is deducted from the electricity needs for supplying customers.
- On the supply side, with the exception of special regime producers, all other market agents direct their supply mainly towards the spot market.

The evolution, both for spot market demand and overall consumption in mainland Portugal is given in Figure 3-20, where it can be seen that the majority of consumption is met by purchases on the spot market. During 2011, an increase was noted in the frequency of periods where special regime generation

exceeded the needs of the last resort suppliers. This was due to the joint actions of the reduction in consumption of energy supplied by this agent and the increase in the SRG itself.

Figure 3-20 - Spot market demand and total monthly consumption

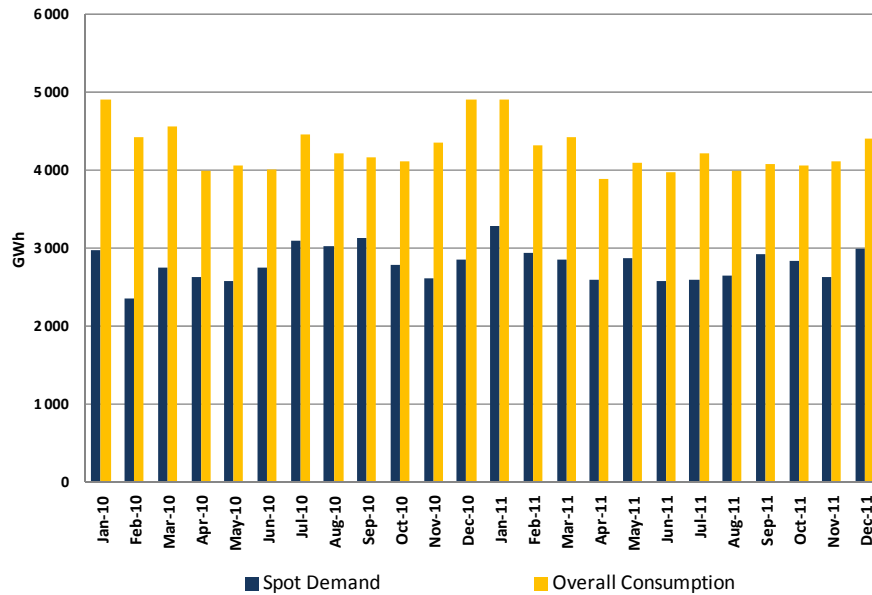
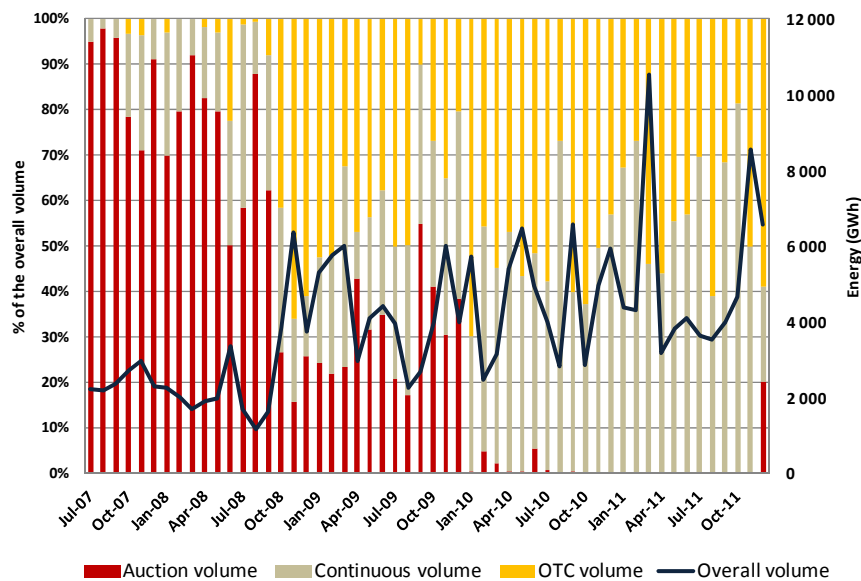


Figure 3-21 shows the evolution in the volumes recorded on the organised forward market forecast in MIBEL (OMIP). We can see a trend towards a significant increasing of operations in the continuous market and OTC operations, although with high variability over time.

Figure 3-21 - Volumes in the MIBEL forward market



The increase in the volume being negotiated in auctions in December 2011 was due to the introduction, by ERSE, of a mechanism for the placing of electricity from production in special regime designed to make means of forward procurement and/or the coverage of price risks available to suppliers in the market regime. Therefore, in December 2011, the first auction was carried out with this mechanism, and base loads were placed for delivery in Portugal corresponding to 100 MW for the whole of 2012 and 200 MW for the first quarter of the year.

The overall volume of negotiation on the forward market controlled by OMIP (including the registered operations corresponding to OTC) rose, in 2011, to over 61 TWh, which means a growth of approximately 11% in comparison to 2010.

3.3.2.2 RETAIL MARKET

EXTINCTION OF REGULATED SALES TARIFFS TO END CUSTOMERS

From the 1st of January 2011, regulated tariffs to End Customers in mainland Portugal for the supply of VHV, HV, MV and SpLV were extinguished. Therefore, in 2011 and 2012, transitory sales tariffs, published by ERSE, were in force for end customers with consumption in VHV, HV, MV and SpLV, which were calculated by applying an aggravating factor to the sum of the grid access tariffs, the average cost of energy and the regulated supply cost. The abovementioned aggravating factor is applied in order to encourage the transfer of customers from the transitory tariff to the market tariff. Therefore, the LRS should, until the 31st of December 2012, continue to supply electricity to end customers with consumption in VHV, HV, MV and SpLV who have not contracted their supply on the market.

The dates set for extinction of the regulated electricity sales tariffs for end customers with consumption in StLV are:

- From the 1st of July 2012 for customers with contracted power greater than or equal to 10.35 kVA.
- From the 1st of January 2013 for customers with contracted power less than 10.35 kVA.

From the dates given above, the new electricity sales contracts to end customers must be signed under a free price regime.

The LRS must continue to supply end customers with StLV consumption and who have not exercised their right to change to a market supplier, with electricity, in accordance with the following terms:

- For end customers with contracted power of between 10.35 kVa, and 41.4 kVA, inclusive, until the 31st of December 2014;
- For end customers with contracted power of less than 10.35 kVa, until the 31st of December 2015.

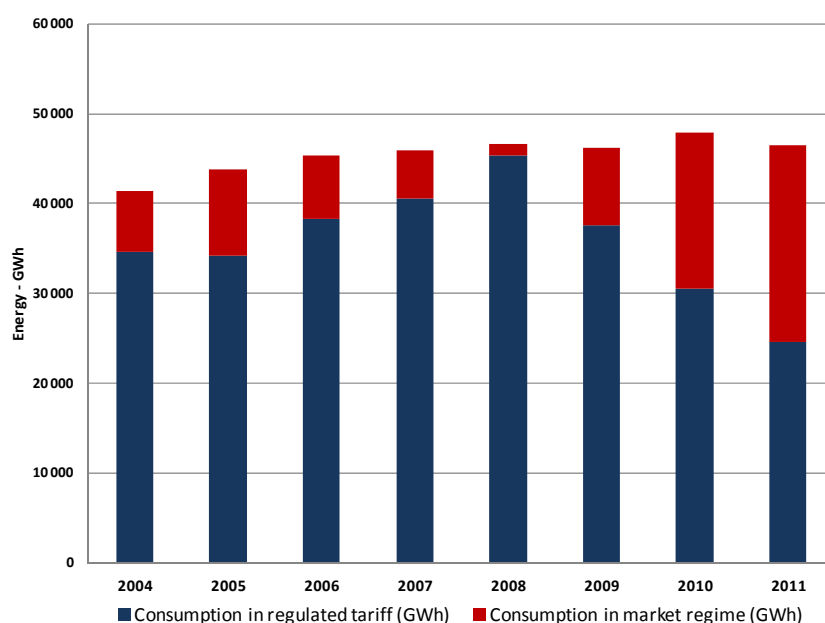
During the aforementioned transitory periods and similar to what happened in terms of higher voltage, the transitory sales tariffs, published by ERSE and calculated by applying an aggravating factor to the sum of the grid access tariffs, the average cost of energy and the regulated supply cost, will be in force.

EVOLUTION OF SALES

The liberalisation of the electricity sector in mainland Portugal followed exactly the same methodology as that used in most other European countries. The market was opened up gradually, starting with the biggest customers and the highest voltages.

The evolution of the liberalised market in Portugal can be seen in Figure 3-22.

Figure 3-22 - Breakdown of consumption between the regulated and the liberalised market



2011 consolidated the trend seen in 2010, a period when the cost of electricity implicit in the last resort tariff exceeded the price that the market returned during 2009, thereby dictating the existence of conditions conducive to customers supplied at the tariff migrating to the market. On the other hand, the increase in the size of the liberalised market was also due to the extinction of the regulated tariffs which, in 2011, covered all customers with the exception of residential customers.

This evolution meant that consumption in the market regime represented approximately 47% of total consumption in 2011.

The gradual increase in the size of the market from 2007, in terms of the total number of customers, was largely due to the continuing entry of residential customers. On the other hand, we can see that, in 2011,

all the segments covered by the extinction of the tariffs - large and industrial customers and small businesses - registered a growth in the relative weight of the market.

Figure 3-23 - Evolution of the liberalised market in mainland Portugal (no. of customers)

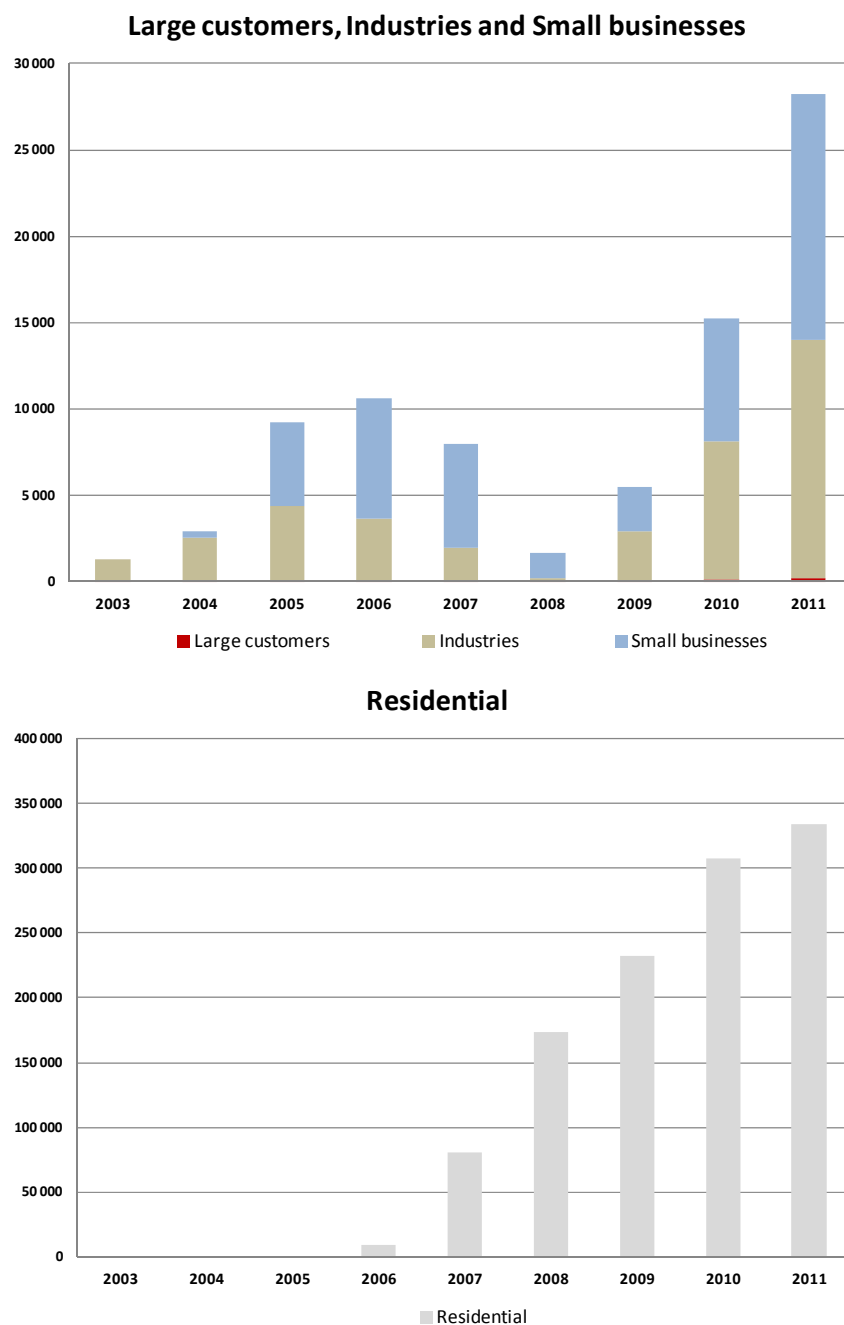
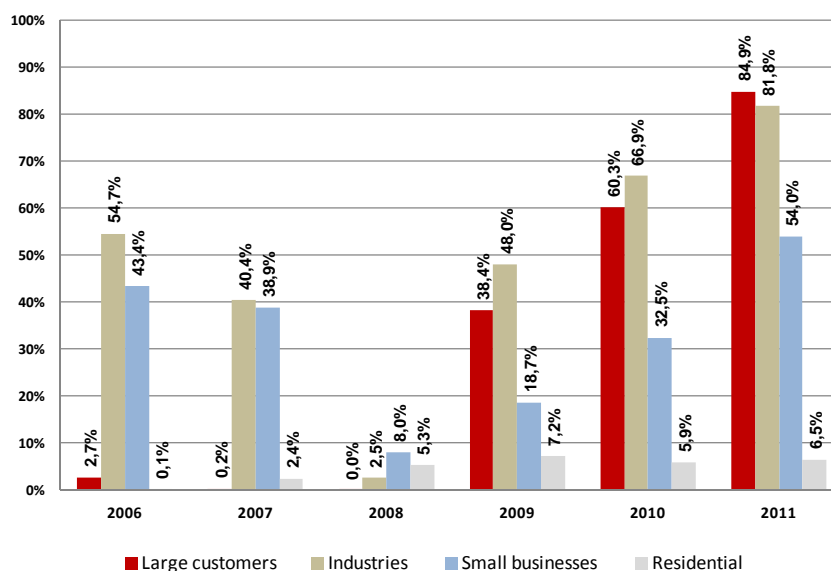


Figure 3-24 shows the part of the consumption from each segment of customers that can be found in the liberalised market. One can see that, in 2011, approximately 82% of consumption by industrial customers

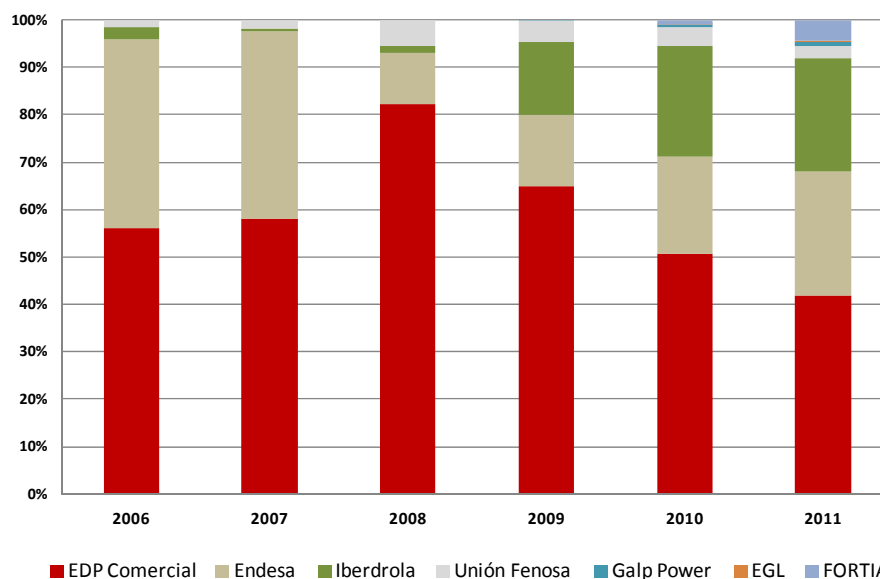
was guaranteed by market regime suppliers. The same occurred with more than 84% of consumption by large customers.

Figure 3-24 - Penetration of the liberalised market by customer segment



The evolution in the liberalised market, in terms of growth in 2011, also corresponded to a reduction in the corporate concentration. A reduction was noted in the market share of the EDP Group, the main operator, from 2008 until 2011 which, in the last year, represented approximately 42% of supplies in the liberalised market, as can be seen in Figure 3-25. An analysis by segment lets us see that the industrial customer segment is the most competitive of all, and the residential customer segment is the one which has a greater corporate concentration and a lower number of suppliers.

An analysis of the evolution of the retail market is available on the ERSE website, where one can see the issues of competitive pressure on the market and in each of the segments which form it.

Figure 3-25 - Supply structure in the liberalised market by supplier

3.3.3 RECOMMENDATIONS ON SUPPLY PRICES

In the context of regulated tariffs for the sale of electricity to StLV end customers in 2011, ERSE did not publish any recommendations on the conformity of the sales prices under the terms provided for in article 3 of Directive 2009/72/EC.

3.3.4 CARRY OUT INVESTIGATIONS AND IMPOSING MEASURES TO PROMOTE EFFECTIVE

In the table of powers of the sectorial regulation in matters related to the promotion of competition, ERSE has specific powers attributed by the legal framework of the electricity sector and other attributions which arise from competition law.

The institutional and legal framework for competition and the electricity sector states that ERSE must be consulted by the Competition Authority in the scope of corporate concentration processes, whenever those involved are acting in the electricity market. ERSE's opinion is not binding, under legal terms, and the measures for minimising competition risks (also known as operation "remedies") may be monitored by ERSE.

The monitoring of competition in the electricity markets has structural and behavioural aspects. It tends to be the responsibility of the sectorial regulation to act on the structural conditions of competition in the market, namely through the regulations which must induce principles for the development of market competition. In terms of behavioural performance, ERSE, as the sector regulator, has specific powers to

monitor the functioning of the electricity market, and, under the terms of its statutes, must notify the Competition Authority of possible practices which go against direct competition.

In 2011, as an example of the regulatory actions to promote competition, ERSE approved the existence of a mechanism for the fixed term placement of energy produced in a special regime (SRG), aimed at providing traders with access to the forms of provisioning and/or the covering of the price risk appropriate to the contracting needs of the end customers. This regulatory measure was achieved with the holding of the first SRG energy auction in December 2011 with the aim of placing the base load for 2012 and for the first trimester of the same year.

The existence of the abovementioned regulated mechanism for the placing of SRG energy is aimed at offering suppliers access to the more transparent and fairer energy procurement (hence, more competitive). Similarly, the impacts on the operation of the wholesale market are also important from a competition point of view, as the mechanism contributes to minimising the variability of conditions of SRG energy placement in market benchmarks and, thereby, to reducing the levels of uncertainty of all agents and also promote greater depth and liquidity of the forward contracting market in electricity.

Regarding the monitoring of the electricity market, especially the wholesale market, ERSE has specific monitoring powers which are attributed to them by the legal framework in force and which establish what is provided for in the Third Package of internal electricity market directives. In the execution of these powers, ERSE has in operation wholesale market monitoring and supervision systems which accompany the price setting conditions and possible occurrences of situations of abuse in the market by Portuguese agents. This monitoring and supervision also includes the collaboration which exists in the institutional framework of the Iberian electricity market (MIBEL), namely regarding the sharing of information and knowledge with the entity responsible for regulating the financial markets in Portugal (CMVM – Comissão dos Mercados e Valores Mobiliários) and in Spain (CNMV – Comisión Nacional de Mercado de Valores), and also the regulating entity for the electricity sector in Spain (CNE – Comisión Nacional de Energía).

3.4 CONSUMER PROTECTION

Regarding the transposition of Directive 2009/72/EC, the content of its appendix I is reproduced and specified in Decree-Law no. 78/2011 and consequently regulated in the CRC, published in 2011.

In terms of consumer protection, considering what is provided for in the abovementioned appendix I and in other provisions of Directive 2009/72/EC, the following developments which occurred in 2011 are worthy of note:

- Monitoring of the process of extinction of the regulated tariffs with the adoption of mechanisms to safeguard economically vulnerable end customers, namely the possibility of being supplied by LRS and the adoption of commercial relationship instruments adapted to their needs. These

safeguarding mechanisms increase the discounts applicable to economically vulnerable end customers, namely the electricity social tariff established by Decree-Law no. 138-A/2010 of the 28th of December and the extraordinary social support for electricity consumers (ASECE), provided for by Decree-Law no. 102/2011 of the 30th of September.

- Creation of the arbitration mechanism needed (Law no. 6/2011 of the 10th of March) for the purpose of resolving disputes with domestic customers, who may, through an expressed option, determine that the disputes are submitted to the existing consumption conflict arbitration centres which are free and where courts of arbitration operate with binding decisions.
- Regulation of the access to consumption data, namely through the existing standard format (Delivery Point Register) and methods of access for suppliers, according to the legislation applicable to the protection of personal data.
- Introduction in the applicable regulation (CRC) of the maximum terms provided for in Directive 2009/72/EC of the supplier change process (to be done in three weeks), including the final settlement of accounts (six weeks after the change).
- Start of the process leading to the study on the cost-benefit analysis for the implementation of intelligent meters.

3.5 SECURITY OF SUPPLY

In the Portuguese legal framework, published in 2006, the powers related to the security of supply in the electricity sector and in the natural gas sector was the responsibility of the Government who delegated its monitoring to the Directorate General for Energy and Geology. However, ERSE monitors the evolution of the installed capacity and the evolution of demand, which is dealt with in greater detail below.

3.5.1 MONITORING BALANCE OF SUPPLY AND DEMAND

Over the last year, the capacity margin, which is defined as the difference between installed generation capacity and the maximum peak load for the year, referred to as installed capacity, grew to 51% compared with 47% in 2010 and 45% in 2009. The coming into operation of the power reinforcements of the Bemposta and Picote hydro plants and the reduction in consumption contributed to this.

The evolution in installed capacity and maximum requested power is shown in Table 3-4.

Table 3-4 – Capacity margin

	2011 (MW)	2010 (MW)	2009 (MW)	2008 (MW)	2007 (MW)	2011/2007 Variation (%)
Total installed power	18905	17905	16738	14924	14041	1.35
Thermal	7407	7407	6690	5820	5820	1.27
Hydraulic	4980	4578	4578	4578	4582	1.09
SRG	6518	5920	5470	4526	3639	1.79
Maximum annual power	9192	9403	9217	8973	9110	1.01
Capacity margin	9713 (51%)	8502 (47%)	7521 (45%)	5951 (40%)	4931 (35%)	1.97

Source: 2011 data obtained from REN

In addition, consumption of electricity in 2011 was about 50.5 TWh, registering an annual fall of 3.2% (2.3% after correction for the effect of temperature and number of business days).

Contrary to 2010, 2011 was a year with a hydraulicity index of 0.92 (a drier year than the average over the last 30 years). Hydroelectric power plants supplied 22% of consumption and thermal power plants increased their share to 38% with 20% of generation coming from natural gas plants and 18% from coal plants.

Deliveries from wind power generators recorded, for the first time, a negative annual variation, in spite of the increase in installed capacity due to a reduction in the wind generation index which recorded a value of 0.97 after 3 consecutive years above the unit. Therefore, wind generation supplied 18% of national consumption.

The negative annual variations recorded in the hydropower and wind power generation contributed, in 2011, to generation from renewable origins supplying only 46% of consumption in comparison to 52% in 2010, which is even more significant if we consider that there was a reduction in consumption.

The import balance rose 7% and represented 6% of consumption.

In 2011, there was an increase in installed capacity in hydropower plants in the standard regime, with the entry into service of the power reinforcements of Bemposta and Picote, totalling an additional 431 MW, resulting in an installed capacity in large hydroelectric plants of 4.98 GW.

In terms of thermal plants in the standard regime, no changes were recorded in the power plant generation system.

In terms of generation in special regime, an installation of 598 MW of new capacity was recorded, of which 189 MW were installed by thermal power generators, 2 MW by hydropower generators, 375 MW by wind power generators and 32 MW by photovoltaic generators.

In the development of the National Transmission Network, the opening of the Prelada sub-station and the remodelling of the Ermesinde sub-station to 220 kV, are noteworthy, contributing to an improvement in consumption supply in the Porto region. With the same purpose, the opening of the Zambujal sub-station and the conclusion of the underground cable between Sacavém and the Alto de São João area, of 220kV (currently operating with 60 kV), should be noted.

In the north, in Trás-os-Montes, the Macedo de Cavaleiros-Valpaços 220 kV line entered into service. This is an important component of the future 220 kV “transmontano” axis between Lagoaça and Valdigem.

In the central region, facilitating the north-south traffic and the flow of generation in this region, the Lavos-Paraimo 400 kV line entered into service.

In the Peninsula of Setúbal, the Palmela-Ribatejo 400 kV line was diverted to Fernão Ferro in the scope of the introduction of the 400 kV in this sub-station.

Lastly, in the Algarve, to reinforce the consumption supply, the reception of renewable energy and the new interconnection with Spain, the Tavira sub-station, the Portimão-Tavira 400 kV line and the national section of the future Tavira-Puebla de Guzman (Spain) interconnection entered into operation, as did the Portimão-Tunes 3 150 kV line.

In terms of quality of the service, the Transmission Network returned its best ever performance, with an Equivalent Interruption Time of 0.27 minutes.

The percentage breakdown of electricity generation by power source in the last 5 years is presented in Table 3-5.

Table 3-5 – Breakdown of generation

	2011	2010	2009	2008	2007
Gas	28%	28%	23%	25%	21%
Import Balance	6%	5%	9%	19%	15%
Fuel	0%	1%	1%	1%	2%
Coal	18%	13%	24%	21%	23%
Hydraulic (without SRG)	20%	28%	14%	11%	19%
SRG (with mini-hydro)	36%	34%	29%	23%	20%

Source: 2011 data obtained from REN

Satisfaction of consumption requirements by the various means of supply is presented in Table 3-6.

Table 3-6 – Consumption supply

	2011 (GWh)	2010 (GWh)	Variation (%)
Hydraulic generation	10221	14869	-29.3
Thermal generation	23495	17299	12.1
SRG	18185	17924	1.5
Import balance	2813	2623	7.2
Hydro power pumping	737	512	43.9
Total consumption	50504	52204	-3.2

Source: 2011 data obtained from REN

Pertaining to the maximum power requested from the public grid, on the 24th of January, 9192 MW was registered, a value of 211 MW less than that recorded in January 2010 and current historical maximum (9403 MW).

The evolution in annual maximum power is shown in Table 3-7.

Table 3-7 – Maximum annual power

Year	Day	Power (MW)	Variation (%)
2011	24-Jan	9192	-2.24
2010	11-Jan	9403	2.01
2009	12-Jan	9217	2.72
2008	2-Dec	8973	-1.50
2007	18-Dec	9110	3.48

Source: 2011 data obtained from REN

The evolution in terms of installed power at the end of each year is shown in Table 3-8.

Table 3-8 – Power plant generation system

	2011 (MW)	2010 (MW)	Variation (MW)
HYDROELECTRIC POWER PLANTS	4980	4578	402
THERMAL POWER PLANTS	7407	7407	0
Coal	1756	1756	0
Natural gas	3829	3829	0
Fuel / Natural gas / Diesel	1822	1822	0
SRG INSTALLED POWER	6516	5919	596
Thermal generators	1868	1679	189
Hydraulic generators	412	410	2
Wind generators	4081	3706	375
Photovoltaic generators	155	123	32
Wave Energy Generators	0	2	-2
TOTAL	18903	17905	998

Source: 2011 data obtained from REN

3.5.2 MONITORING INVESTMENT IN GENERATION CAPACITIES IN RELATION TO SoS

Pertaining to new investments in generation, there are no significant developments related to the situation described in the previous report.

In accordance with the “Report on security of supply with respect to the level of electricity generation for the period of 2009 to 2020”, published by REN, the expected evolution of the electricity generation system in the standard regime in the period until 2020 is due, in addition to the CCGT groups of the Lares power plant (2x435 MW) and the Pego power plant (2x418.6) that came into service in 2009 and 2010, to the development of the construction projects of the other 4 new 400 MW CCGT groups already licensed and more recent information on the investment intentions of generators. However, and in light of the current circumstances, these new investments may be revised.

The evolution of hydroelectric power generation facilities will boost the capacity of existing plants, by a total of around 1500 MW, of which 1080 MW are reversible. In addition to this, there are two new hydroelectric power plants in the implementation phase, one in Baixo Sabor (168 MW reversible) and another in Ribeiradio (70 MW). The National Programme for Dams with High Hydropower Potential

(PNBEPH) is expected to be completed by 2020. It envisages a series of another 10 new power plants with a generation capacity of 1100 MW, 810 MW of which will use reversible equipment.

As regards SRG, Table 3-9 shows the evolution forecast for installed capacity for this type of generation.

Table 3-9 - Forecast for SRG generation

	2014 (MW)	2019 (MW)
Wind	5600	6950
Hydro (< 10 MW)	550	700
Biomass	913	943
Solar	580	1360
Waves	48	150
Geothermal	30	50
Cogeneration	2230	2590

Sources: "National Action Plan for Renewable Energy under Directive 2009/28/EC",
DGE.
"RNT Development and Investment Plan 2009-2014 (2019)" REN.

4 THE GAS MARKET

4.1 UNBUNDLING

CERTIFICATION OF THE TRANSMISSION NETWORK OPERATOR

In 2011, ERSE began to collect information regarding the REN Gasodutos, S.A. certification process as RNTGN operator, under the combined provisions of article 10 of Directive 2009/73/EC of the European Parliament and Council of the 13th of July, article 3 of Regulation (EC) no. 715/2009 of the European Parliament and Council of the 13th of July, article 21 of Decree-Law no. No. 30/2006 of the 15th of February, with wording amended by Decree-Law no. 77/2011 of the 20th of June.

From the information collected, ERSE found that the control of REN Gasodutos, S.A. was held by the Portuguese Government, with approximately 51% of the share capital of REN – Redes Energéticas Nacionais, SGPS, S.A, and which had the capacity to appoint the majority of the members of the Board of Directors. In turn, REN – Redes Energéticas Nacionais, SGPS, S.A. holds 100% of equity of REN – Ren-Gasodutos, S.A.

In 2011, the Portuguese Government decided to re-privatize part of the share capital of REN - Redes Nacionais, SGPS, SA, thereby losing control over REN Gasodutos, S.A.

To this end, on 8/2/2012, Resolution of the Council of Ministers no. 13/2012, was published in the official Portuguese Gazette (Diário da República), in which the companies Oman Oil Company S. A. O. C. and State Grid International Development Limited are selected to proceed with the acquisition of 15% and 25%, respectively, of the share capital of REN – Redes Energéticas Nacionais, SGPS. The completion of the process is expected to occur by the 30th of June 2012.

Based on this information and, in a coordinated manner with DG ENER services, ERSE continued with the certification process of REN - Gasodutos, S.A. which is in progress.

IMAGE DIFFERENTIATION

In accordance with no. 3 of article 26 of Directive 2009/73/EC, the regulatory authorities or other competent organisms must include as part of their responsibilities the inspection of the separation of the network activities and natural gas supply activities in the scope of the vertically integrated companies, including differentiation in communications and brand images used.

For the purposes of transposition of this policy into Portuguese law, Decree-Law no. 77/2011 of the 20th of June was published, establishing the duty of the distribution network operator and the last resort

supplier to differentiate their images and communications, between themselves and in relation to other entities that operate in the SNGN, reiterating the regime that was already in force under previous national legislation. However, companies which serve a number of customers of less than 100,000 are exempt from the obligations to keep their various parts and corresponding images legally separate.

A new feature in this respect is the fact that the law itself refers to the CRC terms under which the separation of images between companies which belong to the same group must be processed. The regulatory revision process which will allow the introduction of the rules provided for by the law will be developed in the second semester of 2012.

COMPLIANCE PROGRAMME

The duty of the distribution network operator to prepare a compliance programme, established in no. 2 (paragraph d)) of article 26 of Directive 2009/73/EC was transposed into Portuguese law through Decree-Law no. 77/2011. This diploma says that the compliance programme must be submitted for approval from the regulator, under the terms provided for in the CRC. The regulatory revision process which will allow the introduction of the rules provided for by the law will be developed in the second semester of 2012.

4.2 NETWORK REGULATION

4.2.1 TECHNICAL FUNCTIONING

4.2.1.1 BALANCING

The balancing rules, during 2011, included the Manual for the Procedures of Account Settling (MPAC) approved by ERSE. This manual provides details of the methodologies for determining the breakdown of the relevant points of RNTGN from which the individual balances of the market agents which correspond to the quantities of natural gas that each market agent has in the RNTIAT infrastructures will be determined.

In the specific case of RNTGN, market agents must manage the balance between the natural gas supply and demand in the transmission network so that the individual balances are within the maximum and minimum stock allocated to each of them annually, in accordance with the methodology published in MPAC. This approach translates into a tolerance attributed to each market agent, proportional to the size of their customer portfolio and in accordance with the accumulation capacity of the network (linepack).

Market agents whose balances violate the tolerances determined by their maximum and minimum individual stock are considered to be in individual imbalance and a penalty is applied in line with the costs

that these imbalances cause to the system. This is done in accordance with what is set out in the incentive mechanism to replace individual balances in the MPAC.

The incentive mechanism to replace the individual balances applies penalties based on the storage tariff of the LNG terminal, in cases in which the agents are in a situation of imbalance in the RNTGN and hold a positive stock of gas at SNGN. In situations where there is a negative balance, the penalty is determined on the basis of the valuation of natural gas in the reference markets. What is being sought, therefore, is greater involvement by the market agents in managing supplies for their customer portfolios on the one hand, and, on the other, a suitable attribution of costs incurred with the balancing of the RNTGN.

4.2.1.2 ACCESS TO STORAGE INFRASTRUCTURES, LINEPACK AND AUXILIARY SERVICES

The involvement of the market agents in managing supplies for their customer portfolio benefits individual tolerances to, on a daily basis, consolidate natural gas supply with demand in the transmission network. In practice, these tolerances correspond to an implicit access to the linepack, or in other words, the transmission network operator assumes, without an unambiguous allocation of costs, the balance of the market agents, as long as the imbalances are within the respective individual tolerances. The cost of this base service (residual balance) is incorporated in the tariffs for the use of the transmission network, and the implicit access to the linepack is proportional to the capacity attributed in the RNTGN to the market agents.

In addition to the implicit access to the linepack in the transmission network, a regime is applied, in an explicit manner, to regulated third party access (rTPA) for the storage of natural gas in the underground storage of Carriço and at the Sines LNG terminal. ERSE approves the mechanisms for the attribution of capacity and the use tariffs for the abovementioned infrastructures, safeguarding the existence of the capacity available for the commercial management of the market agents.

ERSE monitored the access conditions to the storage infrastructures, especially the situations of possible congestion at the Carriço infrastructure, verified in 2011, noting that there has thus far been capacity available for the requests from the market agents.

4.2.1.3 THIRD PARTY ACCESS TO STORAGE

In 2011, SNGN applied the regulated third party access regime to the application of the regime for negotiated third party access to natural gas storage infrastructures. It should be noted that Decree-Law no. 77/2011 of the 20th of June, states that, in respect of third party access to networks, the structure of regulated access to the SNGN infrastructure is maintained, opening up, however, the possibility of new concessions for underground storage, not destined for the constitution and maintenance of emergency reserves, benefiting from a system of negotiated access.

4.2.1.4 CONNECTIONS

The regulations in force do not set any indicator or standard related to the connections to the networks, nevertheless obliging network operators to send to ERSE, every semester, information on the number of connections made, applicants' contributions broken down by type of item, total extension of the items built, average quote periods and average execution periods and the number of alterations made to existing connections.

The QSRC provides a general indicator and the respective standards for the repairing of defects in the customer's individual supply. This is an obligation imposed on network operators. Therefore, after being contacted by the customer, the network operator must arrive at the customer's installation, to carry out the repair, within a maximum period of between 4 (domestic customers) and 3 hours (non-domestic customers), in 90% of situations evaluated in a gas year.⁷.

4.2.1.5 QUALITY OF SERVICE

The Quality of Service Regulations for the natural gas sector envisage monitoring the quality of service in this sector provided by the various infrastructure operators. Three areas are covered: continuity of service, natural gas attributes, and the pressure of natural gas supplied to customers. The Quality of Service Regulations define the evaluation rules and the characterisation of the quality of service of the supply of natural gas, and applies to customers, suppliers and sector infrastructure operators.

The annual report for the quality of service of the natural gas sector published by ERSE is aimed at briefly characterising the quality of service provided by natural gas sector entities in accordance with what is set in the Quality of Service Regulations.

Regarding the LNG terminal, general indicators have been established for service continuity with the objective of evaluating the service provided by this infrastructure in the following processes: reception of LNG from tankers and carriers (for the supply of autonomous LNG units) and the injection of natural gas into the transmission network.

In the 2010-2011 gas year, the most significant aspects in terms of the performance of the LNG terminal were the following:

- The number of loading delays in the carriers rose 64% in comparison to the previous gas year. The main causes for the delay were the non-availability of the loading bay and technical problems and non-availabilities of operation at the LNG terminal. According to REN Atlântico, these difficulties were due to the installation of a new control system in October 2010 and the REN

⁷ A gas year corresponds to a 12 month period, between the 1st of July in one year and the 30th of June in the following year, for which the natural gas tariffs are set and a quality of service report is prepared.

employee strike which took place during March 2011. Due to the increase in the number of delays and the delay time in the filling of carriers, ERSE recommended to REN Atlântico that the process be monitored.

- There were no delays in the unloading process of the tankers.
- The natural gas injection appointments for the transmission network recorded a compliance of 100%, as it had done in the recent past.

In terms of the continuity of service associated with the underground storage, it is important to evaluate the management of the natural gas flow between this infrastructure and the transmission network. On a positive note, in the 2010-2011 gas year the regulations regarding the calculation of indicators by REN Armazenagem were complied with.

The evaluation of the continuity of the supply service to the transmission network is done through general indicators which consider the number and duration of interruptions at the points of delivery. In the last two years, there were no interruptions in the transmission network.

In the distribution networks, as with the transmission network, performance is evaluated through indicators which consider the number and duration of interruptions. Of the 11 existing distribution networks, 4 did not register any interruptions (Sonorgás, Beiragás, Dianagás and Paxgás) and only 1% of the 1,239,344 customer installations registered interruptions. No customer was affected by more than one interruption. The great majority (83%) of the interruptions in the distribution network are due to random cases or cases of force majeure (c.f.f.m.), caused by third party interventions in the networks. Regarding the duration of the interruptions, 86% of the installations affected registered a duration of greater than 3 hours. The standards set for the values of the various indicators were met.

In the last three years, all the limits set in the QSRC for the characteristics of natural gas were respected.

All distribution network operators presented information on the monitoring of the pressure in their networks. The supply pressure was monitored at 527 points in the distribution networks, having registered an increase in the number of points with permanent monitoring in the networks of 3 operators (Lisboagás, Lusitaniagás and Portgás).

In 2011, there were one-off situations of non-compliance with the regulated pressure limits set in the applicable legislation and in the monitoring methodologies which, according to the distribution network operators, had no impact on the supply of natural gas to customers.

4.2.1.6 SAFEGUARD MEASURES

During 2011, there were no incidents which required the implementation of the safeguard measures established in article 46 of Directive 2009/73/EC.

4.2.2 NETWORK AND LNG TARIFFS FOR CONNECTION AND ACCESS

PROCEDURES AND METHODOLOGY FOR CALCULATING NATURAL GAS INFRASTRUCTURE ACCESS TARIFFS

In 2011, the methodology for calculating natural gas infrastructure access tariffs was maintained.

The calculation of the tariffs complies with the calculation methodology previously set in the Tariff Regulation Code. ERSE is responsible for compiling and publishing the Tariff Regulation Code, and it must be submitted for public consultation and be the subject of an opinion from the Tariff Board prior to its approval. The tariff fixing process, including the time frame, is also defined in the regulations.

The following brief characterisation of the new Portuguese tariff system serves to contextualise the tariff calculation methodology.

Thus, the infrastructure access tariffs that apply to all natural gas consumers for access to the infrastructures in question are considered, more specifically the Network Access, Use of the LNG Reception, Storage and Regasification Terminal and Use of Underground Storage Tariffs.

Generally speaking, these infrastructure access tariffs are paid by suppliers on behalf of their customers. In addition, they may be paid directly by customers benefiting from the status of Market Agent, which means customers buying energy directly on the markets, and who are responsible for managing their programming imbalances.

NETWORK ACCESS TARIFFS PRICES IN 2011

The variation in Infrastructure Access Tariffs for the 2011-2012 gas year, relative to the previous gas year, 2010-2011, are shown in the following table.

Table 4-1 – Variation in Infrastructure Access Tariffs for the 2011-2012 gas year

Network Access Tariffs	Tariff variation 2011-2012/2010-2011
Customers in LP (up to 10,000m ³ /year)	-6,0%

Network Access Tariffs	Tariff variation 2011-2012/2010-2011
Customers in HP (does not include TGCC)	-4,5%
Customers in MP and LP (above 10,000m ³ /year)	-6,9%

High Pressure Network Access Tariffs	Tariff variation 2011-2012/2010-2011
Tariff for Use of LNG Terminal	9%
Tariff for Use of Underground Storage	-6%
Tariff for Use of Transmission Network	8%
Tariff for Global Use of System	-43%

The figures below also give, for each pressure level, the breakdown and structure of the average price of the Network Access tariffs by the various tariffs comprised, for each pressure level. High pressure access does not include electricity generation centres.

Figure 4-1 – Breakdown of the average price of Network Access Tariffs

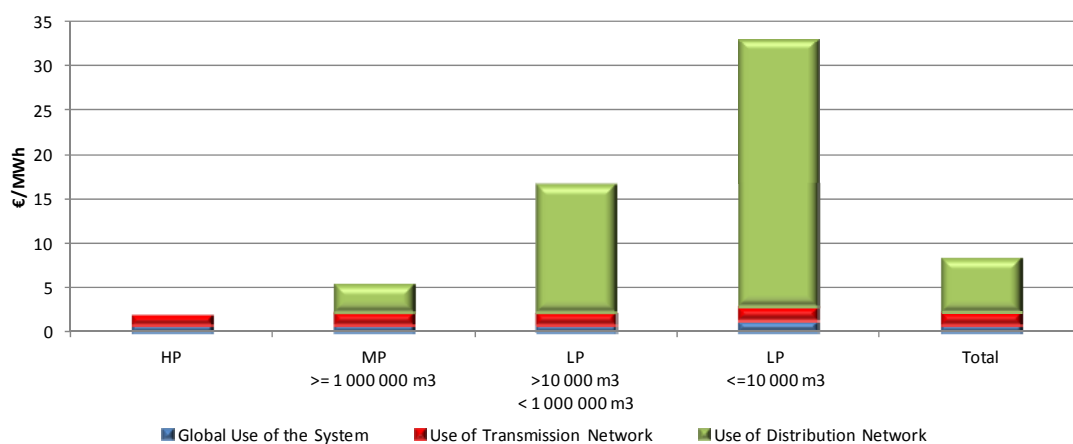
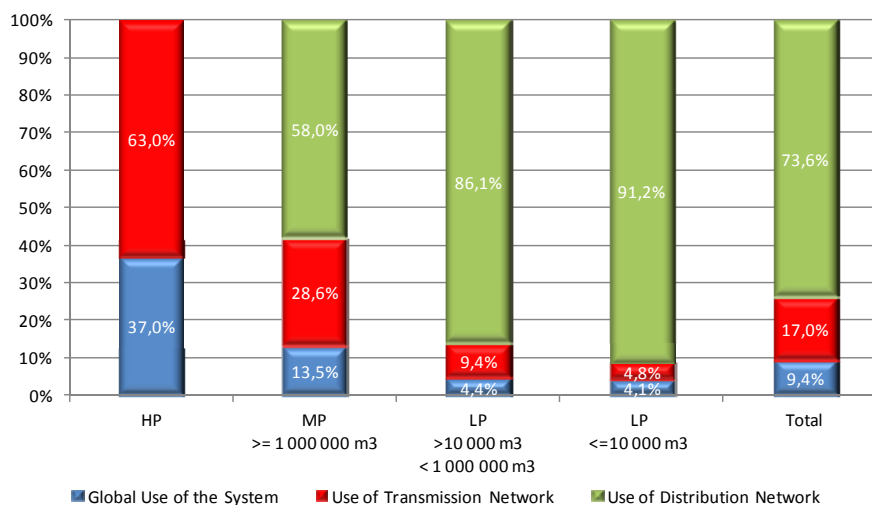


Figure 4-2 – Structure of the average price of Network Access Tariffs

REGULATED TARIFFS AND ACTIVITIES OF THE NATURAL GAS SECTOR

In the natural gas sector there are various regulated activities whose allowed revenue is established by ERSE.

The following tariffs are approved for each regulated activity: Global Use of System, Use of Transmission Network, Use of the LNG Reception, Storage and Regasification Terminal, Use of Underground Storage, Use of MP Distribution Network, Use of LP Distribution Network, Energy and Supply.

The prices for the tariffs for each activity are established in such a way that their structure reflects the structure of marginal or incremental costs and also enables the recovery of allowed revenue.

TARIFF ADDITIVITY APPLIED TO THE NATURAL GAS INFRASTRUCTURE ACCESS TARIFFS

Customers who intend to use natural gas infrastructures, namely the networks, the LNG terminal and underground storage, must pay the respective access tariffs.

Network access is paid by all consumers of natural gas. Network access tariffs are calculated by adding the following tariffs together: Global Use of System, Use of Transmission Network and Use of Distribution Network. Prices of access tariffs for each billing variable are determined by adding up the corresponding tariff prices per activity.

Insofar as the tariffs making up the sum are based on marginal costs, this situation prevents cross-subsidisation between customers and ensures an efficient allocation of resources.

Tariffs for the Use of the LNG Reception, Storage and Regasification Terminal and the Use of Underground Storage are paid only by users of these infrastructure.

This tariff calculation methodology allows for detailed knowledge of the various tariff components by activity or service. Therefore, each customer can know exactly how much they pay, for example, for the use of the MP distribution network, and how that value is considered in terms of billing. The transparency in the formulation of the tariffs, which is a consequence of the implementation of this type of system, gains special importance for customers who have no experience in selecting a supplier and in particular for customers who are less informed.

FORMS OF REGULATION IN THE DEFINING OF ALLOWED REVENUE

2011 was the second year of application of the new forms of regulation established in 2009 for the three-year period running from 2010/2011 to 2012/2013. As mentioned in the reports for the previous years, ERSE assessed the forms of regulation of the natural gas sector's activities, which resulted in some alterations.

The definition of the efficiency targets of natural gas distribution companies was based on a nationwide benchmarking study using parametric (OLS with panel data) and non-parametric (DEA) methods. In the case of the Trading activity, as this is smaller in scale, the definition of the efficiency targets did not require any specific benchmarking analysis but rather an analysis of the company's historical data.

The annual efficiency factors applied to unit costs vary between (i) 0.5% and 3.8% per company, in the case of distribution, and (ii) 3% for all last resort suppliers.

As with the electricity market, the consolidation of the extinction of the regulated sales tariffs to end customers in the natural gas market reinforced the need to develop measures which distribute the costs associated with the liberalisation of this market to all consumers and which guarantee its sustained development.

DISPUTED DECISION

In terms of appealing against a decision or methodology used by the regulating entity, under the terms provided for in no. 1 of article 41 of the Directive, the natural gas distribution network concessionaires brought lawsuits against ERSE, challenging the setting of tariffs for use of the networks regarding the gas years:

- 1st July 2010 to 30th June 2011
- 1st July 2011 to 30th June 2012

These lawsuits have no suspensory effect until a final decision has been made and are under investigation and trial in the competent administrative court.

CONNECTIONS TO NETWORKS

The commercial conditions for connection to the natural gas networks are set by ERSE. The rules and costs for connecting installations to the networks take into consideration criteria of economic rationality (adherence to the connection construction costs) and the need to ensure consumer access to natural gas. The rules are approved by ERSE following public consultation processes in which all interested parties participate. The rules applicable to connections to networks were updated in 2011.

RNTIAT DEVELOPMENT AND INVESTMENT PLAN

In April 2011, pursuant to no. 5 of article 12 of Decree-Law no. 140/2006, the DGE sent to ERSE for its opinion the RNTIAT Development and Investment Plan for the period between the 2nd semester of 2011 and the 1st semester of 2014.

This plan involves the main development and investment options in the transmission network and underground storage infrastructure and LNG terminal in the period indicated.

After analysing the abovementioned document, and considering the recommendations made by the Consulting Board and the Tariff Board, in September 2011, ERSE issued a positive restricted opinion with recommendations attached, since the scenarios used in the main investment decisions were not adjusted to the economic climate.

4.2.3 CROSS-BORDER ISSUES

ERSE is responsible for the approval of the capacity allocation mechanisms, including the rules and procedures for the management of congestion, from founded proposals presented by SNGN infrastructure operators. Following on from the abovementioned proposals, ERSE promotes consultations with all those interested, revising, if necessary, and making alterations deemed pertinent.

In this context, capacity allocation mechanisms were approved for RNTGN, the LNG Terminal and the underground storage infrastructures. Regarding the procedures management mechanisms, the lack of storage capacity encouraged the approval of rules and procedures to be applied to the storage infrastructures regarding this matter. On the other hand, as there was excess capacity in the transmission network and at the Sines LNG Terminal, there was no need to approve the congestion resolution mechanisms for these infrastructures. However, in the Regulation for Access to Networks, Infrastructures and Interconnections (RARII), the guidelines for their approval have been set.

In 2011 no congestion was recorded in the SNGN infrastructures. On the other hand, the capacity allocation mechanisms in force only allocate capacity on an annual basis, or in other words, long term commitments are not allocated.

ERSE has assumed the Framework Guidelines on Capacity Allocation, approved and published by the Agency for the Cooperation of Energy Regulators (ACER), as guidelines for the documents whose approval is their responsibility and which are based on the regulatory framework applied in Portugal.

ACCESS TO INTERCONNECTIONS

Pertaining to ACER's regional initiative for gas from the south of Europe, which aims to implement a regional natural gas market, the harmonisation of the capacity allocation mechanisms in the three countries of the south region (Portugal, Spain and France) have been set as priority. Through this, according to the European guidelines and in the context of MIBGAS, the Portugal and Spain interconnected network operators must allocate capacity in their interconnections through a Mechanism for the Allocation of Joint Capacity in the Portugal/Spain Interconnections (Valença do Minho and Campo Maior).

The works for the implementation of the Mechanism for the Allocation of Joint Capacities in the Portugal/Spain Interconnections began in 2011, and are based on the Framework Guidelines on Capacity Allocation published by ACER. ERSE and CNE are responsible for the approval of this mechanism, and is subject to consultation extended to all stakeholders.

With the Mechanism for the Allocation of Joint Capacities in the Portugal/Spain Interconnections, the procedures for the allocation of capacity is to be harmonised, implementing bundled products, eliminating the differences which are currently seen in the methodologies applied on each side of the border. However, we must wait for the conclusion of some transmission network use contracts on the Spanish side, whose commitments, in terms of capacity, limit a wider application of this concept. This mechanism will come into effect in September 2012, annually allocating capacity through auctions with a monthly breakdown.

COOPERATION

2011 was marked by the cooperation between ERSE and CNE for the establishing of the Mechanism for the Allocation of Joint Capacities in the Portugal/Spain Interconnections, as mentioned above.

The Portuguese and Spanish transmission network operators have been cooperating closely with each other with a view to the inter-operability of the two systems. This cooperation was established through Portugal/Spain interconnection management agreements, however, there was no harmonisation of the capacity products for the interconnections. As a result of the decision to implement the Mechanism for the

Allocation of Joint Capacities in the Portugal/Spain Interconnections, the cooperation between the operators became more effective with the setting of more ambitious objectives regarding the allocation of capacity in the interconnections. Therefore, the operators of both countries cooperated for the implementation of a capacity allocation mechanism at a Virtual Interconnection Point (VIP), the holding of joint auctions for the aforementioned VIP and recognition of the market agents in both systems.

ERSE and CNE, in addition to the products of capacity, made efforts to progressively eliminate the pancaking tariff and the mutual recognition of the market agents.

Pertaining to the first aspect, the harmonisation of the new network access tariff systems is particularly relevant. The distortions and difficulties which may result from the application of the access tariffs to traffic between Spain and Portugal for the creation of an Iberian market must be studied, together with the pancaking effects and the discrimination between the domestic flows and traffic. In this context, in 2011, ERSE and CNE prepared a comparative study of the network access tariffs applicable to the traffic between Portugal and Spain. The study was submitted for public consultation in January 2012 with a view to obtaining proposals from interested parties on the harmonisation of the tariffs. Next there will be an analysis on the comments received and the preparation of a proposal for network access tariff rules to be applied to traffic in MIBGAS which can be applied in each country by the authorities responsible for the setting of access tariffs.

MONITORING OF RNT OPERATOR INVESTMENTS

In 2011, REN presented the RNTIAT Development and Investment Plan (PDIR) for the period between the 2nd semester of 2011 and the first semester of 2014, with a global time frame from 2011 to the end of 2020.

The framework for this plan is set out in Decree-Law no. 140/2006 of the 26th of July, which was revised in 2011 through Decree-Law no. 77/2011 of the 20th of June, and is aimed at the adoption of a national legal framework established in the third package of community law on the internal natural gas market. In this context, the PDIR, presented in early 2011 by REN, already included the approach set by Directive 2009/73/EC and also the EC Regulation standards no. 994/2010 of the European Parliament and Council of the 20th of October regarding the security of supply to the national territory.

At the beginning of the second semester of 2011, ERSE presented their opinion on the PDIR limiting its position to a downward revision on the expected demand for natural gas on a national level, more in line with current economic circumstances. ERSE took into consideration for its opinion the coherence between the PDIR and the ENTSOG plan for the development of European networks and infrastructures, especially the infrastructures for which there are formal decisions for their development.

On an annual basis, prior to the publication of tariffs for the natural gas sector, ERSE evaluates the investments in progress, safeguarding the coherence between the values presented for the investment projects and those submitted by REN in the PDIR.

4.2.4 COMPLIANCE

For the purposes of transposition of Directive 2009/73/EC into Portuguese law, Decree-Law no. 77/2011, of the 20th of June was published.

This law sets out the general objectives for the ERSE regulation and attributed the powers needed to comply with these objectives.

In the scope of the powers attributed by their Statutes and other legislation applicable, ERSE has met the obligations inherent to its capacity as regulator, such as:

- I) Issuing decisions binding on natural gas companies;
- II) Carrying out surveys into the functioning of the natural gas markets;
- III) Has the capacity to demand, from natural gas companies, information relevant to the compliance with their functions.

ERSE directly intervenes in the resolution of disputes by encouraging the use of voluntary arbitration and making use of other mechanisms for settling disputes on a voluntary basis, through which it can recommend the resolution of specific cases.

ERSE promotes frequent inspections of records of complaints and the installations of the natural gas suppliers to assess their compliance with the law and regulations of the sector, particularly in relation to specific obligations relating to the Complaints Book.

4.2.5 DISPUTE SETTLEMENT

In 2011, ERSE received 4,561 complaints, of which 1,237 related to the natural gas sector.

In the natural gas sector, billing is also the topic about which most customers contacted ERSE, followed by the quality of service and matters related to the supply contract.

It should be noted that in the natural gas sector, the quality of service refers exclusively to matters related to customer service at branches and by telephone, scheduled technical visits, and others.

In 2011, ERSE received a total of 880 requests for information, of which 130 (about 15%) related to the natural gas sector.

4.3 PROMOTING COMPETITION

4.3.1 PRICE MONITORING ON WHOLESALE AND RETAIL LEVEL

4.3.1.1 WHOLESALE MARKET

The natural gas wholesale market in Portugal does not really have a reference for the setting of prices based on an organised or regulated market. On the other hand, Portugal is not a natural gas producer, so negotiation and procurement form the first segment of the value chain of the sector.

In this context, the Portuguese market is supplied with natural gas through entries into the system via the interconnection with Spain (Campo Maior and Valença) and the port terminal at Sines (LNG terminal), by means of long-term contracts.

The supply of natural gas through the interconnections is essentially based on the contract between Sonatrach and the Galp group which includes the supply of acquisition obligations and the payment of quantities consumed or not (take-or-pay clause). This contract presupposes the existence of annual supplies of around 2.5 bcm for the duration of the contract, i.e. until 2020.

Supply through the terminal is, essentially, based on contracts of the same nature, where the LNG comes from Nigeria. This contract follows price rules defined in contracts, and envisages to an annual volume of approximately 3.42 bcm.

Other agents of less importance in the Portuguese market supply natural gas from Spain, where there is a liquid wholesale market, with supplies from Algeria, Nigeria, Trinidad and Tobago, Egypt, Qatar, Oman, Norway, Libya, Equatorial Guinea and others.

4.3.1.2 RETAIL MARKET

METHODOLOGY FOR GATHERING REFERENCE PRICES AND AVERAGE PRICES PRACTISED ON THE RETAIL MARKET

ERSE monitors the retail natural gas market and advises customers and other agents, seeking to foster transparency as a critical factor for efficiency. In this context it is responsible for analysing the market evolution at various levels, including those relating to prices practised. This monitoring of market prices is supplemented by the reports issued by the official bodies (INE and EUROSTAT) and is of great importance to those who participate in the electricity sector.

Natural gas suppliers have to send ERSE the reference prices each year⁸ and publicise them, as well as sending, quarterly, the average prices actually practised in the retail market.

In 2010, with the objective of defining a methodology for the monitoring of reference prices and average prices practised by natural gas suppliers, ERSE began the process to establish the respective rules for monitoring reference prices and average prices practised on the natural gas retail market based on consulting natural gas suppliers in mainland Portugal. The new rules were published in December 2010, and the supervision of the prices began in 2011.

The reference prices sent by the various suppliers operating in the market, in mainland Portugal, allowed ERSE to provide a price simulator for installations with annual consumption of less than 10,000 m³ on its website in 2012. The average prices practised, which ERSE only began receiving in 2011, under the scope of the aforementioned ordinance, enabled a database to be set up in order to analyse retail market operations.

4.3.2 MONITORING THE LEVEL OF TRANSPARENCY, INCLUDING COMPLIANCE WITH TRANSPARENCY OBLIGATIONS, AND THE LEVEL AND EFFECTIVENESS OF MARKET OPENING AND COMPETITION

4.3.2.1 WHOLESALE MARKET

In spite of a process being underway to systematise the rules of transparency and integrity of the market at a European level, it is acknowledged that the use of long term natural gas contracting mechanisms makes the transparency and symmetry of information on the market difficult. This is also the case in the natural gas sector in Portugal, where, in spite of the existence of regulated mechanisms for wholesale contracting, information about the operation of the market is still limited.

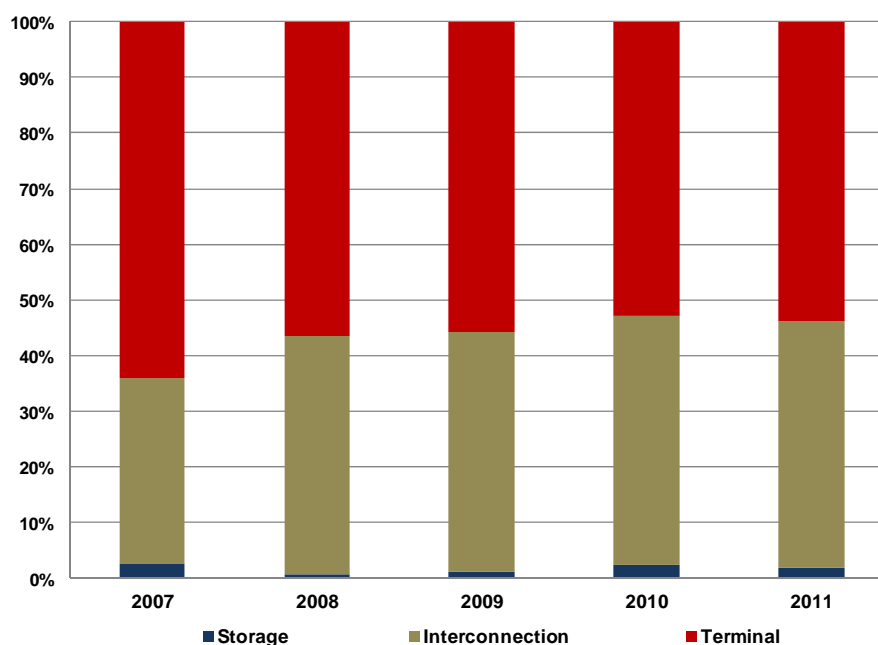
Moreover, the absence of a specific negotiation hub in the Iberian context allowing an explicit reference price and registration of negotiation volumes, whether spot, or forward, is an added difficulty in the task of providing the natural gas market with more information and transparency.

As the information on the characterisation of the transactions includes, in itself, commercially sensitive information, it is clear that, in the regulatory context, one can forecast the existence of mechanisms which, on one hand, ensure the safeguarding of commercially sensitive information and, on the other, provide the conditions for the integrity of the market and its transparency.

⁸ Reference prices should be viewed as a set of tariffs, tariff options and respective prices and indexes per billing variable offered by suppliers to their customers, and also the conditions for the application of the tariffs, namely the characteristics for minimum consumption, duration of contracts and conditions for the revision of prices.

As Portugal does not have its own production, the main countries which supply natural gas are Algeria and Nigeria. This is done mainly through long term take-or-pay contracts. The characterisation of the supply is shown in Figure 4-3, where it can be seen that, for the past four years, the terminal (contracts for LNG from Nigeria) was responsible for supplying of most of the natural gas to the Portuguese market, whose value in 2011 amounted to around 54% of the total amount of gas contracted. Although it is still part of the main supply chain in this period, the gradual reduction in the importance of the terminal as opposed to the use of the interconnections, both at the Campo Maior and Valença entrances, can be seen clearly. Moreover, in relation to the latter, at the start of the decade of 2000, it was essentially used for continuous outgoing international traffic to Spain, a situation which has been inverted over the last four years.

Figure 4-3 - Breakdown of supply by infrastructure



The legal framework for the sector, namely that created by the laws published during 2006, has since established both the unbundling of activities and the operation of the sector on a market-driven basis. To this end, the take or pay type supply contracts themselves fall into a regime which allows the placement of contractual quantities onto the market through auctions to release excess quantities of natural gas.

In 2009, ERSE introduced auctions to release excess quantities of natural gas, the first of which was held in the 2009-2010 gas year. With the objective of giving stability to the liberalisation process of the sector and giving market agents some predictability in the programming of their operations, ERSE defined the holding of identical auctions for the next two gas years.

The holding of the first auction to release excess quantities of natural gas allowed the placement of approximately 300 million m³ of natural gas (equivalent to approximately 3,500 GWh), aimed at promoting the devolution of the wholesale gas market. With this measure, approximately 6% of global demand for 2009 was made available to non-dominant agents.

From the three annual auctions initially planned, only the auction related to the 2009-2010 gas year was actually held (on the 10th of February 2009). As for the other two auctions (for the 2010-2011 and 2011-2012 gas years) ERSE advised that they would not be held as the minimum competition conditions had not being met regarding the placing of the quantities of gas for auction.

4.3.2.2 RETAIL MARKET

EXTINCTION OF REGULATED SALES TARIFFS TO END CUSTOMERS

In mainland Portugal, the end customer sales market is based on the co-existence of a regulated system of integral tariffs practised by LRS and a market-driven system in which the energy is freely contracted. As network access tariffs are paid by all customers, or by suppliers on their behalf, they are incorporated into either the End Customer tariffs practised by the LRS or the tariffs practised freely by market suppliers. The inclusion in the End Customer Sales Tariffs, regulated by ERSE, is done directly via a tariff additive method.

As from the 1st of July 2010, the regulated End Customer Sales Tariffs for natural gas, applicable to annual consumption of greater than 10,000 m³ were extinguished. Therefore, in the 2010-2011 gas year, transitory sales tariffs, published by ERSE, were in force for end users with annual consumption greater than 10,000 m³ and which were calculated by applying an aggravating factor to the sum of the network access tariffs, the average cost of energy and the regulated supply cost. The abovementioned aggravating factor is applied in order to encourage the transfer of customers from the transitory tariff to the free market, at the customer's own decision, during the transitory period. The LRS should, until the 31st of December 2012, continue to supply natural gas to end customers with annual consumption greater than 10,000 m³ and who have not contracted their supply on the market.

The scheduled extinction dates for regulated natural gas sales tariffs for end customers with annual consumption of less than or equal to 10,000 m³ are:

- From the 1st of July 2012 for customers with annual consumption greater than 500 m³;
- From the 1st of July 2013 for customers with annual consumption less than or equal to 500 m³;

From the dates given above, new natural gas sales contracts to end customers must be signed under a free price regime.

The LRS must continue to supply end customers with annual consumption of less than or equal to 10,000 m³ and who have not exercised their right to change to a market supplier, in accordance with the following terms:

- For end customers with annual consumption of less than or equal to 10,000 m³ and greater than 500 m³, until the 31st of December 2014.
- For end customers with annual consumption of less than or equal to 500 m³, until the 31st of December 2015.

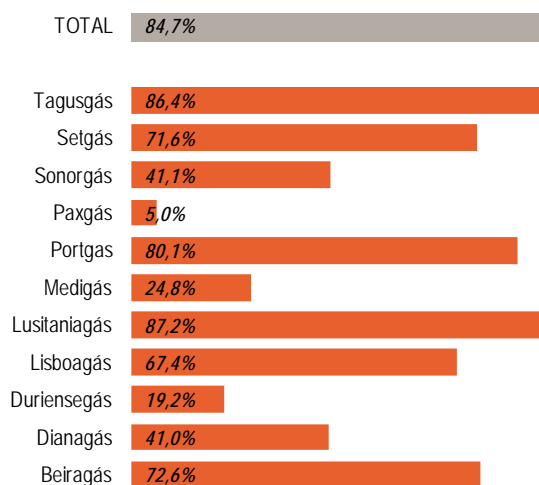
During the given transitory periods and similar to what happened in the case of higher pressures, the transitory sales tariffs, published by ERSE and calculated by applying an aggravating factor to the sum of the network access tariffs, the average cost of energy and the regulated supply cost, will be in force.

EVOLUTION OF SALES

In 2011, the framework defined in the Third Package was transposed into national law relating to the natural gas sector, with the sales activity being based on the market. Last resort sales were left with a residual role in the scope of the protection of vulnerable customers. Therefore, the national legislator defined the calendar for the extinction of the regulated tariffs for last resort suppliers. The process began with the larger consumers. Since July 2010, transitory tariffs have been applied to last resort suppliers' customers with annual consumption of greater than 10,000 m³.

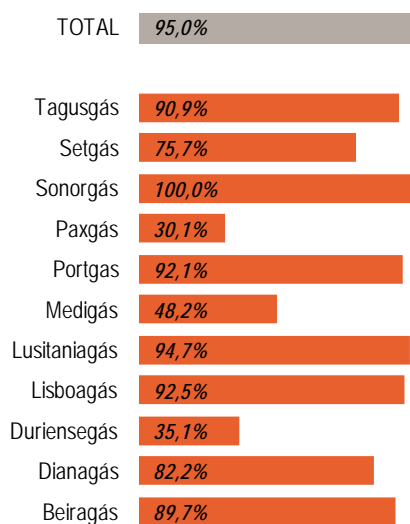
In terms of the effective liberalisation of the market, excluding the group of suppliers to electricity generation centres in the standard regime, Figure 4-4 presents the market share (in consumption), in 2011, which is being supplied by suppliers in the market regime. The information is given for the distribution networks with the exception of the two smaller ones for which values were not defined). It can be seen that over two thirds of the total consumption, with the exception of that of electricity producers, is guaranteed by market suppliers and this value is generically higher among the leading natural gas distributors.

Figure 4-4 – Effective opening of the natural gas market
Total energy consumption, excluding electricity generation centres



As the extinction of the regulated tariffs for customers with annual consumption greater than 10,000 m³ was carried out in 2010, it is also important to note the occurrence of market liberalisation in 2011 in the customer segment to which the tariff extinction applies. This is described in Figure 4-5.

Figure 4-5 – Effective opening of the natural gas market
Customers with annual consumption greater than 10,000 m³ (Energy)



Globally speaking, the values specifically relating to the customer segment with extinct tariffs (customers with an annual consumption of greater than 10,000 m³) follow the same rationale as all customers. It should be noted that more than 90% of consumption from this group of customers is already being supplied by market regime suppliers.

The management of the supplier switching process is being handled by the national transmission network operator (REN Gasodutos), with the procedures and timelines for switching being approved by ERSE. To this end, the said procedures were published on the 5th of March 2009.

As mentioned earlier, REN Gasodutos is the body entrusted with the operationalization of the supplier switching process. It began to implement the logistical platform for this purpose in 2009. The process was undertaken in stages so as to respond to the opening up of the market to all industrial consumers and to enable domestic customers to switch suppliers.

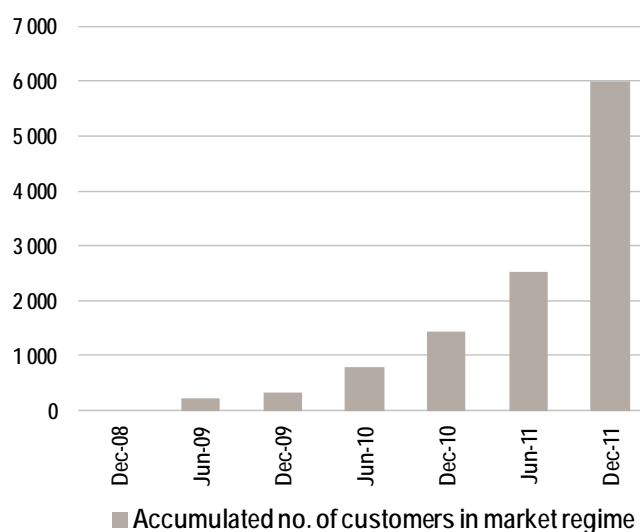
The supplier switching platform was gradually improved over the course of most of 2010 and also in 2011, with the introduction of features which allow agents to make supplier changes through automated procedures, and also including the tools needed to generate information so that the process could be monitored by ERSE from the outset.

In 2011, the information obtained, namely pertaining to the structure of the market in each distribution network, still did not meet the consistency and regularity required by ERSE. This fact was repeatedly passed onto the different parties.

However, based on the information available, a more in-depth characterisation of the retail natural gas market can be made for 2011 than in previous years. Based on the information processed by the supplier switching manager, the number of customers who switched from a tariff supply to the market supply or who began consumption directly in the liberalised market rose 313% in comparison to 2010.

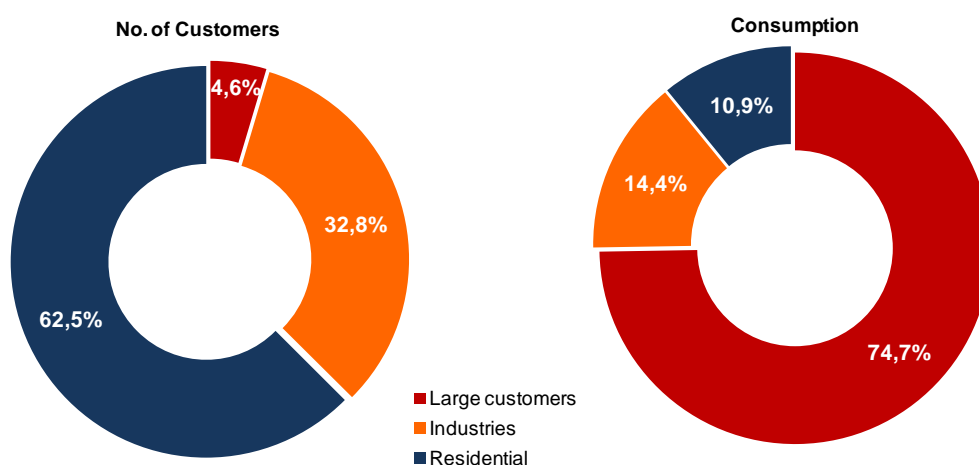
Figure 4-6 shows the evolution in the accumulated number of customers in the liberalised market from the end of 2008 to the end of 2011, whose new supplier selection process was processed via a platform managed by REN Gasodutos. From this figure it can be seen that, at the end of 2011, more than 6,000 customers had switched supplier through the above-mentioned platform.

Figure 4-6 - Number of customers switching supplier in the scope of the platform managed by REN Gasodutos



Of the customers in the market, more than 2,200 correspond to large customers or customers in the industrial segment (annual consumption greater than 10,000 m³), which is a approximately 37% of the total number of customers in the free market, as can be seen by analysing Figure 4-7. In terms of consumption, these customers represent almost 90% of the total consumption in the free market.

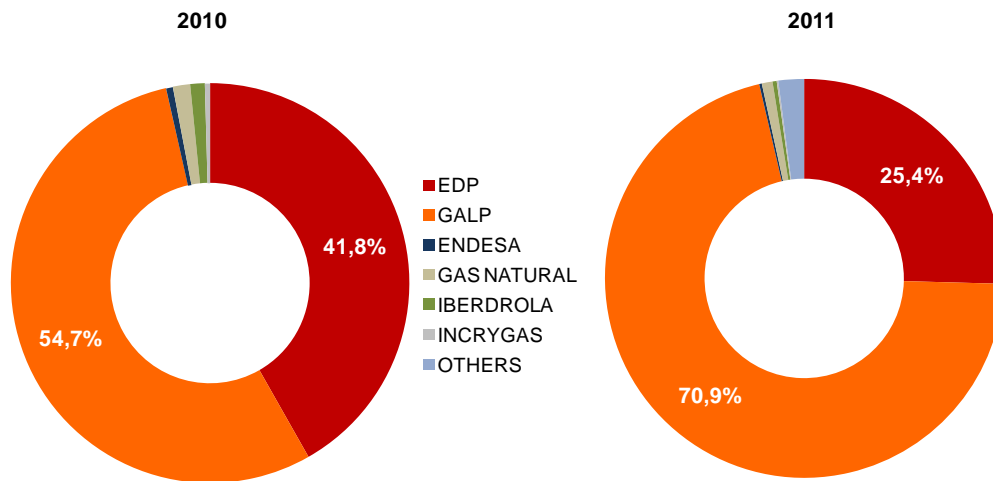
Figure 4-7 – Breakdown of the number of customers and consumption in the liberalised market by customer segment at the end of 2011



Regarding the activity of attracting customers by suppliers on the market, a substantial part refers to the migration between portfolios of the two main operators. Indeed, as shown in Figure 4-8, it can be seen that around 96% of the total number of customers who switched supplier in 2010 are supplied by GALP or EDP, which reflects a still significant concentration in the retail gas market. Nevertheless, in 2011 there

was a greater concentration in one of the operators, GALP. Thus there was a reinforcement in the corporate concentration in 2011 pertaining to the number of customers in their portfolio.

Figure 4-8 – Breakdown of customers attracted by suppliers in the market in December 2010 and December 2011



Based on the information of consumption supplied, Figure 4-9 shows the breakdown of consumption by supplier, explaining the market structure in 2010 and 2011. This structure shows a corporate concentration which can be seen to be inferior in consumption to what is identified in terms of number of customers. This information about the market structure relates to the overall group of customers supplied by market suppliers.

Figure 4-9 – Breakdown of consumption supplied by suppliers in the market in December 2010 and December 2011

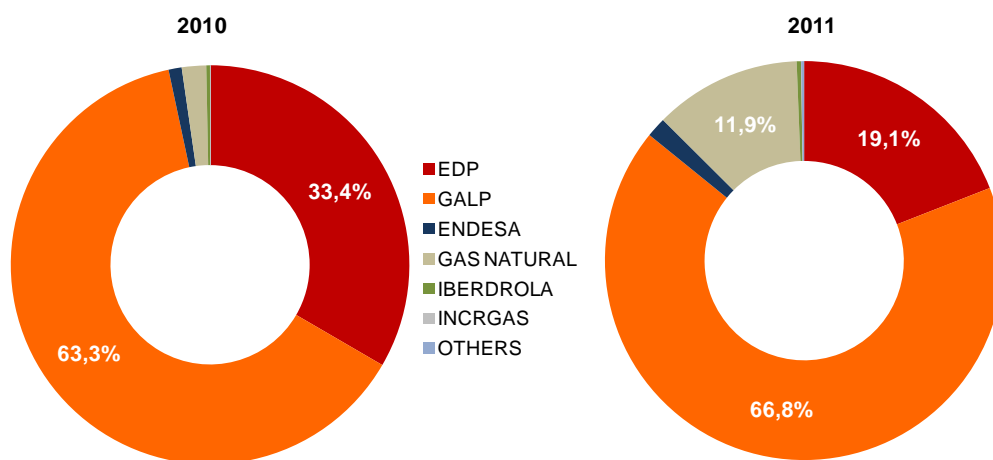
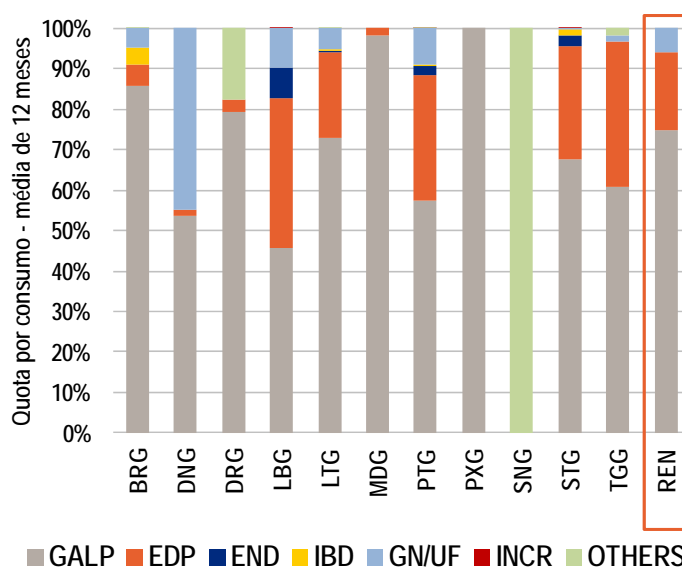


Figure 4-10 shows the breakdown of market share by distribution network in terms of consumption supplied. Therefore, with the exception of Lisboaágas (LBG) and Sonorgás (SNG), the GALP group holds a market share greater than 50% in all the distribution networks. The same is true in relation to customers directly connected to the transmission network in which the GALP group holds a market share in the supplied consumption of almost three-quarters.

The EDP group takes second position in terms of share of natural gas supply, with its position based on distribution networks operated by Lisboaágas (LBG), Lusitaniagás (LTG), Portgás (PTG), Setgás (STG) and Tagusgás (TGG).

The Gas Natural group, the third market operator and the entrant with the greatest presence, has a more significant position in the distribution networks managed by Dianagás (DNG) and Lisboaágas (LBG), with the latter network being the one in which another entrant, Endesa, presents its greatest market share.

Figure 4-10 - Breakdown of consumption supplied by suppliers in market regime in 2011 and by distribution and transmission network



4.3.3 RECOMMENDATIONS ON SUPPLY PRICES

In the context of regulated tariffs for the sale of natural gas to end customers in BP with annual consumption of less than or equal to 10,000 m³, in 2011 ERSE did not publish any recommendations on the conformity of the sales prices under the terms provided for in article 3 of Directive 2009/73/EC.

4.4 CONSUMER PROTECTION

Regarding the transposition of Directive 2009/73/EC, the content of its appendix I is also reproduced and specified in Decree-Law no. 77/2011.

In terms of consumer protection, considering what is provided for in the abovementioned appendix I and in other provisions of Directive 2009/73/EC, the following developments which occurred in 2011 should be noted:

- Monitoring of the process of extinction of the regulated tariffs through the adoption of mechanisms to safeguard economically vulnerable end customers, namely the possibility of being supplied by LRS and the adoption of commercial relationship instruments adapted to their needs. These safeguarding mechanisms are in addition to the discounts applicable to economically vulnerable final customers, namely the natural gas social tariff established by Decree-Law no. 101/2011 of the 30th of September and the extraordinary social support for energy consumers (ASECE), provided for by Decree-Law no. 102/2011 of the 30th of September.
- Creation of the arbitration mechanism needed (Law no. 6/2011 of the 10th of March) for the purpose of resolving disputes with domestic customers, who may, through an expressed option, determine that the disputes are submitted to the existing consumption conflict arbitration centres which are free and where courts of arbitration operate with binding decisions.

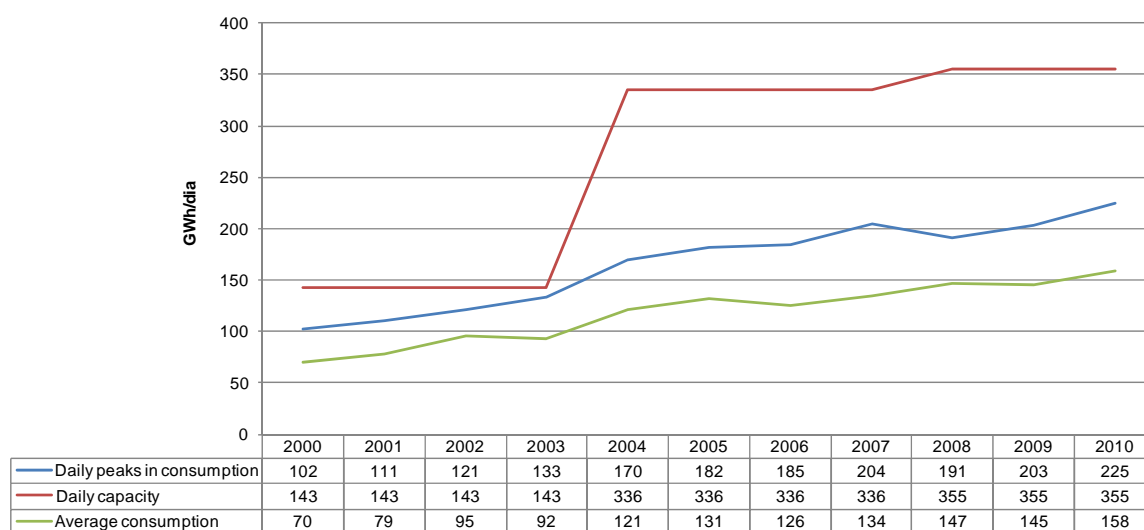
4.5 SECURITY OF SUPPLY

4.5.1 MONITORING BALANCE OF SUPPLY AND DEMAND

Figure 4-11 presents the evolution of capacity offered in the SNGN,⁹, average daily consumption of natural gas and annual peaks in consumption, between 2000 and 2010.

⁹ The capacity offered in SNGN corresponds to the sum of the entry capacities of the Campo Maior and Valença do Minho interconnections and the connection between RNTGN and the Sines LNG terminal.

Figure 4-11 – Evolution in the capacity offered in SNGN, annual average consumption and peaks in consumption between 2000 and 2010



Source: REN Gasodutos

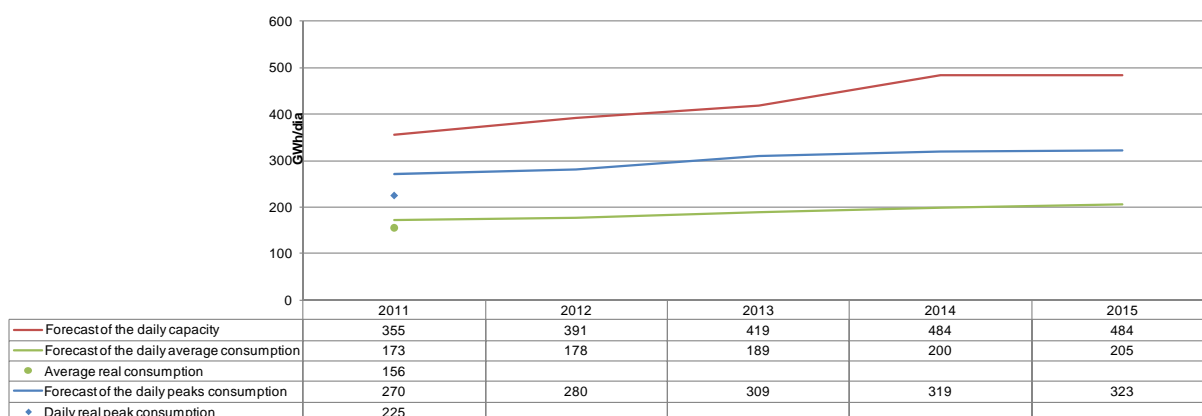
The analysis of the previous figure shows a large gap between the capacity offered in SNGN and the annual peaks in consumption, especially from the time when the Sines LNG terminal began operating in 2004. In 2010, the average daily consumption and the peak in consumption represented, respectively 63.4% and 44.5%, of the entry capacity offered in SNGN which represents the gap which exists between the capacity available for commercial purposes and the capacity used.

ERSE monitors the attribution of capacity in RNTGN, in particular the level of capacity which exists for commercial purposes in comparison to the capacity used.

4.5.2 EXPECTED FUTURE DEMAND AND AVAILABLE SUPPLIES AS WELL AS ENVISAGED ADDITIONAL CAPACITY

Figure 4-12 presents the forecast for the evolution of the capacity offered in SNGN, average daily consumption of natural gas and annual peaks in consumption, between 2011 and 2015.

Figure 4-12 – Forecast for the evolution in the capacity offered in SNGN, annual average consumption and peaks in consumption between 2011 and 2015



Source: REN Gasodutos

The previous figure presents the forecasts for the average annual consumption and peaks in consumption in accordance with the data presented by REN in the PDIR. As mentioned in 4.2.3, ERSE requested a downward revision of these estimates, which, in accordance with the real data seen in 2011 and also presented in the graph, are substantially below REN's forecasts. Indeed, there was a stagnation in the evolution of peak consumption from 2010 to 2011 – 224.99 GWh/day in 2011 against 224.88 GWh/day in 2010 – contrary to the 20% growth forecast by REN in their PDIR proposal.

On the other hand, the increase, in the figure above, of SNGN's capacity offered can be clearly seen, due to the entry into operation of the capacity reinforcement of the Sines LNG terminal (June 2012) and the Aveiras compression stations (beginning of 2014), allowing the maintenance of a comfortable gap between capacity available for commercial purposes and the capacity use forecast for the following years. According to REN's forecasts for 2015, which in our opinion are rather expansionist, the average daily consumption and the peak consumption will represent, respectively, 66.7% and 42.3%, of the entry capacity offered in SNGN.

In addition to the reinforcement in the capacity of the Sines LNG terminal and the construction of the Aveiras compression station, the PDIR proposal includes a new interconnection to Spain and a substantial reinforcement of the Carriço underground storage infrastructure, which are expected to enter into operation in 2016. However, the successive postponements in the construction of new combined natural gas cycle plants (Sines and Lavos), the concession of interruptibility regimes to the Tapada do Outeiro and Lares plants, associated with smaller growth in the demand for gas on the conventional market, suggest that there should be a revision of the projects proposed in the PDIR which should reflect the needs of the SNGN and its integration in the scope of MIBGAS.

4.5.3 MEASURES TO COVER PEAK DEMAND OR SUPPLIER SHORTFALLS

The national market is essentially supplied by natural gas from Algeria and LNG from Nigeria. Indeed, the construction of the Sines LNG terminal, which began operating in 2004, was mainly related to the diversification of supply sources and the increase in the security of supply.

Another of the initiatives aimed at the security of supply, the diversity of the supply sources and the coverage of peaks in consumption, is the integration of the Portuguese and Spanish markets in the scope of MIBGAS. Indeed, in 2011, the presence of market agents in SNGN, with a significant activity in Spain, led to an increase in the use of the interconnections, with the Portuguese market benefiting from the diversification of supply sources in Spain which, as is known, is the largest in Europe.

In addition to the measures adopted to safeguard the security of supply and the covering of peaks in consumption, on the supply side, there are also measures which have been planned and implemented for the demand side, namely the interruptibility of large consumers. Indeed, the electricity generating plants of Tapada do Outeiro and Lares have bi-fuel groups, and were granted the interruptibility statute by DGEG, for the purpose of forming security reserves. In this context, it is possible to act on the demand side in a situation of covering peaks in consumption or when there is a disruption in supply to SNGN.

The legislative framework in force also provides for the constitution of security reserves which are aimed at giving SNGN the means to respond to situations when there are breaks in the supply and/or coverage of extreme peaks in consumption. In this context, the reinforcing of the Carriço underground storage infrastructure and the reinforcing of the storage component of the Sines LNG terminal enable compliance with the requirements set in Portuguese law and community regulations, namely Decree-Law no. 140/2006 of the 26th of July and EC Regulation no. 994/2010 of the European Parliament and Council of the 20th of October, respectively.