COMMISSION
DE RÉGULATION
DE L'ÉNERGIE

Activity report june 2006

Summary

Opening of the electricity and natural gas markets to household consumers on 1 July 2007

Regulation of the natural gas market

Regulation of the electricity market

The working of CRE

› Message
from the Commission de régulation de l'énergie (CRE)

This activity report is published a year before the total opening of the electricity and gas markets.

The European Summit in Barcelona in March 2002 confirmed the principle of the opening of the electricity and gas markets. In compliance with the directives of June 2003, all non-household and household customers may choose their electricity and gas suppliers as from 1 July 2007.

This report also comes at a time when sharp rises in electricity and gas prices are raising issues concerning the liberalisation of the energy market and its consequences.

As highlighted by the various bodies of the European Union, the creation of a single energy market nonetheless forms the cornerstone of the European energy policy, which is based on three key priorities: competitiveness, security of supply and sustainable development.

The creation of a single market therefore constitutes the means of achieving these objectives. This aspect, seldom mentioned up to now, attaches great importance to the lessons that can be learned from the stages that have already been completed, even if it is still difficult to pass judgement on an, as yet, unfinished process.

However, from the point of view of both consumers and new operators joining the electricity and gas markets, it is necessary to observe that the results vary.

Certain facts unrelated to the liberalisation process partly explain the price increases. Geopolitical tensions on the oil markets automatically impact gas prices, given the index linking methods adopted for supply contracts.
The reinforcement of environmental restrictions generates additional costs for electricity generators and risks curbing the development of new power plants. Gradual reduction in surplus electricity generation capacities creates new tensions as soon as consumption increases to a significant extent.

The development of interconnections is crucial to the setting up of a single market. It fosters price convergence but may cause certain periods of tension on national markets due to the current disparity of generation capacities.

The fact remains that price fluctuations, especially on the electricity market, are characterised by their unpredictability and scale. Understanding of these fluctuations is all the more necessary since the market, still in its early days, does not have sufficient statistical data recorded.

This upward trend in prices is emphasised by the lack of a genuine opening of markets revealed through inadequate transparency, a lack of resources available on the national market in places other than with incumbent suppliers and the coexistence of regulated tariffs and market prices.

The generation offer lacks transparency. In France, only the EDF group has information on the availability of most of the

generation capacity. This situation fuels overreactions to occasional events which may result in price peaks. The price formation mechanisms must therefore be studied and monitored carefully.
CRE is able to fulfil this mission if it is granted the necessary legal and regulatory means.
It may monitor the markets, something which is not done at present, although the exercise of transparent competition in the consumers' interest depends on it.

Lack of competition on the French market is a concern. It is not in the interests of operators or consumers for this situation to continue.

In the electricity sector, the major hold over generation by EDF prevents its competitors from developing all the appropriate capacities they need to be able to make competitive offers. The VPP (Virtual Power Plant) mechanism that requires EDF to auction a limited amount of its generation capacities is itself based on market prices. While it has enabled the market to operate more smoothly, it does not constitute an adequate response. Consideration must be given to the methods enabling alternative suppliers to acquire energy under conditions that allow them to compete against incumbent operators.

In the gas sector, the inadequacy of resources available in the south of France prevents alternative suppliers from being able to propose competitive offers. The gas release at market prices from auctions does not enable this market imbalance to be fully dealt with. Access of alternative suppliers to some of the capacities of the new LNG (liquefied natural gas) terminal, which will be started up in Fos (South of France), will help to improve market operations.

The coexistence of market prices and regulated tariffs does not help market development, especially when the tariffs are noticeably lower than market prices. For gas tariffs, the lack of national gas production prohibits the supply part of tariffs from being lower than supply costs on international markets. Unfamiliarity with this rule would compromise the development of Gaz de France and concerned gas companies, and create competitive imbalances. For electricity, the lack of increase in regulated tariffs since July 2003 has raised issues about the correct correlation of tariffs with costs. CRE is to conduct an analysis of these costs to ensure that they are properly taken into account in the different tariff scales.

As highlighted by CRE in its previous reports, the technical methods concerning the freedom of non-household consumers to choose their supplier are satisfactory in France. No significant malfunction has been observed since 1 July 2004, even if improvements can still be made by system operators in the transparency of rules they apply and in the performance of their information systems.

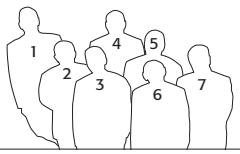
If, as inherent to their nature, gas and electricity transmission and distribution systems remain monopolies, their smooth running is one of the primary conditions of exercising competition. The continuing confusion of brand image among incumbent operators between monopoly and other activities gives them an unjustified competitive edge. The exercise of eligibility must be explained adequately to small-sized consumers so that they only leave the regulated tariff when fully aware of the situation.

Control of system operator costs should be monitored all the more since they are not subject to pressures of competition. Operating rules for system operators have been sufficiently well established so that the costs that they bear are now properly defined to anticipate changing over to incentive-based regulation.

In prospect of the future proposals for system access tariffs, the level of return on regulated assets will be reviewed. As for previous tariff proposals, this level will take into account capital market trends, benchmarking of other European regulators' practices, system development and operating constraints.
European Commission default notices addressed to France in

April 2006, concerning the transposition of directives governing the common rules for the internal electricity and gas market, mainly involve regulated retail tariffs and independence of system operators. Without prejudging what solutions may be proposed, CRE stresses the need to bring the organisation of our national markets into line with European directives before the opening on 1 July 2007. Preparation for the practical methods of this opening, which CRE has been coordinating since mid-2005, and which involves public authorities, operators and consumers, is being carried out with this in mind.

CRE pays particular attention to the work underway within European Community institutions for the organisation of national markets. It contributed to surveys and reports made by the Directorate-General for Energy and Transport and the Directorate-General for Competition concerning gas and electricity market operations in Europe. The decision made by European regulators in February 2006 to work on standardising the markets based on a regional approach is a major policy phase, which CRE had recommended in 2003.



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› Opening of the electricity and natural gas markets
to household consumers on 1 July 2007

The European directives of 26 June 2003 stipulate that all electricity and natural gas consumers may choose their supplier by 1 July 2007 and this date may not therefore be called into question. Moreover, nine[1] European countries have already fully opened their electricity and gas markets. The challenge facing France is thus to ensure effective opening under the best conditions for 33 million electricity sites and 11 million gas sites.

Measures to protect consumers provided for in these directives, particularly in appendix A, must be added to the measures already stipulated in consumer laws.

To prepare for this deadline, CRE collected experience feedback on the opening on 1 July 2004 of the electricity and gas markets to non-household customers and set up workgroups to define the practical methods for the opening in 2007. These measures help to identify hurdles to the development of proper competition on the household market.

I_ CRE at the service of eligible customers

Since the opening of the markets, CRE has taken steps to inform eligible customers on the new regulatory context and their right to choose an electricity or natural gas supplier.

These actions were reinforced in 2005 in view of the full opening of the market in July 2007.

In this field, CRE chairs the customer protection task force, which deals with the subject of customer information in ERGEG, the European Regulators Group for Electricity and Gas, reporting to the European Commission. At the beginning of 2006, the task force launched a comparative analysis of information actions in order to identify the best practices in force.

1_ Information for eligible customers

1 › Information tools are made available to eligible customers

CRE has intensified its initiative to inform eligible customers, instigated as part of the preparation for the deadline of July 2004, and improved the contents of the "consumer space".

›› Electricity and natural gas consumer guide for non-household customers

In 2001, CRE published an Eligible Customer Guide for customers consuming more than 16 GWh of electricity. After thorough revision in view of the opening on 1 July 2004, taking the form of an "Electricity and natural gas consumer guide for non-household customers", this guide was modified to incorporate the changes introduced by the law of 13 July 2005. The guide is available on CRE's website.

›› Lists of electricity and natural gas suppliers

Since 2001, CRE's website has provided lists of electricity and natural gas suppliers on the French market.

These lists were transformed in early 2006 into an automated search engine users indicate their category (small-, medium- or large-sized customer), as well as the type of energy that they are looking for (electricity, natural gas or both), and only the references of suppliers fulfilling these specifications are displayed. Eligible customers thus obtain very precise information on those suppliers who are able to make them sales offers. This "consumer space" is the most visited section on CRE's website, with over 5,000 hits a month.

›› Questions/answers (FAQ – Frequently Asked Questions)

A series of questions/answers published on CRE's website clarifies the main points concerning eligible customers. Topics covered are related to switching suppliers, contracts, consumption and metering of energy consumed, billing and suppliers. This section is regularly updated based on questions asked.

(1) In Ireland and the Czech Republic, only the electricity market is fully open.

2 › CRE answers eligible customers' questions

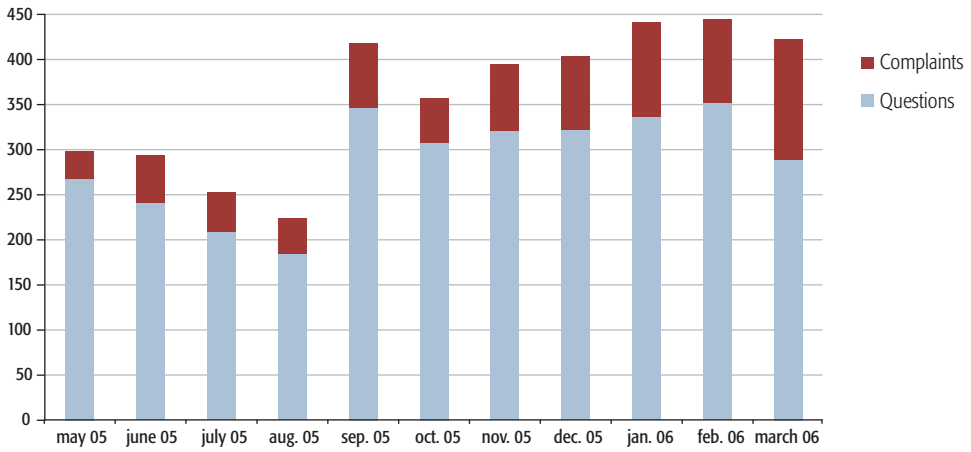
Since July 2004, CRE has received many questions and complaints from eligible customers (Figures 1 and 2). These customers are directed to CRE by distribution system operators (mainly concerning the choice of an energy supplier) and by market suppliers (who are not able to provide them with appropriate information).

From May 2005 to March 2006, CRE received almost 3,200 questions from eligible customers related to the opening of the electricity and gas markets. The most common topics were knowledge of suppliers operating on the French market, practical methods for the organisation and operation of the French market, and new methods for switching suppliers or for connections and start-ups.

CRE received 780 complaints from eligible customers concerning suppliers and system operators. These complaints involved canvassing by suppliers' sales representatives, problems encountered when revoking a contract, quality of supplier -customer services and methods for billing and using estimated consumption indexes. In general, it appears that eligible customers, when contacted, are unfamiliar with the methods of exercising eligibility or of choosing a supplier.

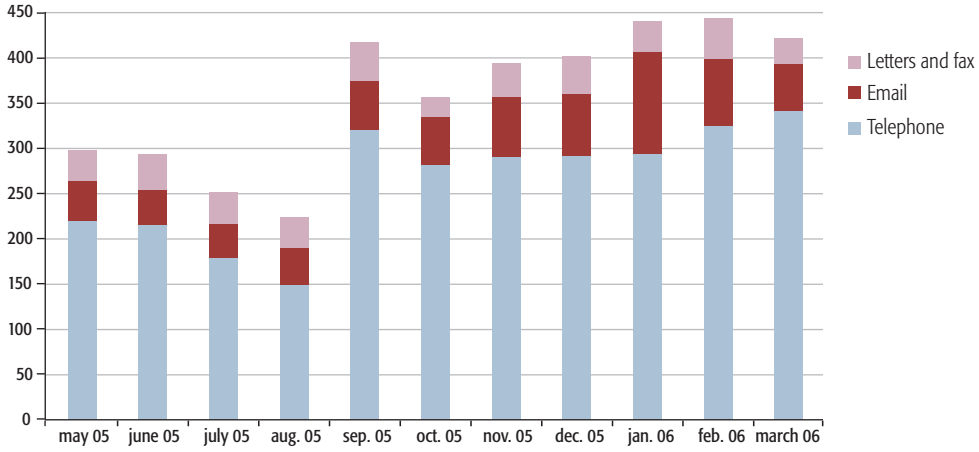
Whenever necessary, CRE provides expert advice to help eligible customers resolve the problems they encounter.

› Figure 1: Customer contacts with CRE directly concerning opening of the markets, by type



Source: CRE

› Figure 2: Contacts clients reçus par la CRE en rapport direct avec l'ouverture des marchés, par canal d'entrée



Source: CRE

2_ Improved knowledge of non-household customers

CRE commissioned a survey of non-household customers on the opening of the markets, a year and a half after 1 July 2004. The purpose of this survey conducted by the TNS Sofres institute with a representative sample of 1,558 non-household customers (businesses in the commercial sector with 1 employee or more), was to assess their knowledge and perception of opening of the markets and of the operators and any contacts that they had had with alternative suppliers. It will be repeated in the form of an annual barometer.

1 › Knowledge about the opening of the markets

Approximately 50% of customers know that they have the possibility of switching suppliers (Figure 3). The larger the company, the better it is informed: while approximately 50% of companies with fewer than 10 employees are aware of this right, this rate increases to 80% for companies with over 200 employees.

60% of customers think they are poorly informed about the opening up to competition of markets and over 80% say that they do not know how to go about switching suppliers. Nonetheless, one in two customers is aware that switching supplier is a process which is free of charge and almost two-thirds of them are right in thinking that this does not involve changing their electricity or gas meter.

2 › Perception of the opening of markets

Over 60% of customers see the opening of markets as a good thing (Figure 4) and few businesses believe it to be a bad thing for their company (under 10%).

Competition on the energy market is associated with better customer service by over two in three customers. 40% of them think that it will enable them to reduce their energy bill. Only 4% of customers believe that the opening of markets will increase their energy bill.

3 › Contact with suppliers and attitudes to switching/loyalty

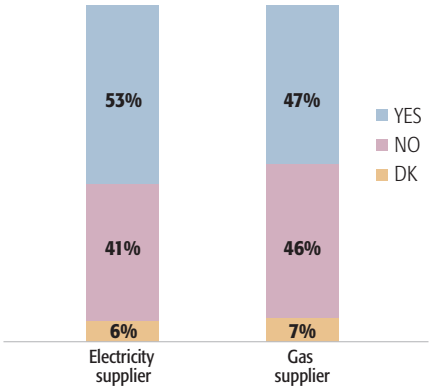
Almost one in five customers can name a supplier other than their current supplier (Figure 5). Over the past year, around a quarter of customers have been in contact with their current supplier (at the customer's initiative in 2 out of 3 cases), and the same proportion have been in contact with competitors of their current supplier (at the initiative of these suppliers in 8 out of 10 cases).

6 to 7 customers have already switched supplier or intend to do so in the next 6 months. These figures may seem low in comparison with the 60% of customers who saw the opening of markets as a positive thing. But they are not incompatible. Many customers in favour of the opening may postpone their choice pending an attractive price differential or simply intend to stay with their current supplier believing that competition will lower prices.

One in 5 customers says that they do not intend to switch supplier.

› Figure 3: Knowledge about the opening

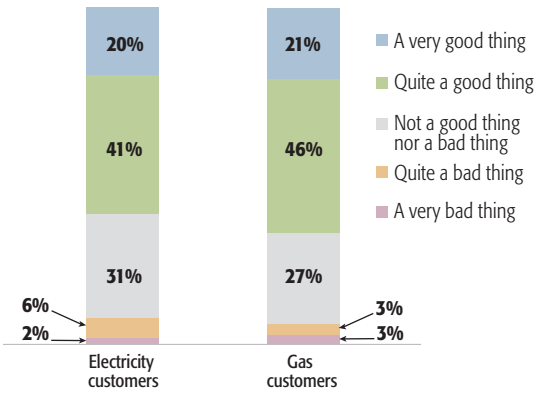
"Do you think that your company has the possibility of switching electricity or gas supplier?"



Source: TNS Sofres survey (December 2005)

› Figure 4: Perception of the opening of markets

"Overall, for your company or within the framework of your professional activity, the opening of the electricity and natural gas markets is…"



Source: TNS Sofres survey (December 2005)

Price is the main reason for switching supplier, as 9 out of 10 businesses who have already switched supplier did so because the price was deemed attractive and three-quarters of customers with the intention of switching supplier in the next 6 months mention price as the cause.

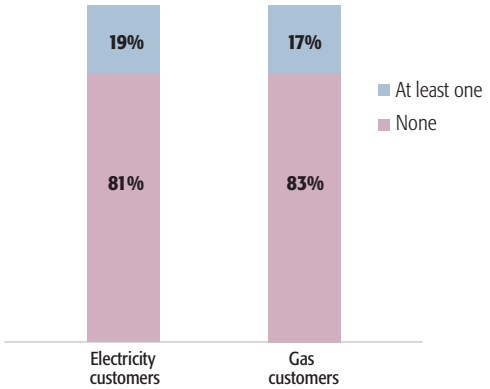
The main reason why customers remain loyal to their current supplier is their satisfaction with this supplier.

II_ Monitoring of the non-discrimination, transparency and independence of system operators

The law of 9 August 2004, transposing the European directives of 26 June 2003, makes provision for CRE to publish an annual report on the compliance with codes of good conduct and system operator independence. CRE published its first report in November 2005.

› Figure 5: Knowledge about suppliers

"Which suppliers, other than your current one, do you know, if only by name?"



Source: TNS Sofres survey (December 2005)

1_ Drafting and distribution of codes of good conduct for system operators

1 › A review has been completed

The public electricity transmission system operator, RTE, gas transmission system operators, GRTgaz and Total Infrastructures Gaz France (TIGF), and all distribution system operators, except for Sorégies, serving more than 100,000 connected customers(2), drew up a code of good conduct in 2005 and submitted it to CRE. The codes have been sent to all system operator staff, and published on the system operators' websites. Some are sometimes difficult to access and, despite their being published almost a year ago, users are still largely unfamiliar with them, although they should be the main beneficiaries.

These codes mainly deal with the protection of commercially sensitive information (CSI) and, to a lesser extent, with non-discrimination and transparency. Yet, the first objective assigned to these codes by European directives is prevention of discrimination.

During the second half of 2005, the system operators concerned sent CRE annual reports on the application of codes of good conduct.

CRE analysed the system operators' codes and annual reports. It then carried out a public consultation of market players and held auditions attended by system operators in October 2005 and it has also checked some operators' practices.

2 › CRE has made proposals

In the first report published in November 2005, CRE made the following proposals for 2006:

- discrimination hinders the opening of the market. The codes must provide more explicit internal and external checks of results achieved in terms of non-discrimination and transparency. They must remind personnel of the disciplinary sanctions in the event of non-compliance with non-discrimination rules;
- the codes must be simplified and made more accessible to system users. A mechanism for dealing with customer complaints must be provided for and made public;
- every system operator must establish an indicator of compliance with the principle of non-discrimination, based on customer complaints;

(2) This concerns EDF Réseau Distribution (ERD), Gaz de France Réseau Distribution (GRD), Régaz (Gaz de Bordeaux), Gaz de Strasbourg, Régie du Syndicat intercommunal d'énergie des Deux-Sèvres (RSIEDS), Usine d'Electricité de Metz (UEM) and Electricité de Strasbourg (ES).

- electricity system operators must continue the drive underway to improve transparency of their practices with regard to grid users, by completing their technical guidelines promptly;
- audits carried out as part of ISO 9001 certification can complete in-house checking;
- GRTgaz, the Gaz de France transmission subsidiary, and TIGF, the Total transmission subsidiary, must publish a catalogue of services containing the corresponding pricing rules on their website. This obligation must be applied to the pressure guarantee and the delivery stations' maintenance;
- GRTgaz and TIGF must sign connection contracts with every customer.

CRE checks the implementation of commitments undertaken by electricity and natural gas system operators in these codes of good practice.

3 › Changes that have already been noticed

Since publication of the report, CRE has noticed the following changes:

- EDF Réseau Distribution (ERD) sent CRE a new version of its code of good conduct, which is more accessible to grid users. This version contains ERD commitments along with internal organisational measures taken to guarantee these commitments, and particularly the eight priority processes selected for 2006 (management of GRD-F contracts, settlement mechanism, connection of high voltage (HTA) and low voltage (LV<36kVa) customers, CARD-S management, connection of low voltage (LV<36kVa) customers, management of relations with generators, research and decisions on grid adaptations, and implementation of grid adaptations).

  Moreover, a mechanism has been set up by ERD to collect complaints relating to aspects covered by the code of good conduct.
- Sorégies, who had still not fulfilled its legal obligations, published a draft code on its website in March 2006.
- Usine d'Électricité de Metz (UEM) did not select any priority processes in 2005; all processes were reviewed except for the "connection" process, which had still not been written, pending the definitive conclusions of the GTE 2007.

  The system for handling customer and supplier complaints is also being modified. Henceforth, the DSO manager receives DSO-related complaints.

  Finally, an audit programme has been drawn up.
- Syndicat intercommunal d'énergie des Deux-Sèvres (SIEDS) and Électricité de Strasbourg have not sent any new elements to CRE.
- RTE and GRTgaz have made slight changes to their code and have set up a checking programme for 2006.

  GRTgaz has also:
  – improved transparency of its interruptible services;
  – adapted its procedure for handling complaints;
  – developed the organisation of its system works' programme;
  – worked on improving its balancing offer.

  It has taken steps to reduce the number of customers who have left the regulated tariffs without signing a connection contract. They were reduced from 95 in the last quarter of 2004 to 41 in the last quarter of 2005.
- For the second quarter of 2006, TIGF scheduled an audit on the billing and management of accounts and profiles (access authorisations).
- Gaz de France Réseau Distribution significantly changed the presentation of its code of good conduct for 2006 to make it more accessible to network users. It now contains 9 commitments. A catalogue of 40 requirements has been sent to personnel. It is available on the operator's intranet site.

  At CRE's request, the code of good conduct of Gaz de France Réseau Distribution can now be accessed online directly from the homepage.

  90% of personnel have received training on the code of good conduct. In addition, the distributor has set up training schemes for personnel from other entities in the Gaz de France Group.

  Gaz de France Réseau Distribution is working on setting up indicators for monitoring compliance with the code of good conduct.

  For 2006, it has set up inspection and audit programmes of its services.
- In the first half of 2006, Gaz de Bordeaux conducted an audit on the protection of CSI.
- Gaz de Strasbourg has scheduled two controls on compliance with rules governing commercially sensitive information in 2006.

  The databases for network operators and gas sellers should be separated in June 2006.

4 › A benchmarking study of European practices

CRE has launched a benchmarking study of European practices in terms of commitment programmes. It focuses on non-discrimination, transparency and handling of commercially sensitive information. The results of this study will feature in CRE's annual report on compliance with codes of good conduct and system operator independence in the autumn of 2006.

2_ The necessary improvement of system operator independence

1 › Progress must be made

In its report of November 2005, CRE pointed out that system operators had to be organised and managed independently as from 1 July 2004, whether they are affiliated (transmission systems) or not (distribution systems). This independence should result in an organisation comparable with that of an autonomous undertaking and free to take any decision which is in its interest, subject to the "economic supervision and management rights" granted to the parent company by the directives of 26 June 2003.

The systems must be managed independently from the other activities of the integrated groups. Progress has been observed regarding transmission: RTE has acquired a certain degree of independence since 2000, followed more recently by its counterparts in the gas sector. However, supply and distribution system management activities have still not been unbundled, although this is essential to ensure independence of the system management activity as from 1 July 2007.

In the light of observations made by CRE, progress must be made in the following area:

- all suppliers must have identical access to customer files in distribution system operators' information systems;
- independence of system operator senior management must be better guaranteed, particularly by enabling them to appoint their associates freely;
- all system operators must be able to decide on every investment independently from their parent company, within the framework of the total budget allocated to them. This is not the case for Gaz de France Réseau Distribution, ERD and EDF Gaz de France Distribution for major investments;
- EDF and Gaz de France statutes must expressly forbid the participation of "system operator management" in structures of the integrated undertaking directly or indirectly responsible for the daily management of generation, production and supply activities. A member from a managing body of the parent company may not be a system operator manager at the same time. This is because the system operator's policy must not be influenced by the group's interests;
- communication of integrated groups must take into account the unbundling of activities so as to avoid any confusion for customers between regulated activities and competitive activities.

The preservation of the independence of gas and electricity transmission system operators is not absolutely guaranteed by the contents of the statutes adopted alone. The proper behaviour of parties concerned in their implementation will now be essential for achieving the result prescribed by the directives of 26 June 2003. Whatever the energy concerned, the affiliation of public transmission system operators cannot ensure their independence alone, due to the very nature of the link which unites a parent company to its subsidiary within an integrated group.

Transmission system operator independence is restricted by the right, resulting from laws applicable to limited companies, for any shareholder or director to access any exhaustive information, at any time, to carry out their role or mandate. This right cannot be limited in the current state of national law. The protection of CSI is incompatible with the fact that directors who are appointed by a shareholder can have permanent access to certain information and then report back.

2 › A special case: RTE governance

Article 7 of the law of 9 August 2004 has been completed by article 64 of the law of 13 July 2005, which stipulates that the role of the chairman of the RTE Supervisory Board is incompatible with the exercise of any responsibility directly linked with competitive activities within managing structures of other undertakings in the energy sector. This measure will naturally foster transmission system operator independence.

Accordingly, appointment of a member of the EDF executive committee as chairman of the RTE Supervisory Board does not comply with independence-related requirements stipulated in the directive. This executive committee member, also authorised to trade, may have a conflict of interest with the transmission system operator remit. CRE considered that the additional organisational measures supporting this appointment do not sufficiently guarantee system operator independence. The EDF regulations delegate has been placed, solely "on a temporary basis", under the authority of the deputy secretary general and the director of EDF territorial platforms has been placed, also "on a temporary basis", under the authority of the deputy managing director for "Human Resources and Communication".

Transmission grid subsidiarising as a result of the provisions of the law of 9 August 2004 must not result in any reduction in the management independence which RTE has enjoyed since the law of 10 February 2000, under CRE's control. Article 7 of this law simply stipulates that "this company is governed, unless there are legislative provisions to the contrary, by the laws applicable to limited companies". At this stage, no provi-

sion exists to translate, into national law, the restriction that relations between RTE and its parent company must expressly comply with within the limits of the economic supervision right provided for by the directive of 26 June 2003.

III_ Preparing the practical methods of opening: GTE 2007 and GTG 2007

In May 2005, CRE set up consultation bodies for the various parties concerned to ensure adherence to the 1 July 2007 deadline. The "Electricity Work Group 2007" (GTE 2007) and "Gas Work Group 2007" (GTG 2007). These groups comprise representatives of public authorities, consumer associations, installers, suppliers and distribution system operators (DSO) and transmission system operators (TSO).

Their role is to propose the practical methods for the opening of household customer markets by adapting the procedures adopted for the opening of non-household customer markets on 1 July 2004. These procedures enabled several hundreds of thousands non-household customers to renegotiate their contract with their incumbent supplier or to switch supplier.

The first work phase, launched after CRE's missives of 26 May 2005, enabled participants to define the founding principles of the opening of household customer markets. To guarantee the simplicity of the "customer pathway"(3), a consistency committee common to the two types of energy was set up to achieve, whenever possible, standardisation of procedures applicable to customers. A "gas and electricity consumer committee", made up of representatives from different categories of the parties concerned, took over from the consistency committee on 1 January 2006. It extends its work to issues of customer-supplier relations.

Following a round table with the main participants, held on 4 January 2006, in its missive of 10 January 2006, CRE stated the decisions made after the first work phase and the guidelines adopted. These decisions are applicable to the household customer market. The GTE 2007 and GTG 2007 will make proposals by the end of the first half of 2006 to extend certain measures to the non-household customer market.

(3) The "customer pathway" covers all of the phases involving interaction between the customer and supplier or distribution system operator (DSO). In practice, each process key to the opening of the markets (switching supplier, start-up, disconnection and connection) gives rise to a specific "customer pathway".

1_ The necessary simplification of relations between operators and customers

1 › The single contract will be the leading solution for household customers

The single contract between the supplier and end customer, encompassing both energy transmission and supply, is, through its simplicity, the leading solution for household customers. It is virtually the exclusive choice of small-sized non-household customers who have exercised their eligibility.

The work groups are studying the adaptations to be made to contractual schemes in force for non-household customers in order to specify the respective roles and responsibilities of DSOs and suppliers amongst each other and regarding their customers, all the while seeking standardisation between the electricity and natural gas sectors.

2 › Access to consumption site data must be facilitated

Customers, who own the information that measuring and control devices issue on their site consumption, may call on a third party to access this information. This representative may be the supplier with which the consumer already has, or intends to conclude, a contract. Access to this information is often an important condition of quality of offer. It is therefore important for this to be implemented in a complete and automated way with DSOs, who must provide suppliers with the necessary communication tools. Only suppliers holding a customer authorisation may access this information.

DSOs must also set up automated access to their information systems, enabling suppliers to obtain technical information on consumption sites.

3 › The bill must state the information necessary for switching suppliers

The customer's bill must include the telephone number of the DSO to be contacted in the event of emergency or repair and all the information necessary for exercising their right to switch supplier, such as the profile or annual reference consumption.

Consumer protection also requires that electricity and natural gas suppliers state the following details on bills:

- date of contract expiry or date of renewal by tacit agreement;
- period of notice required for revoking the contract.

Bill contents will be reviewed once the A appendices of the directives of 26 June 2003 governing consumer protection measures have been transposed.

2_ Achieving a greater level of information and consumer protection

1 › Information upstream of the contract must be readable and transparent

In the first half of 2006, the work groups worked on information provided to customers upstream of the contract. By the end of the year, they will draw up recommendations for the readability and transparency of sales offers to help customers compare them and ensure clear understanding of how to exercise eligibility.

Concerning this last aspect, incumbent supplier practices must be observed, particularly with regard to dual electricity-gas offers.

2 › How to take account of fraud and metering errors

The GTE 2007 has analysed the foreseeable procedures in the event of fraud and electricity metering errors. A consensual solution between GRD and suppliers could not be reached. The main differences of opinion concern the allocation of the fee of the non-collectable unpaid sum and the subsequent modification of consumption in the flows exchanged between the DSO and the supplier or balancing responsible entity.

From a technical viewpoint, fraud may be dealt with as a special metering problem requiring settlement. From now on, for delivery, the fee of the non-collectable unpaid sum is borne by the supplier in the event of customer fraud, or by the DSO in the event of a metering error caused by a meter malfunction, without any customer fraud.

To simplify procedures and avoid duplication of recovery efforts, CRE asks the supplier to take charge of settlement matters with the customer in both cases.

The consumption levels considered for the settlement mechanism may either be modified at a later date once the fraud or error is reported, or give rise to a purely financial settlement between operators, without any impact on the settlement mechanism. A comparative analysis of these two solutions was made in the first quarter of 2006.

3 › Charters have been drawn up to guarantee good sales practices

For each type of energy, a suppliers' charter was drawn up in early 2005 by the work groups, led by organisations representing non-household customers. The two charters aim to guarantee good sales practices and to define the foundation of contractual relations between suppliers and their customers.

For electricity and gas, most of the active suppliers have signed these charters online on CRE's website. A single monitoring committee formed between suppliers and representatives of non-household customers ensures their application and update.

For the household customer market, CRE asked the GTE and GTG 2007 to look into the possibility of creating a common charter for electricity and gas. This charter shall not, however, replace legislative and regulatory texts.

4 › Communication and information

The work groups analysed communication measures taken by market players in 2004, along with those taken during the opening up of certain household customer electricity and gas markets to competition in Europe.

The GTE and GTG 2007 have stressed the importance of educating the general public, which will be one of the conditions of correctly informing household customers on the opening up of the markets to competition in 2007.

3_ The clearly defined stages of the "customer pathway"

The stages of the "customer pathway" are being studied to reconcile the sometimes contradictory requirements of simplicity, transparency and non-discrimination for customers.

1 › Connection and start-up of a new site

To request the connection of a facility to the public distribution system, customers can contact either the system operator or a supplier offering this service.

In all cases, in order to request the start-up of their facility, customers must have chosen and contacted a supplier to request start-up of their facility.

2 › Start-up of an existing site, disconnection and cut-off

Household consumers and suppliers are entitled to the immediate availability of energy on a site. The required procedures have been finalised.

With the current metering technologies in place and safety permitting, self meter reading by customers is the preferred solution to limit costs and ensure that the termination index best reflects customers' actual consumption.

Suppliers who were previously service providers for a particular site should not benefit from more favourable connection

conditions than other suppliers. In addition, the start-up service price must be identical, regardless of whether supply has been maintained or not (excluding work on facilities).

Gas and electricity suppliers must adapt cut-off situations for outstanding payment, particularly with regard to hardship cases, to changes in legislative and regulatory tests.

3 › Switching supplier

Unless specific action is required, the minimum time required to switch supplier is 21 calendar days as from the customer's application for a new supplier, plus the 7-day legal retraction period when it is applicable (canvassing and e-sales).

In the same way as for termination and for the same reasons, self meter readings by customers is the preferred solution to limit costs and ensure that the index for switching supplier best reflects customers' actual consumption. In quest of operator transparency, CRE has asked DSOs to publish their methods for calculating indexes and checking consistency of self meter readings.

The only reasons, for which an application for switching supplier may not be approved by the DSO, are if:

- fraud has been detected;
- application for switching supplier is already underway;
- there is an error in the information sent.

The DSO must notify the former and new supplier of the application to switch suppliers to a site, within three days of receiving this request. The previous supplier may not object to the procedure and, in particular, non-payment by the customer is not a legitimate reason for opposing the application.

In certain circumstances, customers may choose not to exercise their eligibility legitimately or may change supplier against their wishes. To deal with such situations, CRE has asked DSOs to make it technically possible in their information systems to return to a previous supplier under the previous sales terms, including regulated tariff.

4 › The quality of key procedures

DSOs must set up a system for monitoring the quality of procedures key to the opening of the market (switching supplier, termination, start-up and connection). The relevant indicators, which will be defined and audited by CRE, will initially concern non-household customers and then be extended to household customers as from 1 July 2007.

4_ Profiling and settlement mechanisms: turning experience feedback from 2004 to good account

1 › For natural gas

In its communication of 10 January 2006, CRE approved GTG 2007 proposals for improving the profiling system:

- reform of the segmentation of the profile range according to the principle of reliable and unquestionable allocation criteria (level or temporal distribution of site consumption);
- calculation of the balancing coefficients between measured and estimated quantities per balancing zone and per DSO and no longer at each transmission-distribution interface point (PITD).

CRE also approved the changeover to a system of standardised transmission capacity subscriptions, for delivery capacities to PITDs, delivery capacities on regional networks to PITD and exit capacities from the main network. CRE will incorporate the system of standardised subscriptions in the next proposal of tariffs for use of transmission networks, which is due to come into force on 1 January 2007.

All of these points form the last key change in the profiling and transportation management system, before the deadline of 1 July 2007.

New rules for allocating quantities to PITDs have been defined for the transitional period of 1 July 2006 to 30 June 2007, and then from 1 July 2007.

2 › For electricity

The settlement mechanism is composed of two stages:

- spatial reconciliation, which involves aligning the theoretical load curve resulting from profiling with the load curve actually recorded;
- temporal reconciliation, which involves correcting the imbalance between energy measured on the meters and energy resulting from spatial reconciliation.

The practical methods for temporal reconciliation and subsequent financial payments have been the subject of discussions between suppliers, the TSO and DSOs. CRE has analysed the operators' positions and has asked RTE to put forward new detailed rules that uphold the following three principles:

- temporal reconciliation with the annual supply chain;
- valuation of the energy concerned at the Powernext price;
- allocation of the residue, the final stage of the overall operation, to all balancing responsible entities (RE) operating within a DSO's region on a pro rata basis of the withdrawn energy.

The rules were approved by CRE on 8 June 2006.

3 › For electricity metering systems

Metering systems (cf. page 80) are fundamental to the commercial differentiation of supplier offers, as they enable varied tariffs and energy services to be set up.

In the first quarter of 2006, at CRE's request, the GTE 2007 compiled draft specifications for a technical-economic study to quantify the benefits of migrating the current meter stock to electronic meters with remote reading and load curves and remote controlled cut-off systems and power changes. This study, coordinated and funded by CRE, has been commissioned from an external expert body and the results will be sent to the GTE 2007.

Moreover, alternative suppliers do not currently have tariff signals that enable them to make interruption offers. In 2006, CRE asked the GTE 2007 to study the technical conditions for implementation of interruption offers by alternative suppliers.

IV_ Persisting uncertainties and hurdles

1_ The need for a suitable regulatory and legislative platform

Success of the preparatory work for 1 July 2007 lies, on the one hand, in the precise definition of relations and responsibilities of public system operators and suppliers with consumers and on the other, in the definition of clear and simple practical methods for key customer procedures. This requires completion of the applicable legislative and regulatory framework. In this regard, the transposition of appendix A of the directives of 26 June 2003 in the consumer code is urgent.

The laws of 10 February 2000 and 3 January 2003 require clarification so as to remove any ambiguity surrounding several topics:

- eligibility, by site or customer;
- dealing with supplier bankruptcy;
- switching supplier free of charge.

2_ Hurdles to the opening of the household market

Based on experience feedback from the opening of the electricity and gas markets to non-household customers and progress made by the GTE 2007 and GTG 2007, CRE has identified 4 hurdles to the opening of the household customer market.

1 › Regulated tariffs are currently hindering the development of competition on the retail market

For competition to develop in the presence of regulated retail tariffs, alternative suppliers must be able to make offers, in all segments of eligible customers, at a supply market price that is lower than or equal to the supply part of regulated tariffs (obtained by deducting the tariff for use of systems and, for gas, the storage price, from these tariffs).

- Regarding electricity, alternative suppliers without sufficient generation capacities to supply their customers must procure their supplies from the wholesale market.

  The supply part of regulated tariffs is based on the EDF national generation capacity, mostly nuclear power. Irrespective of the fact that it does not cover EDF costs for certain segments of clientele, it is much lower than current wholesale market prices.

  In this context, suppliers without means of baseload generation as competitive as nuclear power, suffer from a scissors effect, as the market supply prices are higher than the regulated tariffs, whose level remains constant. Their economic balance for the activity of non- household customer supply is therefore uncertain.

- Regarding gas, Gaz de France procures supplies from outside France through long-term contracts and on short-term markets. Its supply costs are linked to market prices. So that alternative suppliers are able to make competitive offers in comparison with tariffs, on the one hand, they need to be able to procure gas supplies under conditions similar to those of Gaz de France and, on the other hand, the regulated tariffs of Gaz de France must reflect the supply costs, which is not the case for all tariffs.

Article 3.1 of the directives of 26 June 2003 stipulates that Member States must ensure the setting up of a competitive electricity and gas market and abstain from any discrimination as regards the rights and duties of electricity and gas companies.

In a default note dated 4 April 2006, the European Commission deemed that France had breached article 3.1 by imposing regulated tariffs so that the supply part of tariffs was particularly low and considerably lower than the market prices, which prevented competitors from entering the non-household customer market, eligible since 1 July 2004. The European Commission invited the French government to present its comments on this point within two months.

Regulated retail tariffs are on the agenda for the customer protection task force, chaired by CRE, within ERGEG's customer focus group. In early 2006, the task force launched a comparative analysis of electricity and gas retail price regulation mechanisms in European Union countries Bulgaria, Norway and Romania. The purpose of this study is to analyse the effects of such a regulation, pass judgement on its appropriateness and application period and assess the most suitable regulation mechanism.

2 › Certain DSO information systems will not be operational

Future movements on the household market require fully automated and robust information systems. This was not the case for those developed for 1 July 2004.

It is the responsibility of DSOs to successfully develop their information systems so as to meet the deadline of 1 July 2007.

The EDF DSO stated that it was unable to implement the procedures defined in CRE's communication of 10 January 2006 by 1 July 2007. By this date, household customers should therefore be dealt with using the same procedures as are currently applied to non-household customers. Key measures for the smooth opening of the household market will therefore not be in place by 1 July 2007: possibility of automated access for suppliers to their customer consumption data, switching supplier by the desired date, maintenance of power supply to a site previously occupied by a customer who had exercised his eligibility. This declaration led CRE to decide on the launch of an audit of EDF DSO information systems.

Some electricity and gas system operators of local distribution companies (LDC) have also announced that their information systems will only be partially ready by this date.

3 › Conditions of competition are not the same across the territory

2 years after the non-household market opened up to competition, it emerges that development of this competition is slower in the LDC jurisdiction. The exercise of supplier activity in LDC service areas has encountered problems:

- certain LDCs still do not offer contracts between DSOs and suppliers enabling a supplier to sign a single contract with a customer in their service area. For LDCs who do offer these contracts, contractual terms vary considerably between system operators, which makes the task more difficult for suppliers;
- certain LDCs impose costs on suppliers when suppliers are switched (special meter reading for electricity, etc.).

CRE sent a request to the Conseil de la concurrence (Competition Council) concerning questionable sales practices of an LDC.

Moreover, competition on the natural gas retail market is developing at a far slower rate in the south of France. Organisation of temporary gas release programmes improved the situation by enabling alternative suppliers to procure supplies.

4 › The brand image confusion between regulated and competitive activities is harmful

The integrated incumbent operators EDF and Gaz de France have each opted for a similar visual identity for their competitive supply activities and regulated system operator activities (Figure 6). This confusion clouds customer understanding of how the market is organised and operated.

The institutional communication of these groups, which ignores the unbundling of activities, heightens this effect.

Confusion may lead customers to believe that they run risks in terms of quality and continuity of supply if they switch supplier.

› Figure 6: The confusion of visual identities

Parent company and sales activity

Gaz de France

EDF

Monopoly distribution activity

Gaz de France RÉSEAU DISTRIBUTION

ERD

EDF Gaz de France Distribution

› Regulation of the natural gas market

I The gas market in the European context

II Opening of the gas markets

III CRE: regulator of the French gas market

I_ The gas market in the European context

1_ Increasing weight of imports in gas supply in Europe

1 › Gas demand continues to grow

In 2005, actual consumption of natural gas (without adjustment for climate events) in the European Union increased by 1.9 % to 492.4 bcm (Table 1). This increase conceals large disparities within the different Member States.

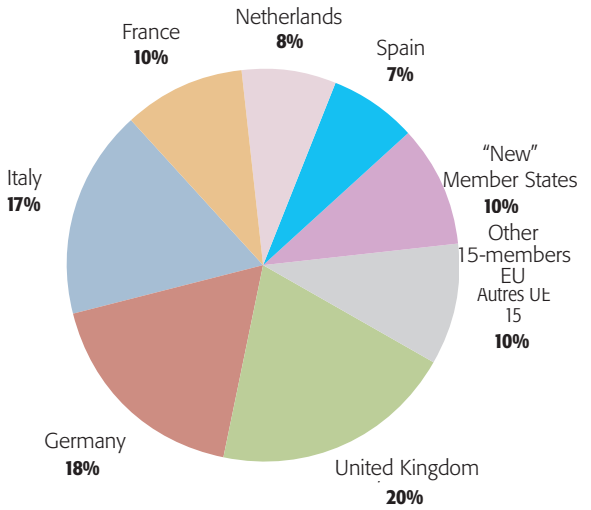
The increasing volume of supply was particularly pronounced in three countries: Italy (5.5 bcm), Spain (5.2 bcm) and France (1.6 bcm). In Spain, supply, linked to the increase in consumption of electricity and the construction of new natural gas power plants, increased by 18%. On the contrary, supply decreased or remained stable in three other countries: the Netherlands (-2.9 bcm), Germany (0 bcm) and United Kingdom (-0.9 bcm). These six countries alone account for 80% of gas consumption in Europe. In 2005, gas demand in the ten new Member States remained more or less stable (Figure 7).

Table 1: Changes in actual gas consumption in Europe

	Gas consumption in 2005 (in bcm)	Gas consumption in 2004 (in bcm)	Variation 2005/2004 (in%)
United Kingdom	95.1	96	-0.9%
Germany	88.7	88.7	0.0%
Italy	84.2	78.7	7.0%
France	49.4	47.8	3.3%
Netherlands	40.9	43.8	-6.6%
Spain	34.7	29.5	17.6%
15-member EU	442.2	433.3	2.1%
New Member States	50.2	50	0.4%
25-member EU	492.4	483.3	1.9%

Source: Eurogas

› Figure 7: Breakdown of actual gas consumption in Europe per country in 2005



Source: Eurogas

2 › Production is dwindling at an increasing rate

Production in the European Union dropped to 214 bcm in 2005. It only accounted for 43% of supply, compared with 46% in 2004. In 2005, 75% of European production came from the Netherlands and the United Kingdom.

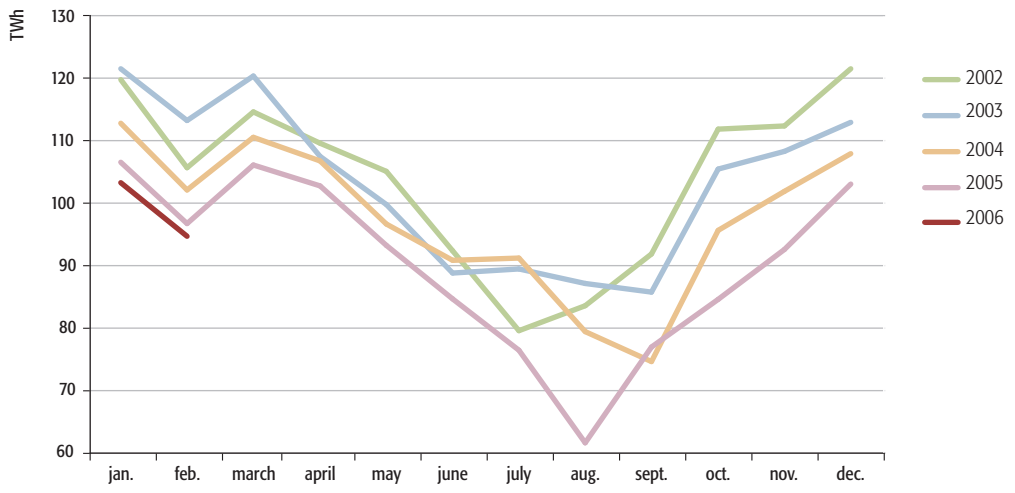
The United Kingdom, the leading gas producing country in the European Union, has seen a decline in its production since 2000 (Figure 8). In 2005, British production decreased by around 8%. The United Kingdom became a net gas importer in 2004 and in 2005, net gas imports to the United Kingdom accounted for 6% of consumption.

To meet the rise in demand, the level of imports increased in 2005. Three countries are the main suppliers of gas to Europe: Russia (26% of consumption), Norway (16%) and Algeria (11%). These three countries are responsible for more than 90% of European imports. The remaining imports come from Nigeria, Libya, Trinity-and-Tobago, the Middle East and, since 2005, Egypt. However, the share of new suppliers remains marginal in the total consumption, despite the European Union's commitment to diversifying its sources of supply.

In 2005, the volume of imports coming from Russia remained stable. The level of imports coming from Norway increased by 7% in comparison with 2004, while those from Algeria rose slightly by 2%.

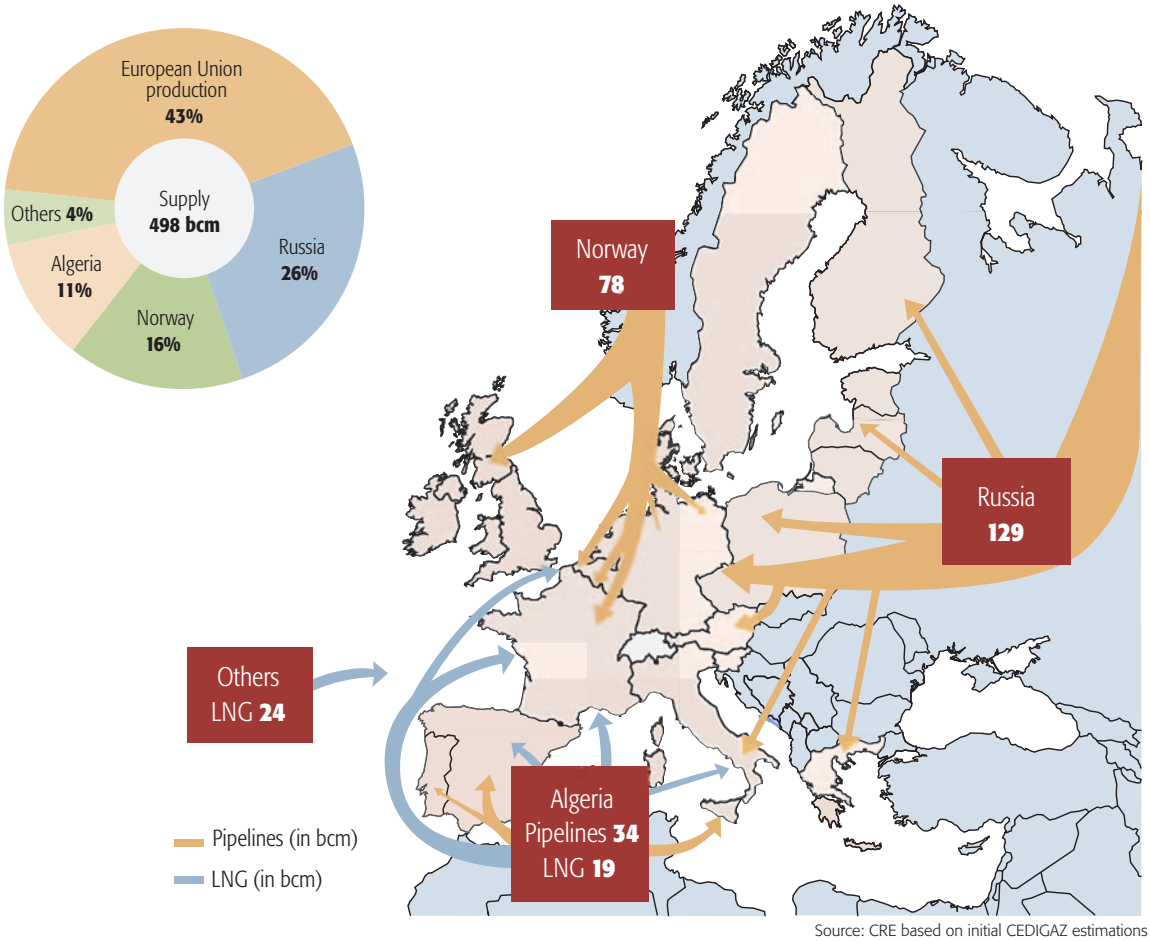
In 2005, gas supply in the European Union (production and total imports from intermediary countries) increased to 498 bcm (Figure 9).

› **Figure 8: Trends in monthly production in the United Kingdom since 2002**



Source: CRE based on data provided by the DTI

› **Figure 9: Origin of gas consumed in Europe in 2005**



Source: CRE based on initial CEDIGAZ estimations and others

2_ 50% increase in gas prices in 2005

1 › Prices for long-term contracts have been increasing constantly since January 2004

In continental Europe, around 90% of gas is purchased within the framework of long-term contracts. The prices of these contracts are index linked to domestic and heavy fuel oil prices and dollar/euro parity. Rises and falls in gas prices are delayed by a few months and smoothed out in relation to oil product prices.

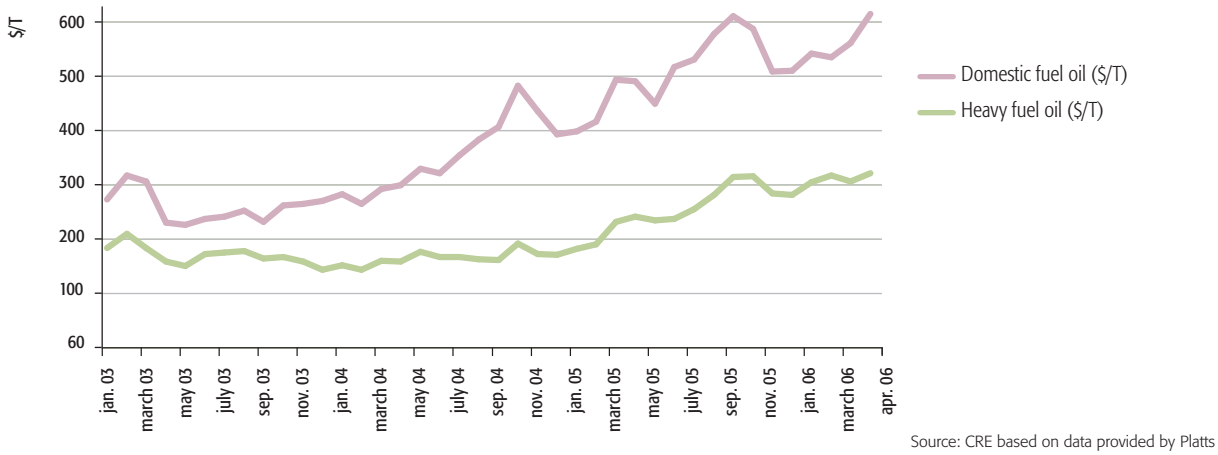
The prices of these contracts are not divulged but are subject to estimations published by specialist firms. In 2005, they increased steadily: domestic and heavy fuel oil prices in Europe rose by 45% and 55% in $/t for the year (Figure 10).

On the basis of various estimations, during the first quarter of 2006, the price of Troll long-term contract gas delivered to Belgium was around 21 €/MWh compared to roughly 14 €/MWh at the start of 2005, i.e. an average increase of 50% (Figure 11). In 2005, the average annual price of these contracts was 16.4€/MWh, up by 42% compared to 2004.

A ›› Wholesale market prices have reached record levels

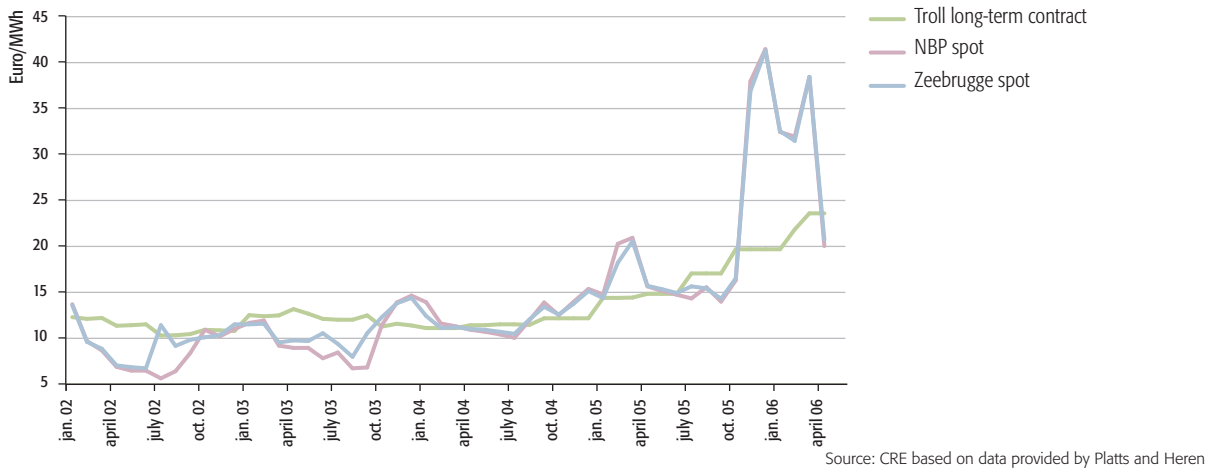
In Europe, just 3 hubs offer a reference price for wholesale gas exchanges: the notional hub of the National Balancing Point (NBP) in the United Kingdom, the local hub of Zeebrugge in Belgium and the notional marketplace of the Title Transfer Facility in the Netherlands. Spot day ahead prices correspond to prices operated on the market for delivery the next day.

› **Figure 10: Trends in oil product prices in Europe**



Source: CRE based on data provided by Platts

› **Figure 11: Comparison of NBP and Zeebrugge day-ahead spot prices and the Troll long-term contract prices delivered to Zeebrugge**



Source: CRE based on data provided by Platts and Heren

In 2005, day-ahead quotation prices of European spot markets increased considerably in comparison with 2004, with an annual increase of 65% at NBP and Zeebrugge and 42% at TTF, to reach the highest levels since being set up. They therefore averaged 20€/MWh at NBP in 2005 in comparison with 12 €/MWh in 2004.

The wholesale market in Great Britain is the most liquid in Europe and its price has a great impact on other continental market prices. Under these conditions, wholesale market gas prices on the European continent generally reflect the supply and demand balance in Great Britain.

At the beginning of November 2005, spot prices shot up over 70 €/MWh (i.e. the equivalent of over 140 $/b). Prices fell at the end of December but remained high.

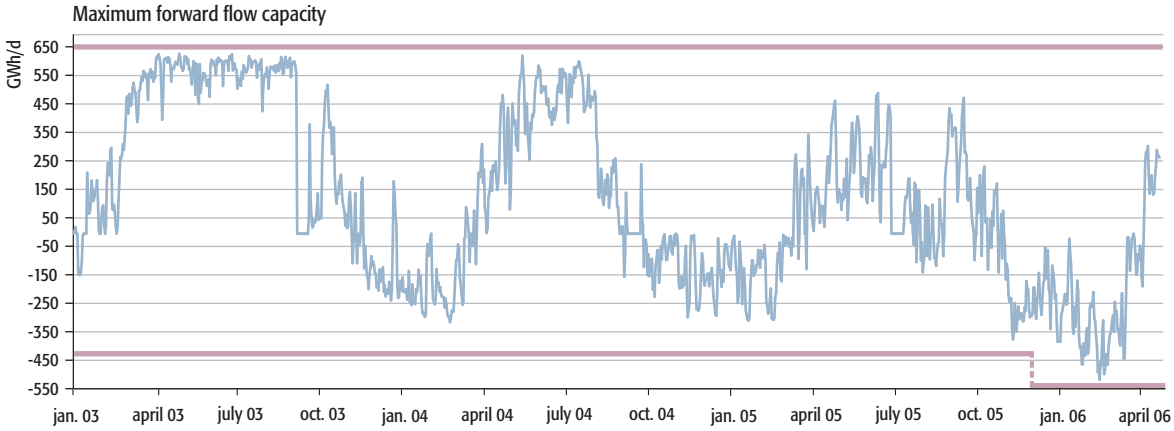
A fresh price peak was observed in mid-March 2006. On 14 March 2006, the spot prices exceeded 80 €/MWh (i.e. around 200 $/b) before dropping back to around 20 €/MWh.

Several factors explain this price explosion:

- the faster than expected decline in North Sea production caught all gas operators and the British authorities unaware;
- the cold spell that hit Europe at the end of February/beginning of March 2005 had already revealed the gas supply shortage in Europe. During the winter of 2005/2006, great strain persisted on gas supply in Europe. Technical incidents in liquefaction plants in Qatar, Nigeria and Algeria and delays in starting up the production of new liquefaction trains in Trinity-and-Tobago reduced the number of LNG exports to Europe and increased competition between European and American purchasers. The crisis between Ukraine and Russia in January 2006 also illustrated the risks of supply emergencies and stressed the importance of storage facilities;
- the extension of the Isle of Grain regasification terminal (Great Britain) and increase in the reverse capacity of the Interconnector from the continent to Great Britain should have eased strain on supply in Great Britain during the 2005/2006 winter season. However, these infrastructures were not used at full capacity in a lasting manner during this period. The Isle of Grain terminal was subject to trading between the United States and Great Britain with LNG terminals unloading their cargoes where the prices were highest. The Interconnector was not fully used despite attractive prices in the United Kingdom (Figure 12). An investigation by the European Commission Directorate-General for Competition is underway to determine the causes;
- specifications concerning the quality of gas in Great Britain, which are more restrictive than specifications on the continent, also limited possibilities for importing LNG during these periods;
- the explosion at the Rough offshore storage facility (Great Britain) on 16 February 2006 put it out of service until June 2006. This heightened strain on the supply/demand balance and therefore on British prices.

Wholesale gas prices at Zeebrugge followed the NBP prices. Nonetheless, during the winter of 2005-2006 and in contrast with the price peak of February/March 2005, the TTF prices ceased to be in line with NBP and Zeebrugge prices, increasing at a much slower rate. Various analysts have highlighted the fact that this asymmetry could have been caused by congestions (contractual or physical) between the Netherlands and Belgium.

› **Figure 12: Daily Interconnector flows**



(Positive: exports from the United Kingdom to the continent)

Source: CRE based on Interconnector data

B ›› The fragility of the British supply/demand balance is reflected in forward prices

In 2005, gas year forward prices (for the coming gas year) on free markets increased by more than 60% to around 24 €/MWh (Figure 13). The causal factors are spot price peaks and the market perception of potential risks liable to affect future supply/demand balance in the United Kingdom.

At the beginning of 2006, the gas year prices were extremely high, at 30 €/MWh, and far exceeded the long-term contract prices. This situation puts new suppliers who do not have long-term contracts at a disadvantage.

3_ Predominance of large-scale operators on the European market

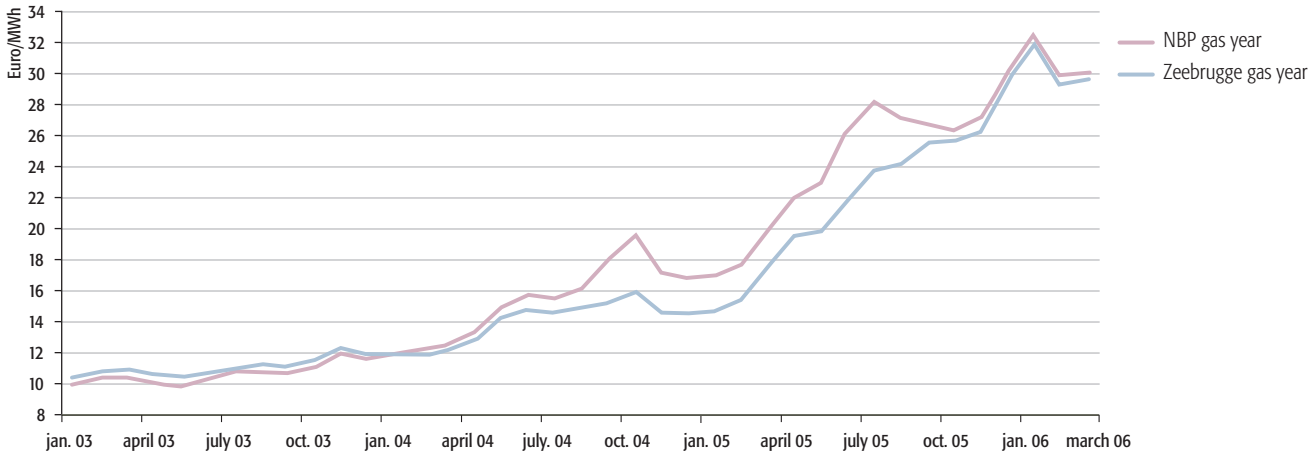
1 › Around ten operators are present upstream in the production segment

Ten companies produce more than 80% of the gas consumed in Europe.

In the European Union, the 5 leading gas producers (ExxonMobil, Shell, Statoil, Total and BP) alone produce 137 bcm, i.e. 64% of total production (Figure 14). The share held by these companies is decreasing with the decline of British production in the North Sea.

Gazprom (Russia), Sonatrach (Algeria) and Statoil (Norway) are the main suppliers of the incumbent European operators, with whom they hold long-term contracts.

› **Figure 13: Comparison of annual NBP and Zeebrugge forward prices**



Source: CRE, based on data provided by Platts

Inset 1: The North European Gas Pipeline

On 8 September 2005, Gazprom, BASF and E. On signed an agreement to build the North European Gas Pipeline. These three groups, via the North European Gas Pipeline Company consortium (Gazprom 50%, BASF 24.5%, E. On 24.5%) will own and operate the future gas pipeline. The gas pipeline will connect Vyborg in Russia to Greifswald in Germany, passing through the Baltic Sea to transport supplies to Germany, Belgium, Great Britain and France. With an initial capacity of 27.5 bcm (eventually 55 bcm) and stretching over 1,189 km, it should start operating in 2010. It represents a range of advantages for Gazprom. This new export route will avoid transit through Ukraine and Belarus, thereby reducing the country risk factor and gas transit costs for the European market. The gas will come from the exploitation of new production fields situated in the region of Yamal-Nenetsk, including the Yuzhno-Russkoye field (reserves of 700 bcm). BASF should retain a stake in this field, in return for which the company is committed to transferring a share of Wintershall's stakes (100% BASF) in Wingas to Gazprom.
In March 2006, Gaz de France expressed an interest in taking part in the project.

Gazprom is the main exporter of gas to the European Union. Its exports have remained stable at 129 bcm. In January 2006, Europe's dependency on Gazprom raised fears over security of supply to the European Union.

Since the beginning of 2005, the redefinition of terms for renewing contracts in Ukraine for the supply and transit of Russian gas has been the subject of difficult negotiations. The absence of a compromise between Gazprom and Naftogaz Ukrainy, the two national companies, by 31 December 2005, the expiry date of Russian gas supply and transit contracts to Ukraine, resulted in the reduction of gas supplies to Ukraine. This reduction in Ukrainian supplies affected European countries which receive gas supplies via Ukraine. Gazprom and Naftogaz Ukrainy have since then reached an agreement and the transit situation is gradually returning to normal.

Sonatrach exports increased by 2% in 2005 to 53 bcm. The law on hydrocarbons, adopted in March 2005 by the Algerian government, scrapped the sales and export restrictions. From now on, any contracting party in the hydrocarbon industry may market their gas on the national and international markets. Nevertheless, Sonatrach enjoys a right of first refusal to 20 to 30% on all new discoveries made by a contracting party. If Sonatrach exercises its purchase option, volumes will be marketed through a partnership.

2 › Concentrations are picking up speed downstream of the gas market

Over the last year, concentration movements have continued: acquisition of the distributors Portgas and Setgas by the public company EDP (Energias de Portugal) and Edison and Enel acquisitions of the capital of local Italian distributors. Major concentration operations between national incumbent gas and electricity players were launched: Gas Natural's takeover bid and the counter-bid by E. On Ruhrgas for Endesa in Spain and Suez project of merger with Gaz de France.

At the same time, unbundling of infrastructure and trade activities continued. Some of these operations resulted in asset unbundling, as for SPP in Slovakia, or transfer of the operator of the Stogit storage facility from the Eni group to the transmission operator Snam Rete Gas in Italy. Through government impetus, certain asset unbundling operations doubled with nationalisation of infrastructure activities (POGC in Poland), others coincided with partial or total privatisation of the same activities (withdrawal by local authorities from German regional distributors' capital).

Public acquisitions in the capital of incumbent players in the gas sector fell in Western Europe (Gaz de France, Galp Energia in Portugal).

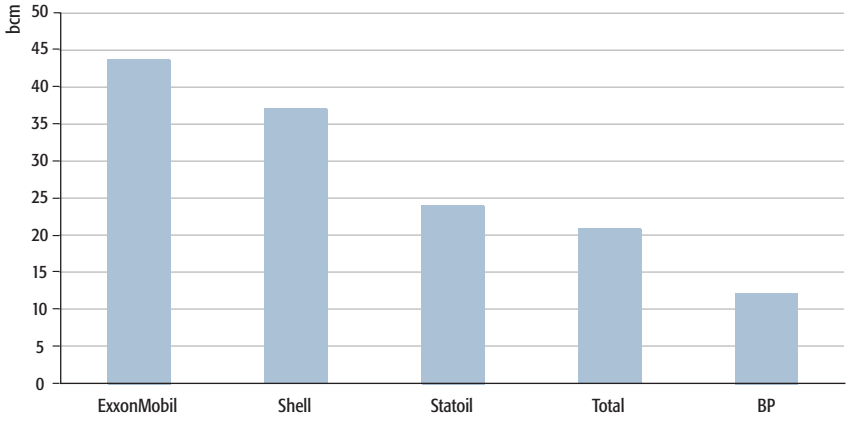
The recent operations are as follows:

›› Acquisition of the Hungarian MOL by the German E. On Ruhrgas

Following the commitment to transfer part of the Hungarian integrated national company MOL's assets to E. On Ruhrgas in November 2004, the European Commission launched an inquiry in July 2005. The outcome published in December 2005 was approval but under conditions including gas release.

In January 2006, E. On Ruhrgas International AG acquired all of the assets of MOL Földgázellátó Rt. (trade), of MOL Földgáztároló Rt. (storage) and 50% of the capital of Panrusgaz (transmission).

› Figure 14: The 5 leading gas producers in Europe in 2005



Source: CRE

›› Gas Natural takeover bid for Endesa in Spain

On 5 September 2005, Gas Natural announced its intention to launch a takeover bid for the electricity company Endesa. The agreement of the Spanish regulator (CNE) to the principle of implementing this takeover bid came with 20 conditions, including:

- reduction in Gas Natural's holding from 15% to 1% in the network operator Enagas and transfer of a 4300 MW capacity of electricity generation belonging to Endesa;
- transfer of stakes in two LNG terminals and in distribution companies to prevent exceeding 60% of market shares in this segment;
- setting up of a gas release programme concerning 2.8 bcm per year for a period of 3 years as from 2007.

However, in March 2006, following the decision of the Madrid Commercial Court, the hostile takeover bid by Gas Natural for Endesa was suspended.

E. On Ruhrgas is also planning to launch a takeover bid for Endesa:

- this takeover bid is worth more than that of Gas Natural;
- the Spanish government has expressed reservations concerning this transaction;
- the European Commission considered that this takeover bid did not significantly hinder effective competition in the European economic area or in a substantial part of it.

To fend off this offensive, the Spanish government adopted a decree-law granting the regulator a right to veto takeover bids launched by foreign companies.

On 3 May 2006, the European Commission sent a default notice to Spain, the first stage in the infringement procedure.

The Spanish government has two months to voice its arguments on the conformity of this decree-law with Community legislation.

›› Restructuring of POGC in Poland

The Polish State has decided to separate the integrated oil and gas company POGC from its infrastructure subsidiary POGC Przesyl, which will remain a national company, whereas POGC will be privatised. The 6 regional gas distribution companies, however, will not be privatised.

Unbundling of POGC's activities and restructuring of the capital of entities resulting from the separation was organised in two phases: increase in capital in the first quarter of 2005, enabling the debt to be restructured and capital investments to be increased and 100% acquisition of POGC Przesyl by the Polish State and an IPO of 20% of POGC capital.

›› Restructuring of the downstream gas market in Portugal

In November 2005, the Portuguese Minister for Finance announced the IPO of a fraction of the Portuguese State's holding in Galp Energia, amounting to 25.8% The rest of the company's capital is held by ENI (33.3%), Rede Electrica Nacional (REN, 18.3%) and Electricida de Portugal (EdP, 14.3%).

At the same time, a decree-law, applicable as from 15 February 2006, transposed the directive of 26 June 2003, imposing not only account unbundling, but also asset unbundling of the transmission activity from other gas activities.

›› The gas release programme of the Danish company DONG

Following the acquisition of five Danish electricity companies, conditions including a gas release programme have been imposed on DONG by the European Commission. This programme involves the transfer of 2.4 bcm of gas via an auction mechanism for six years (400 mcm per year), i.e. around 8% of consumption.

›› Unbundling of Gasunie activities in the Netherlands

On 1 July 2005, Gasunie was split into two companies: Gastransport Services (100% State owned) and Gasunie Trade & Supply (50% state, 25% Shell and 25% Exxon). Through these acquisitions, the State's intent is to set up an independent public gas network similar to the public electricity operator (Tennet).

›› Gaz de France and Suez merger project

On 27 February 2006, Gaz de France and Suez announced their intention to merge and accordingly notified the European Commission Directorate-General for Competition in May 2006 (Inset 2).

Inset 2: Gaz de France and Suez merger project

On 27 February 2006, Gaz de France and Suez officially announced the merger project they had signed two days before. With a turnover of 64 billion Euro, the new group is one of the leading European participants in energy and the environment. This announcement came just after the Italian electricity company Enel had announced its intent to launch a takeover bid for Electrabel, the electricity arm of Suez in Belgium, on 21 February 2006. This merger will firstly require an amendment to the law of 9 August 2004, article 24 of which stipulates that the State's stake in Gaz de France must remain over 70% (80.2% at present). The European Commission was informed of the concentration project on 10 May 2006, and, as this involved a concentration operation coming under its jurisdiction, sent CRE a questionnaire in June 2006.

II_ The opening of the gas markets

1_ The opening of the markets in European Union countries

1 › A slow and uneven development of competition across the twenty-five member Europe

Reports published by the European Commission at the end of 2005 and beginning of 2006 stated that liberalisation of the gas market is slow and that significant differences remain between countries concerning the actual opening of gas markets. These reports made three observations concerning deficiencies in the following fields:

- regulation, either as regards regulators' resources and powers, or certain areas that are virtually ignored by regulation such as cross-border investments;
- reasures governing the actual unbundling of transmission and supply activities. The report pointed out ongoing discriminatory behaviour in favour of the trading branch of integrated operators;
- information provided to market players on the use of gas infrastructures.

A ›› The European Commission Directorate-General for Energy and Transport has stressed the importance of involving Member States in the liberalisation process and the inadequate unbundling of regulated and non-regulated activities

The Directorate-General for Energy and Transport publishes an annual report on the "Setting up of the Internal Gas and Electricity Market". Published at the end of 2005, this remarked that the delays in opening up to competition are due to the slow transposition of the gas directive. Three themes are developed in particular:

- actual opening of the markets cannot be achieved without the Member States' policy commitment to transposing directives;
- the transpositions must take into account the content and not just the form;
- the unbundling of regulated infrastructure operators, such as it has been carried out, does not always guarantee identical and non-discriminatory treatment of all market players.

On 4 April 2006, the Directorate-General for Energy and Transport sent 43 default notices to 15 Member States. For France, the default notices concerned:

- the independence of distribution system operators, absence of notification of public service obligations and regulated tariffs;
- the absence of publication of sales terms for access to gas storage facilities.

These default notices confirmed the criticism that CRE had already expressed about measures relating to network operator independence and about the tariff policy. Those concerning the absence of publication of sales terms for access to storage facilities will, however, require more in-depth review.

The Directorate-General for Energy and Transport points out that regulators' powers often prove to be inadequate in Europe, as they do not always have the necessary financial and human resources to fulfil their duties.

The setting up of a national regulator in Germany in July 2005 filled a significant gap (Inset 3).

Inset 3: The new legal, regulatory and regulated framework for the German gas market

Since July 2005, the German gas market has been regulated by a new law (EnWG) and two regulations (GasNEV and GasNZV), which transpose the directive of 26 June 2003. The main benefits are the setting up of an entry-exit type tariff system for access to infrastructures and use of tariff comparisons by the Federal Network Agency to calculate tariffs for access to competing networks. Set up by a special law, the Bundesnetzagentur-BNetzA (Federal Network Agency) is responsible for regulating the sectors of telecommunications, postal services, railways, electricity and gas. The Agency comprises a Committee, Administration, Council (representative of the Parliament) and a Länder Commission (representative of the Länder Authorities). Within the administration, the department in charge of energy is subdivided into services, three of which specialise in gas and six are jointly associated with electricity. The Federal Network Agency's gas-related decisions are made by two decision-making chambers: one for network access, and the other for network access tariffs. The remit of gas regulation is split between the Federal Network Agency and the Länder Authorities. The agency's regulatory jurisdiction includes:

- comparison of network access tariffs;
- definition of conditions and methods for network connection, network access and implementation of tariff inquiries;
- cooperation with the Directorate-General for Competition and regulators from other Member States of the European Union;
- drafting of a report on the status and development of energy market liberalisation;
- development of an incentive-based regulation system.

ERGEG published its own analysis at the beginning of 2006 ("A preliminary Assessment of the European Energy Market") on the running of the gas and electricity market in Europe. This confirmed the inadequate unbundling of transmission activities in certain countries (Table 2), and the need to improve the regulator independence and skills. Out of these countries, only France and Great Britain have fully unbundled the transmission activity. Great Britain has also unbundled transmission activity assets.

B ›› The Directorate-General for Competition has highlighted the extent of discriminatory practices

In June 2005, the Directorate-General for Competition launched an inquiry into the conditions of competition on the European gas and electricity markets to identify the obstacles to development of competition and produce legislative and/or regulatory proposals and, if necessary, procedures against companies who infringe the rules of competition.

A preliminary report was published on 16 February 2006 and is subject to public consultation before the definitive report is published in the autumn of 2006.

In its preliminary report, the Directorate-General for Competition firstly remarked that the opening of markets has not put an end to national market concentration, as incumbent operators still retain major market shares in production, import and sales.

The report then stated that the long-term Take-or-Pay contracts are very flexible. The main gas suppliers make little use of spot markets and the flexibility of Take-or-Pay contracts thus hinders the development of spot markets.

In continental Europe, trends in the price of Take-or-Pay contracts are not directly linked to supply and demand balance as gas prices mainly remain linked to oil product prices.

The capacities of the transit networks are reserved by incumbent operators over the long term: there are only very few unreserved capacities and contracts are renewable upon expiry. Despite the unused capacities, the secondary markets and automatic redistribution systems of unused capacities (Use-It-Or-Lose-It) on these networks are underdeveloped and access refusals are numerous.

The rules governing legal and managerial unbundling of transmission and supply activities provided for by the gas directive are still not uniformly in place: the report stated that, in a number of cases, the transmission branch of integrated undertakings tended to favour its own supply branch. The lack of transparency surrounding the use of infrastructures reinforces incumbent suppliers' discrimination against newcomers.

The Directorate-General for Competition distinguishes three priorities as regards the competition law: market concentration (Directorate-General for Competition may review its policy on company mergers), closing down to competition via long-term contracts downstream (Inset 4) and access to transit and storage capacities. The Directorate-General for Competition justifies the regulatory measures which may be set up by the lack of transparency, the clauses for renewing capacity reservation contracts and the absence of regulations in certain fields, on international networks in particular. Finally, the report identified conflicts of interest which may only be resolved through structural changes in the industry: "total structural unbundling", which means effective separation of regulated and non-regulated activities.

Table 2: Unbundling of gas transmission activities in the main European countries

	Germany	Austria	Belgium	Spain	France	Italy	Netherlands	United Kingdom
Separate headquarters	no	yes	yes	no	yes	yes	yes	yes
Separate activity reports	no	yes	yes	yes	yes	yes	yes	yes
Unbundled regulatory accounts	yes	no	yes	no	yes	yes	yes	yes
Audit of unbundled accounts	yes	no	yes	yes	yes	yes	yes	yes
Publication of unbundled accounts	no	no	yes	yes	yes	no	yes	yes
Independent meeting of Boards of Directors	yes	yes	no	no	yes	yes	n.a.	yes

Source: ERGEG

Inset 4: The decision of Bundeskartellamt on the long-term delivery contracts of E. On Ruhrgas with German distributors

On 13 January 2006, the Bundeskartellamt (German Federal Cartel Office) publicly announced a decision containing the following main prohibitions, valid until 30 September 2010:

- the current long-term gas delivery contracts that E. On Ruhrgas have with local distributors contravene, through their combination, EC articles 81 (understandings) and 82 (abuse of dominant position) and article 1 of the German law against restrictions of competition;
- E. On Ruhrgas is forced to suspend the application of these existing agreements to 30 September 2006 at the latest;
- E. On Ruhrgas is also banned, with immediate effect, from concluding new gas delivery contracts with local and regional gas companies connected to its transmission network in Germany and representing a total annual consumption of over 200 GWh:
  - if they are concluded for a period of over 4 years when they account for between 50% and 80% of the purchaser's actual needs;
  - if they are concluded for a period of over 2 years when they account for more than 80% of the purchaser's actual needs.

On 1 February 2006, E. On Ruhrgas lodged a complaint (fast track appeal) at the Civil Court of Düsseldorf against the Cartel Office's decision. On 26 April 2006, the Civil Court of Düsseldorf, at an initial hearing, endorsed the Cartel Office's point of view. Since then, the Court has still not reached its final decision.

2 › European regulators' activity

A ›› The "regional initiative" is being set up

In November 2005, ERGEG published a consultation document entitled "Roadmap for a Competitive Single Gas Market in Europe". This document is a fresh analysis of the reasons for weak competition in gas markets in continental Europe.

This report, which was favourably received by most gas market players at the beginning of 2006, identified the absence of regional integration as the main problem in setting up the internal gas market.

Four regions have been identified: northwest, north, south and south-south east. The north of France is included in the northwest region, which also covers the Netherlands, Belgium and Great Britain. The south of France is incorporated in the south region, which also includes Spain and Portugal.

For each region, the regulators will take or propose measures to increase the competition and fluidity of these markets. The regional markets players, the European Commission and Member States will be involved in this process.

B ›› Gauging the application of "Guidelines for Good Third Party Access Practice for Storage System Operators"

In March 2005, CRE and the Italian regulator (AEEG) finalised a document defining the "Guidelines for Good Third Party Access Practice for Storage System Operators", or GGPSSO, in Europe.

These guidelines have been accepted by the parties involved, including the association, Gas Storage Europe (GSE), which represents storage system operators. These guidelines concern storage offers, capacity allocation, confidentiality measures, operational and commercial transparency of storage activities, tariffs and secondary markets. Most of these guidelines had to be applied by 1 April 2005.

In December 2005, ERGEG published a report drawn up by CRE and the AEEG, which made an initial assessment of the application of these guidelines, after extensive consultation of the parties involved. This document concluded that there is insufficient application of these guidelines, particularly with regard to transparency and the setting up of secondary markets. ERGEG commissioned CRE and the AEEG to write a second report to assess the progress made by storage system operators since the publication of the first report.

A preliminary version of the second report was presented at the Madrid Forum on 18 and 19 May 2006. It remarked that, while progress had been made by storage system operators, the application of these guidelines was still insufficient in such major fields as transparency, confidentiality, and the implementation of measures to resolve congestion and facilitate secondary markets.

A final report is expected in the autumn incorporating comments from the parties involved and an the European Commission's opinion.

C ›› Other ongoing activities

ERGEG is continuing work on a code of good practice concerning balancing, the application of guidelines governing transparency and the supply of transmission capacities stipulated by the gas regulation, which is due to come into force on 1 July 2006, and on the consequences of development of LNG imports on the European gas market. This work will be carried out so as to create synergies with the work on the "regional initiative".

2_ The opening of the French gas market

Since 1 July 2004, all non-household natural gas end consumers of have been able to choose their gas supplier. 70% of the national market is open to competition, representing 675,000 sites, i.e. an annual consumption of 380 TWh.

To facilitate the development of competition in the south, a temporary gas release programme in the south and southwest zones was set up by Gaz de France and Total on 1 January 2005. One year later, a report assessed the initial impact of this programme in the two zones concerned: two foreign suppliers could therefore start up gas deliveries to end customers and around 40% of the annual maximum contracted quantities were delivered in 2005.

In terms of account unbundling and transparency, the law of 9 August 2004 requires that, as of 1 July 2004, operators shall keep unbundled accounts for activities of supply to eligible customers and to non-eligible customers.

In the same way as for the unbundling of regulated activities, the law stipulates that the account unbundling principles proposed by operators in terms of supply unbundling shall be approved by CRE after opinion from the Conseil de la concurrence (Competition Council).

1 › The retail market

A ›› Customer market segments and their respective importance

The sites connected to distribution networks represent nearly all eligible sites.

Sites connected to the natural gas transmission networks are all eligible. They account for less than 1% of the number of eligible sites, but nearly half of the consumption of energy open to competition (Figure 15).

B ›› Ongoing exercise of eligibility

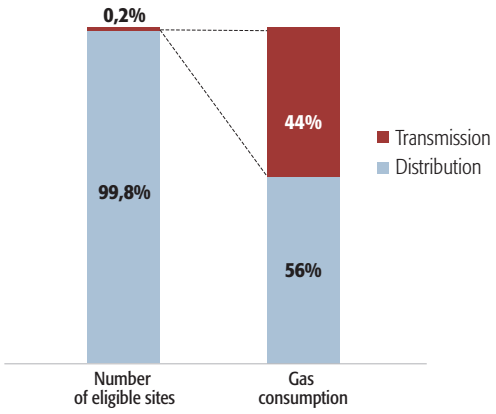
a_ From 1 July 2005 to 31 March 2006

Since July 2005, exercise of eligibility has picked up speed, increasing from 2,500 to 4,500 exercises per month: newcomers to the natural gas mass market and the activity of the incumbent supplier Gaz de France on the free market largely explained this trend. Figure 16 presents the total number of sites that have exercised their eligibility: most of them are connected to distribution networks.

Until the beginning of 2005, no new suppliers had had a supply policy for mass market. Since then, the emergence of suppliers targeting non-household customers connected to distribution networks has sparked a notable increase in the number of consumers exercising their eligibility. However, the recent change in regulated tariffs, which does not reflect all supply costs, makes it difficult for these newcomers to compete.

As at 1 April 2006, 9% of eligible sites, i.e. 63,900 sites, purchase their gas at market prices.

› Figure 15: Customer segments and their respective importance



Sources: CRE based on TSO and DSO data

18,400 of these sites are supplied by newcomers. The corresponding annual consumption accounts for around 10% of the volume open to competition on that date.

45,500 sites had signed contracts with their incumbent suppliers at market prices.

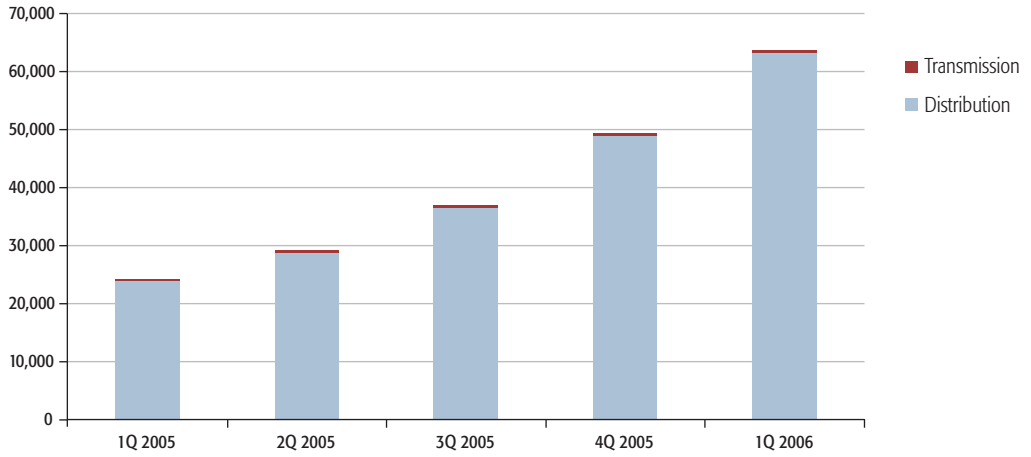
The number of suppliers active on the market, i.e. with at least one end consumer in their portfolio, rose from 10 as at 1 January 2005 to 14 as at 1 January 2006.

b_ Eligibility per customer segment

Figure 17 shows the rates of exercising eligibility (4) on the transmission and distribution networks, as at 1 April 2006.

These rates are higher for transmission sites, open to competition earlier than distribution sites and accounting for higher levels of consumption per customer. As at 1 April 2006, 53% of sites connected to transmission networks and 9% of sites connected to distribution networks had exercised their eligibility.

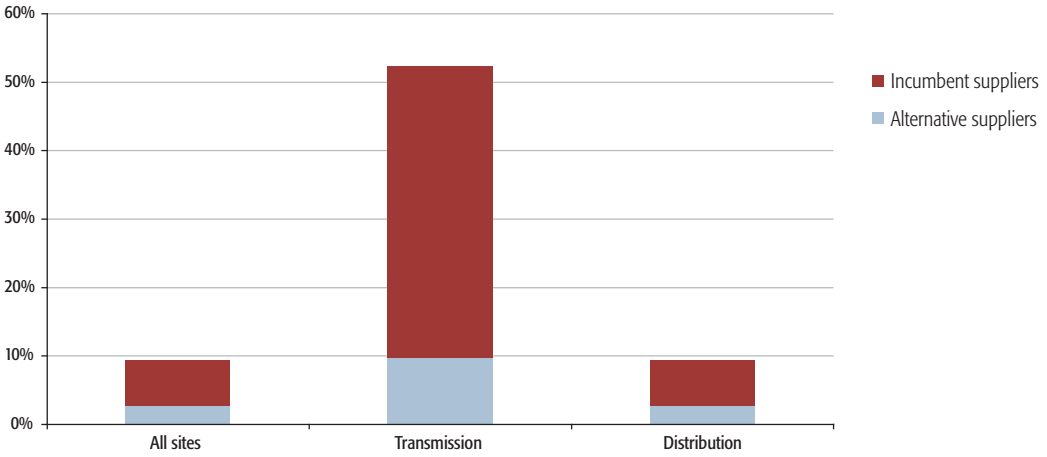
› Figure 16: Total number of sites that have exercised their eligibility



(This graph shows the values at the end of the month).

Sources: CRE based on TSO and DSO data

› Figure 17: Rate of exercising eligibility



NB: Incumbent suppliers: Gaz de France, TEGAZ and LDCs.

Sources: CRE based on TSO and DSO data

(4) The rate of exercising eligibility is equal to the quantity of energy consumed by sites who have exercised their eligibility divided by the quantity of energy consumed by all the eligible sites in the concerned balancing zone.

c ›› The presence of suppliers on the market

a_ Sixty-five supply permits issued

Under the law of 3 January 2003, any supplier wishing to supply gas in France must hold a permit issued by the Minister for the Economy, Finance and Industry.

By 1 April 2006, 65 suppliers had obtained a supply permit, including 23 local distribution companies of natural gas, with authorisation limited to their territory (Table 3).

Nine suppliers requested a permit only to supply other suppliers. Their sales are conducted at gas exchange points.

Table 3: Natural gas supply permit

Supply permit	As at 1 January 2005	As at 1 April 2006
To other suppliers	12	33
To non-household customers	12	29
To MIG* customers	5	11
Total	**16**	**42**
Local distribution company	22	23

* "Public Interest Mandate" customers.

Source: French Ministry of Economy, Finance and Industry

b_ Suppliers' market shares

Figure 18 shows suppliers' market shares as at 1 April 2006, calculated on the basis of estimated annual reference quantities of energy consumed by their customers.

In volume of gas consumed, the penetration of alternative suppliers remains low in the south and west zones (Table 4). The distance of physical natural gas entry points of newcomers hinders development of competition in these zones (cf. page 34). The temporary gas release programme in the south of France set up on 1 January 2005 offers newcomers a supply solution.

Table 4: Active alternative suppliers per balancing zone

	Number of active alternative suppliers
North zone	
- North H	8
- North B	4
West zone	4
East zone	7
South zone	6
TIGF Zone	5

Source: CRE based on TSO and DSO data

2 › The wholesale market

A ›› New suppliers are playing an increasing role in imports

The French gas market is still largely dominated by Gaz de France, which purchases most of its gas under long-term contracts signed with producing countries' national companies.

For new suppliers, who do not have long-term contracts in other European countries or their own resources, the only wholesale gas market dealing with significant volumes is the NBP in Great Britain. These suppliers can also access the wholesale market of Zeebrugge in Belgium for smaller volumes; however, this market does not offer a sufficiently developed range of financial flexibility and optimisation tools for Western Europe.

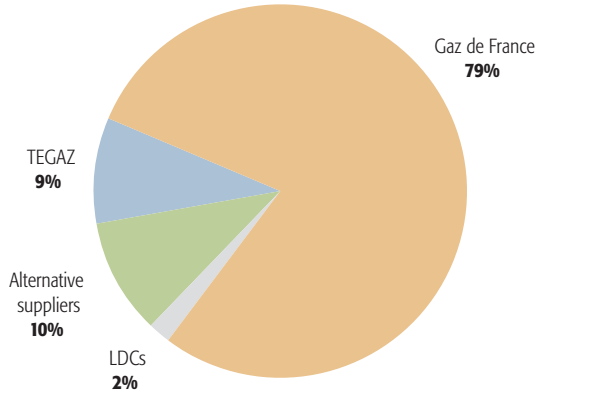
Table 5 presents the imports, measured for twelve months from 1 April 2005 to 31 March 2006.

Table 5: Statement of gas collections in France from 1 April 2005 to 31 March 2006

(Quantities in TWh)	All suppliers	Suppliers excluding Gaz de France	
H Gas			
H Taisnières	121	24	19%
Dunkirk	182	26	14%
Fos (terminal)	59	0.4	1%
Montoir (terminal)	84	-	-
Obergailbach	112	11	10%
Oltingue	2	2	-
Trois Fontaines (gas field)	ε	-	-
Lacq (gas field)	12	-	-
L Gas	ε		
L Taisnières	68	0.5	1%
Avion (mine gas)		-	-
Collections excluding storage facilities	**640**	**64**	**10%**

Source: CRE based on TSO data

› Figure 18: Breakdown of eligible customer consumption as at 1 April 2006



Sources: CRE based on TSO and DSO data

B ›› The activity at gas exchange points is developing

In France, exchanges are conducted between suppliers at gas exchange points, which were set up at the beginning of 2004 by Gaz de France and TIGF. Transactions are carried out at gas exchange points on a day-to-day basis and may result from longer-term commitments.

From April 2005 to March 2006, 53,000 GWh of gas was exchanged at gas exchange points representing 11,600 transactions. Figure 19 shows the trends in the number of transactions and quantities exchanged at all the gas exchange points as at the end of March 2006.

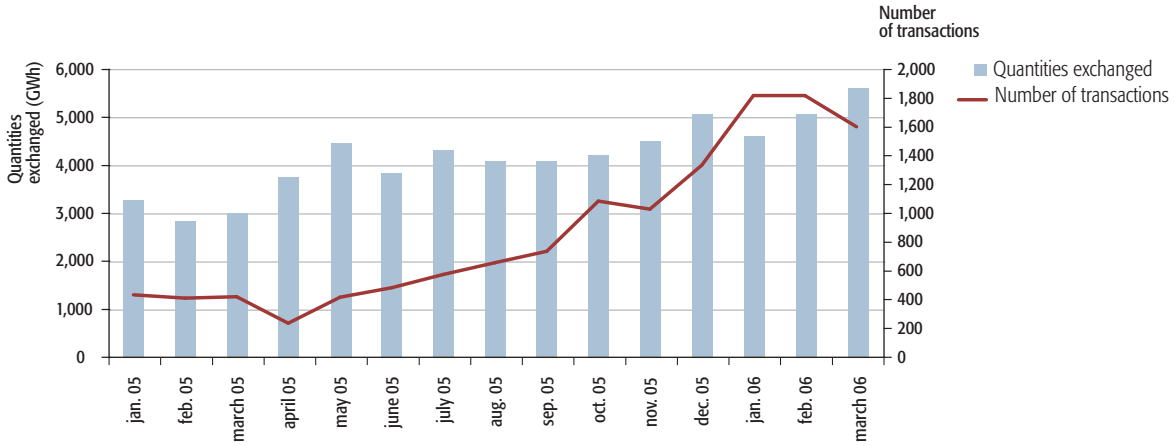
The gas bought by Gaz de France Réseau Transport for its operating needs, delivered to gas exchange points, is not included in these exchanges.

Gaz de France Réseau Transport launched a consultation on the delivery of bands totalling just over 2 TWh for one year, spread over 4 balancing zones. Eleven suppliers wished to take part in the consultations and received calls for tender. All lots were attributed to Distrigaz and Gas Natural Commercialisation.

Needs not covered by this annual consultation have been subject to new consultations since April 2006. The corresponding quantities are around 70 GWh per month, over the 4 zones.

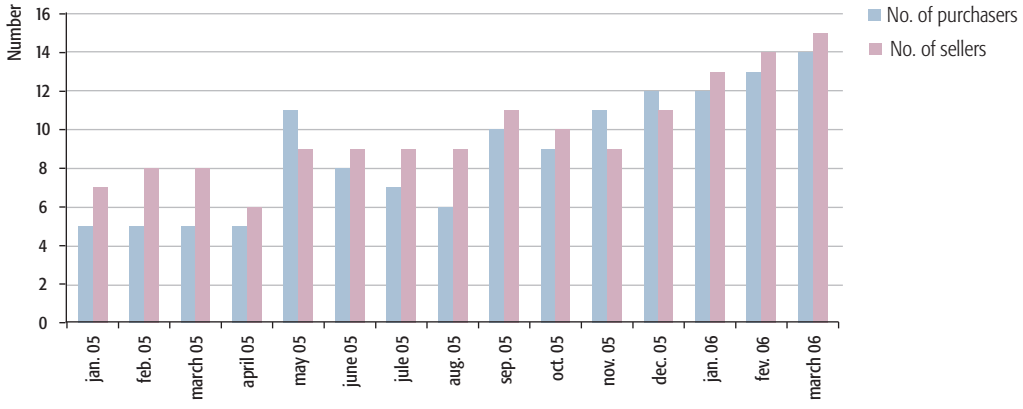
Figure 20 shows the number of purchases and sellers at all gas exchange points (excluding deliveries to Gaz de France Réseau Transport).

› Figure 19: Trends in exchanges at gas exchange points



Source: CRE based on TSO data

› Figure 20: Presence of operators at gas exchange points



Source: CRE based on TSO data

C ›› The initial effects of the temporary gas release programmes in the south of France

An absence of competition on the gas market in the south of France was observed after opening up to large industrial sites in 2003. This was due to the distance between newcomers and their physical entry points of natural gas, situated exclusively in the north. Access via LNG terminals has not been adapted for newcomers, whose monthly withdrawals are considerably lower than the volume of a spot cargo.

CRE asked Gaz de France and Total (through its subsidiary GSO) to implement temporary gas release programmes as from 1 January 2005.

a_ Programme content

In compliance with CRE's decision of 15 April 2004:

- Gaz de France will make 15 TWh available each year during three years (i.e. 45 TWh) at the south gas exchange point, including at least 6 TWh per year by auction, accounting for around 15% of the gas quantities sold to eligible customers in this zone;
- total will make 1.1 TWh available each year during three years (i.e. 3.3 TWh) by auction at the southwest gas exchange point.

At CRE's request, terms for sales at auction have been made transparent and non-discriminatory.

b_ Auction results

All the quantities available were sold. Sixteen companies took part in the auctions organised by Gaz de France. The 12 lots put up for sale, representing 6 TWh, were assigned to Distrigaz, Gas Natural and Total. In addition, Gaz de France sold 9 TWh on a bilateral basis to BP, Distrigaz, Gas Natural and EDF.

Eight companies took part in the auctions organised by Total. Only 5 of the 10 lots put up for sale, representing 0.55 TWh, were acquired by EDF and Iberdrola, at the reserve price set by Total. The remaining quantities, 0.55 TWh, were sold by Total to Distrigaz on a bilateral basis.

The lot purchasers are able to adapt the increased load of their gas purchases to their needs.

Gas deliveries began on 1 January 2005. Gas withdrawals in 2005 account for around 40% of maximum possible annual withdrawals, considering the gradual start-up of contracts (Figure 21).

One year after its launch, the gas release programme therefore enabled 3 foreign suppliers to compete against incumbent operators on the end consumer market in the south of France. However, this competition is still too limited.

III_ CRE: regulator of the French gas market

1_ Changes in natural gas regulated retail tariffs

Under the law of 3 January 2003, decisions concerning regulated gas retail tariffs must be made jointly by the Minister for the Economy, and the Minister for Energy, on an opinion from CRE.

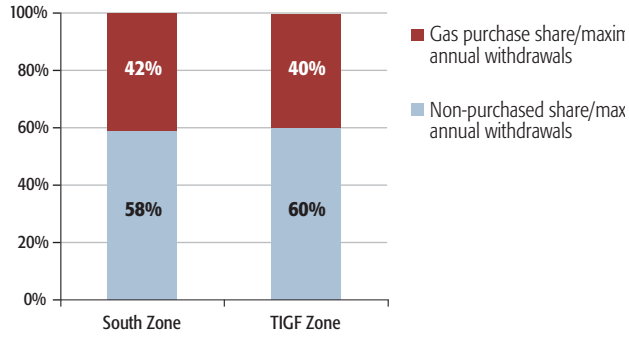
The regulated natural gas retail tariffs concern two different customer segments:

- household consumers who, as they are not eligible, form a captive market;
- non-household consumers who have not yet exercised their eligibility. For the latter, regulated tariffs compete with commercial offers from suppliers and form the basis of reference for deciding whether or not to exercise eligibility.

The natural gas suppliers with regulated tariffs are Gaz de France and 22 local distribution companies (LDCs), the main ones being Gaz de Bordeaux, Gaz de Strasbourg, Gaz Electricité de Grenoble and Vialis.

Trends in regulated natural gas retail tariffs during 2005 were marked by the high level of oil products, to which the natural gas sales tariffs are index linked.

› Figure 21: Gas purchases observed in 2005 in comparison with the maximum possible annual withdrawals



Source: CRE based on TSO data

1 › CRE has audited the gas supply costs of Gaz de France and their coherency with the formula of changing public distribution retail tariffs

Changes in regulated sales tariffs of natural gas are calculated on the basis of a specific formula for each supplier, including, on the one hand, their gas supply costs and, on the other, their inner costs.

Reflecting changes in gas supply costs, the formula depends on the supply portfolio of each supplier. For Gaz de France, this formula is index linked to the price of heavy fuel oil, domestic fuel oil and the euro-dollar exchange rate.

At the beginning of 2006, CRE conducted an audit of Gaz de France's gas supply prices and their coherency with the formula used for periodically revising the regulated public distribution retail tariffs. CRE submitted its findings in its communication of 28 February 2006.

The audit of supply costs showed that:

- supply costs from long-term contracts binding Gaz de France to its main suppliers are index linked to oil products;
- for the years 2003, 2004 and 2005, the amount resulting from the formula, for the whole period, exceeds the supply costs recognised by 240 M€, for a total of around 10 billion Euro.

New audits should be conducted periodically to assess the opportunity to revise the terms of the formula part concerning gas supply costs.

As for inner costs, which are due to be annually revalued by the public service contract concluded between the State and Gaz de France, in its deliberations of 16 June 2005, CRE requested that Gaz de France submit detailed cost accounting. Gaz de France did not submit this accounting and principles to CRE within the allotted time. As a result, CRE was not able to take account of the trends in inner costs in its opinion on tariff changes of 1 May 2006.

2 › Changes in Gaz de France public distribution retail tariffs do not reflect trends in supply costs

The ministerial order of 16 June 2005 governing retail prices of fuel gas sold from public distribution networks modified the regulatory framework for public distribution tariffs. In its opinion of 16 June 2005, CRE was in favour of this ministerial order, which lays down, until the end of 2007, the terms for changing public distribution fuel gas retail tariffs.

The main objective of the decree was to bring visibility and safety to these tariffs changes, and to guarantee proper implementation of article 7 of the law of 3 January 2003, which stipulates that "natural gas retail tariffs for non-eligible customers are defined on the basis of the intrinsic characteristics of supplies and supply-related costs. They cover all of these costs, with the exception of any subsidy in favour of eligible customers".

Inset 5: Regulated natural gas retail tariffs

Regulated natural gas retail tariffs apply to household and non-household customers who have not exercised their eligibility. These tariffs integrate:

- the cost of the gas supply;
- the cost of use of the transmission and distribution networks (where applicable);
- the cost of load-balancing (use of storage facilities to meet seasonal consumption demand);
- marketing costs;
- the usual margin for this type of activity.

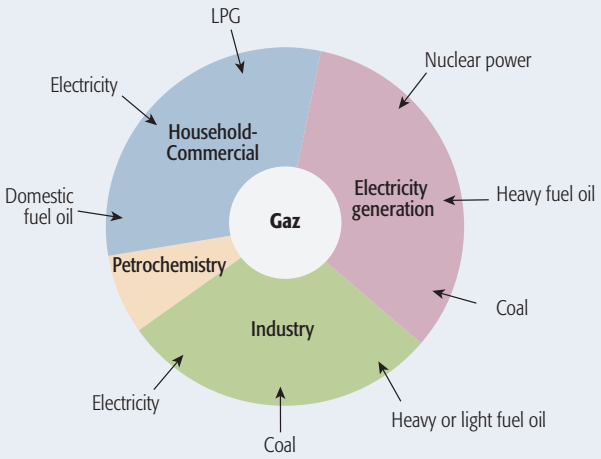
Two types of regulated tariff exist:

- subscription tariffs: these tariffs apply to gas consumers connected directly to the gas transmission network and customers connected to a distribution network who consume more than 4 GWh a year. All these customers have been eligible since 1 July 2004, through the total opening of the non-household market;
- public distribution tariffs: these tariffs concern all customers connected to a distribution network consuming less than 4 GWh a year.

For Gaz de France, apart from the many tariffs that have been phased out, the tariff table includes Base, B0, B1, B2I, B2S and TEL tariffs (in increasing order of consumption), plus various options and variants corresponding to specific situations.

Inset 6: Index linking of natural gas import prices to oil products

Natural gas, replaceable in all its uses, competes with other energy sources.



To develop its consumption in Europe, gas producers and importers have index linked the gas price to the competing energy sources' price, is the main one being oil. Traditionally, this was already the case for the first gas import contracts signed by France with Algeria in 1964 and with the Netherlands in 1967.

Natural gas import contracts are applicable for 20 to 25 years, in which the importer assumes the volume risk, committing himself to also pay for unused volumes, while the producer assumes the price risk, by a standard formula of:

Price (gas) = Po + a*Price (Light fuel oil) + b*Price (Heavy fuel oil) + c*exchange rate ($/Euro)

For the contracting parties, this type of contract has the following advantages:

- gas is always competitive for the importer;
- outlets for the producer are always assured;
- guarantee to fund gas infrastructures with a low risk.

These long-term contracts provide most supplies in continental Europe.

For Gaz de France, the framework laid down by the ministerial order of 16 June 2005 has not been respected. It was substantially modified during changes planned for 1 November 2005, 1 January 2006 and 1 April 2006.

- At the time of the change in Gaz de France's public distribution tariffs on 1 November 2005, the operator set up sales measures for household customers using gas for heating, so as to partially compensate for the tariff increase implemented by Gaz de France.

In its opinion of 27 October 2005, CRE reaffirmed that, since regulated gas retail tariffs for non-eligible customers were of public order, natural gas suppliers should not, without disregarding the law, bill or demand from these customers a different amount to the one resulting from the strict application of the tariffs adopted in compliance with the law.

- The change initially planned for 1 January 2006 was suppressed for Gaz de France by the decree of 29 December 2005. On 23 December 2005, CRE submitted an opinion against this ministerial order since the implementation of this order led to

Inset 7: CRE's opinions on the changes in Gaz de France public distribution gas tariffs since June 2005

Referral	Contents of the referral	CRE's opinion
Decree of 16 June 2005	Terms for changing tariffs until 21/12/2007: - visibility - reflection of costs - correction of the movement of November 2004	Favourable
Change on 1 July 2005	Application of ministerial order of 16/06/2005: + 0.1241 c€/kWh	Favourable
Change on 1 September 2005	Application of decree of 16/06/2005: + 0.09 c€/kWh	Favourable
Change on 1 November 2005	Application of decree of 16/06/2005: + 0.445 c€/kWh But sales measures for household heating customers	Scale: Favourable Sales measures: unfavourable
Ministerial order of 29 December 2005	For Gaz de France: - suppression of movement planned for 1 January 2006 (cover of the level of costs since November 2004) - suppression of mass upward adjustment planned for 1 April 2006	Unfavourable
Ministerial order of 28 April 2006	For Gaz de France: - increase in tariffs by 0.21c€/kWh - suppression of quarterly frequency of tariff changes	Unfavourable

the termination of visibility commitments made 6 months earlier. In this opinion, it pointed out that non-compliance with the set dates of tariff changes and with their value, has consequences not only on the operator concerned, but also on competition. This non-compliance:

– hinders the opening up of markets to competition by reinforcing eligible customers' belief that regulated tariffs protect them against price rises;

– generates shortfall in earnings, even losses, for alternative gas suppliers who have concluded contracts containing clauses index linking their retail prices to regulated tariffs;

– creates competitive imbalance by pushing household consumers towards an energy source with a tariff that does not fully reflect the costs.

- The change initially planned for 1 April 2006 by the ministerial order of 16 June 2005 was postponed to 1 May by the ministerial order of 28 April 2006, which fixed the increase at 0.21 c€/kWh.
CRE expressed an unfavourable opinion on this increase. It believes that this increase does not fully reflect the trends in Gaz de France supply costs. To take these changes into account, the increase should be 0.233 c€/kWh, i.e. an average increase in a customer's bill of 6.2% (5.6% for individuals with gas heating – tariff B1). The calculation of this increase corresponds to the rise in supply costs of 0.193 c€/kWh between 1 November 2005 and 1 May 2006 and the upward adjustment of 0.04 c€/kWh resulting from the insufficient passing on of supply costs during the change of November 2004 (Figure 22).

CRE also points out that the ministerial order modifies the system for changing Gaz de France tariffs fixed by the ministerial order of 16 June 2005, even before its application. It believes that the ministerial order reduces the transparency and visibility of the system for suppliers and customers and that this unstable regulatory framework is detrimental to proper market operations.

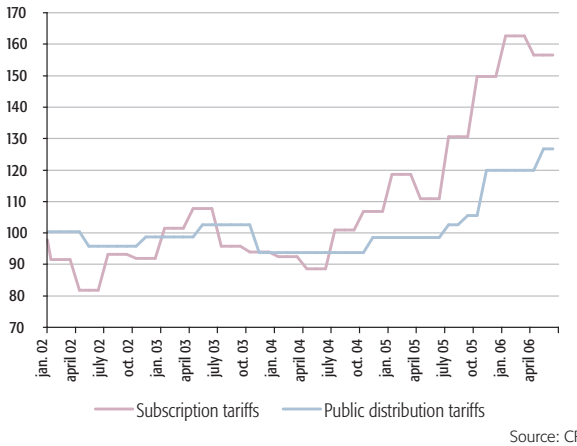
So as to avoid any competitive imbalance on the non-household customer market and in view of the opening of the household customer market, CRE reaffirms the need to revise the tariff structure in force in order to reflect the actual costs by 1 July 2007.

Inset 8: Changes in Gaz de France natural gas retail tariffs in current Euros

	Public distribution tariffs (average change as percentage)	**Subscription tariffs** (change as percentage for an average customer at STS tariff)
January 2002		-8.9%
April 2005		-10.6%
May 2002	**-4.5%**	
July 2002		+14%
October 2002		-1.4%
November 2002	**+3%**	
January 2003		+10.5%
April 2003		+6.1%
May 2003	**+4%**	
July 2003		-11.1%
October 2003		-2%
November 2003	**-8.8%**	
January 2004		-1.6%
April 2004		-4.1%
May 2004	**No change**	
July 2004		+13.9%
October 2004		+6%
November 2004	**+5.2%**	
January 2005		+11%
April 2005		-6.5%
July 2005	**+4.1%**	+17.8%
September 2005	**+2.9%**	
October 2005		+14.7%
November 2005	**+13.7%**	
January 2006	**No change**	+8.6%
April 2006	**No change**	-3.7%
May 2006	**+5.8%**	

Source: CRE

› Figure 22: Average change as percentage of Gaz de France's regulated tariffs (100 base: December 2001)



Source: CRE

3 › Tariff changes for local distribution companies

The ministerial order of 16 June 2005 was not modified for local distribution companies (LDCs). In its opinion of 16 June 2005, CRE was in favour of provisions concerning LDCs stipulated in the ministerial order of 16 June 2005 governing retail prices of fuel gas sold from public distribution networks.

These provisions introduce changes beneficial to proper gas market operations. They clarify the terms for changing these distributors' retail tariffs and ensure that the specific costs of these distributors are covered.

CRE expressed two unfavourable opinions on changes to public distribution gas tariffs planned by 14 LDCs for 1 April 2006, as the increase requested did not reflect the rise in the companies' supply costs.

4 › Subscription tariffs

On 1 January 2005, the untying of incumbent contracts and reciprocal shareholding which linked Total and Gaz de France through their joint gas supply companies in France, Gaz du Sud-Ouest (GSO) and Compagnie Française du Méthane (CFM), resulted in:

- the demise of CFM, taken over by Gaz de France;
- the setting up of Total Energie Gaz (Tegaz), the Total subsidiary for the sale of natural gas in France, which took over GSO's customer portfolio;
- the distribution between these two companies of CFM's customer portfolio.

In accordance with the request expressed by CRE in its opinion on the change in subscription tariffs on 1 January 2005, this new sector organisation occurred without increased complexity of tariffs. As from the change of 1 October 2005, CFM tariffs were taken over by Gaz de France and Tegaz in their respective scales, in a neutral manner for the customers concerned. However, with the costs of the two operators varying in a specific way, the tariffs change differently depending on whether they are applied by Gaz de France or Tegaz.

In 2005, at CRE's request, Tegaz analysed its supply costs and level of expenses and revenues of each of its regulated tariffs. This led CRE to issue a favourable opinion at the time of the change of 1 January 2006, concerning:

- the establishment of a new formula for changes in Tegaz supply costs, of which one of the specific features is to take account of the supplies index linked to the price of gas at Zeebrugge and no longer just to heavy fuel oil and domestic fuel oil, as is the case for Gaz de France;

- an alignment in the level and structure of the tariff range resulting in revaluation of the M tariff, whose customers are LDCs connected to the TIGF network.

In addition to Gaz de France and Tegaz, ten LDCs have regulated gas subscription tariffs.

Four operators made tariff scale proposals for application on 1 April 2006, one of which received an unfavourable opinion from CRE.

2_ Tariffs and conditions for using regulated infrastructures

Under Article 7 of the law of 3 January 2003, decisions concerning tariffs for using transmission networks, distribution networks and LNG terminals must be made jointly by the Minister for the Economy, and the Minister for Energy, upon CRE proposal. For transmission and distribution, the decree of 27 May 2005 imposes a maximum of 2 months between CRE's tariff proposal and the Government's approval or refusal.

With regard to transparency and non-discrimination, CRE is notified of all contracts, protocols and amendments signed by infrastructure operators and users. It checks that the special conditions do not violate the general conditions of standard contracts, which would be contrary to the principles of transparency and non-discrimination.

Article 8 of the law of 3 January 2003 requires operators to keep unbundled accounts for each of their activities, i.e. transmission, distribution, storage, LNG terminal operation and all other activities outside of the natural gas sector. This article stipulates in particular that: "After opinion from the Conseil de la concurrence, the Commission de régulation de l'énergie approves the cost allocation rules, account boundaries and principles determining the financial relationships between activities, which are proposed by the concerned operators to implement account unbundling […]. It ensures that these rules, boundaries and principles do not allow any discrimination, cross-subsidies or competitive imbalance."

Following the untying of reciprocal shareholding held by Gaz de France and Total in the natural gas sector, which came into effect on 1 January 2005, gas transmission activity in the southwest balancing zone is now carried out by TIGF, a 100% subsidiary of the Total group. This structure has taken over the development and operating activity of the southwest storage sites (Lussagnet and Izaute), previously carried out by Total Stockage Gaz France, another subsidiary of the group. In application of article 8 of the law of 3 January 2003 in March 2006, this new operator, who partly replaces GSO, the previous transmission operator in the southwest balancing zone, proposed its account unbundling principles for its natural gas transmission and storage activities.

1 › New tariffs for the use of transmission networks

A ›› Experience feedback on the tariffs in force

On 27 October 2004, CRE proposed current tariffs for the use of transmission networks to the Ministers for the Economy and Energy. Published in the Official Journal of 29 May 2005, they were implemented by transmission operators, at their own initiative, as from 1 January 2005.

These tariffs introduce fresh flexibility (creation of secondary transmission capacity markets and introduction of daily capacity reservations).

This fresh tariff proposal, defined by CRE after consulting transmission operators and organising a public consultation, from 8 July to 6 September 2004, included other improvements aiming to foster the opening of the gas market, mainly based on:

- a simplified structure of all the tariffs;
- access to the "Centre" storage group, which includes the Chémery storage facilities, from the south and west balancing zones of GRTgaz;
- the setting up of two new interconnection points with the Spanish network on the TIGF network, at Larrau, which was previously reserved exclusively for gas transits to Spain, and at Biriatou, where a new pipeline was commissioned in 2005;
- the setting up of secondary transmission capacity markets and introduction of the possibility of daily capacity reservations.

The advantage of this fresh flexibility for shippers was confirmed throughout 2005, with significant subscriptions to these new services (14.5 million euros for GRTgaz). In addition to economic needs relating to a cold and prolonged winter at the start of 2005, these results reflect the development of shippers' activity on French networks. As at 1 May 2006, 21 shippers were operating on the GRTgaz network and 8 on the TIGF network. As at 1 January 2005, there were 10 shippers operating on the transmission network in total.

This flexibility has fostered arbitrages between various sources of supply and daily subscriptions have enabled shippers to obtain surplus capacity during cold months of the year.

At the same time, new offers or improvements have been made by network operators:

- a short-term Use-It-Or-Lose-It mechanism. This enables subscribed capacities that are unused by primary subscribers to be put back on the market, a day ahead, when all firm daily capacities from an entry or exit point have been sold. Shippers have been making regular use of this mechanism on the GRTgaz network since 12 December 2005. TIGF is planning to launch this service during the final quarter of 2006;
- improvement in the capacity exchange service. Before informing a shipper of an access refusal for capacity shortage, GRTgaz looks for the corresponding capacity among shippers with corresponding capacities, in such a way as to preserve the anonymity of requesting and supplying parties;
- a service to convert L gas to H gas, the tariff for which will be determined by CRE at the next tariff proposal.

B ›› Capacity allocation

The general principles for allocating capacities on transmission networks have been defined by CRE in its tariff proposal of 27 October 2004.

These principles are due to be improved at CRE's next tariff proposal, to take account of:

- the establishment on the regional network of the standardised subscription system, which stipulates that transmission system operators allocate delivery capacities to shippers on the regional network on the basis of the portfolio of customers that they supply on the distribution networks;
- the report of unsatisfied capacity requests on the GRTgaz network.

From April 2005 to April 2006, there were 12 unsatisfied capacity requests for low quantities on the GRTgaz network. Although these requests did not bring about applications for dispute settlement, they update the limits of the releasable capacity system.

Almost half of unsatisfied requests, through lack of available capacities, concerned annual firm capacity subscriptions, as all releasable capacities had been returned. The other half concerned monthly firm capacity subscriptions, for which the releasable capacity system did not apply. CRE will consult transmission system operators on adjusting capacity allocation rules so as to limit the number of access refusals. In accordance with the European regulation of 28 September 2005 concerning the terms for access to natural gas transmission networks, the regulator will ensure the establishment of long-term Use-It-Or-Lose-It mechanisms, as only short-term mechanisms have been set up by French network operators.

To deal with increasing capacity requests at the entry point of Obergailbach, where there is no long-term capacity available, from May to October 2005, GRTgaz implemented a procedure of call for applicants to identify shippers that would like to undertake capacity reservations for a period of 10 years. At the end of the procedure, only Gaz de France, E. On Ruhrgas and ENOI were allocated capacities, with Gaz de France and E. On Ruhrgas obtaining virtually all of them. With the exception of ENOI, the other applicants withdrew as they were unable to contract capacities on the network upstream, in Germany.

C ›› Decisions concerning investments at increased rates

In its tariff proposal for the use of gas transmission networks, CRE stipulated that, for investments likely to contribute significantly to improving market operations, the rate of return on assets could increase from 9 to 12% over a 5-10 year period. In 2005, CRE received three requests for enhanced rates of return. The first, from GRTgaz, concerned connection structures of the new Fos Cavaou LNG terminal (Bouches du Rhône) to the transmission network. The other two, from GRTgaz and Total Infrastructure Gaz France (TIGF), concerned the first phase of reinforcing the Guyenne trunk main.

a_ Connection of the Fos Cavaou LNG terminal to the transmission network (Bouches du Rhône)

Planned for the last quarter of 2007, the commissioning of the new LNG terminal in Fos Cavaou, of an annual capacity of

8.25 bcm or almost 20% of French natural gas consumption, requires transmission pipelines to be fitted and the interconnection and compression station of Saint-Martin-de-Crau (Bouches du Rhône) to be modified to ensure connection of this terminal to the GRTgaz transmission network.

For this project, for a total amount of 78 M€, GRTgaz requested that CRE agree to a rate of return of 12% over a period of 10 years.

CRE considered that only the part of the project presented by GRTgaz offering surplus capacity beyond what is strictly necessary for the connection of the LNG terminal in Fos Cavaou would contribute significantly to improving market operations by providing flexibility.

It has therefore decided that this part of the project, representing an investment of 33 M€, may benefit from a 3% increase in the rate of return for a 10-year period starting from the commissioning date of the facilities.

b_ Reinforcement project of the Guyenne trunk main (Gironde – Landes)

The commissioning of the LNG terminal in Fos Cavaou and development of interconnections with Spain and storage capacities in the southwest of France are likely to change the flow system of dominant gas in France.

To deal with these new gas flows, it is necessary to develop gas transmission capacities in the "south to north" direction and to reinforce certain structures as a result.

The technical solution adopted for overall optimisation of investments is to reinforce the Guyenne trunk main, partly integrated in both the GRTgaz and TIGF networks. The project, amounting to a total between 320 and 360 M€ (65 M€ for GRTgaz and between 255 and 295 M€ for TIGF), is composed of three phases and will enable the capacity of the Guyenne trunk main to reach 380 GWh/d in the south-north direction.

For the first phase of the project, GRTgaz and TIGF asked CRE to grant a rate of return of 12% for a 10-year period, each for the part of the project concerning it.

CRE decided that only the part of the project offering a surplus of capacity beyond what is strictly necessary to evacuate gas from the LNG terminal in Fos Cavaou, i.e. investments of 50 M€ for TIGF and 16 M€ for GRTgaz, could benefit from a 3% increase in the rate of return for a 10-year period starting from the commissioning date of the facilities.

D ›› The work programme

a_ Improving the balancing system

Gas transmission network operations require rigorous management of network balancing, i.e. compliance with equality, at any time, between gas injections and withdrawals. These imbalances are operationally managed by network operators, using gas stocks in pipelines and storage facilities provided as a service. Moreover, shippers are subject to daily and monthly balancing commitments, which come with tolerances.

At present, the price at which shippers' imbalances are settled when they exceed these tolerances does not reflect the balance costs borne by system operators.

To rectify this situation, balancing system development focuses on three objectives:

- for transporters, satisfy their balancing needs on the market and reduce the balancing share provided by the storage system operator's service;
- for shippers, reconcile the price at which their imbalances are settled;
- as a result of the first two objectives, formulate a daily price for balancing gas in France.

The system will change gradually, after CRE has consulted gas market players.

b_ New gas transmission tariffs

CRE is establishing new gas transmission tariffs to be applied as from 1 January 2007. The guidelines adopted for drawing up these tariffs are:

- stability of the general tariff structure (4 GRTgaz balancing zones and 1 TIGF balancing zone) designed for application until 1 January 2009, when GRTgaz will drop from 4 to 2 balancing zones;
- modification of the regional transmission network pricing system with the setting up of standardised subscriptions;
- introduction of an expenses and revenues clawback account (CRCP). This type of mechanism, set up for the latest tariff for use of public electricity grids (TURP 2), neutralises the financial issues related to asymmetric information existing between the regulator and grid operators as well as expenses and revenues over which grid operators have no control;
- adaptation of rates of return on the regulated asset base to financial market trends.

Inset 9: Calculation of the level of tariffs for use of distribution networks

CRE determines the level of tariffs for use of networks so as to enable costs borne by DSOs to be covered. The calculation of costs to be covered by the tariffs concern DSOs who have submitted unbundled accounts, i.e. Gaz de France and nine LDCs. This calculation makes a distinction between operating costs and capital costs.

Calculation of the level of operating costs:
The level of these costs has been fixed on the basis of an analysis of financial data in operators' records and on hypotheses of trends in costs for the 2005-2007 period. This analysis took account of the results of the audit of the LDCs' unbundled accounts.
The tariff proposal of 26 October 2005 introduced two major changes compared to the choices adopted for setting the first tariffs:

- 20% of customer management costs were charged to DSOs and 80% to suppliers (compared to 50% to DSOs and 50% to suppliers previously) so as to take account of the larger role played by suppliers in customer relations management;
- the amount of fees paid to franchising authorities is excluded from the expenses to be covered after 2006, insofar as fee analysis concluded that they did not result from any service provided by the franchising authorities.

CRE's new tariff proposal also incorporates the impact of pension scheme reform in the electricity and gas industries (IEG).

Calculation of the level of capital costs:
Capital costs are broken down into depreciation and return on capital employed. These two components were calculated on the basis of the economic value of the operators' assets, the regulated asset base (RAB).
Initial RAB value was fixed on 31 December 2002 on the basis of revaluation of past gross asset worth according to a "current economic costs" type methodology.
Once it has been set by CRE, initial RAB value changes according to the rate of inflation applied, depreciation of the RAB and acquisition and disposal of assets (mid year).
Depreciation instalments are calculated on a straight line basis over the economic lifetime of the assets. The standard lifetime has been estimated at 45 years for pipes and connections, 40 years for expansion stations, 20 years for metering systems and 10 years for other types of technical equipment.
The return on employed capital is based on the weighted average cost of capital with a standard financial structure. So as to incorporate trends on the capital market since the first tariffs were fixed, the rate of return has been set at 7.25%.

2 › New tariffs for the use of distribution networks

On 26 October 2005, CRE proposed fresh tariffs for the use of natural gas distribution networks for the 23 distribution system operators (DSOs) – Gaz de France Réseau Distribution (Gaz de France RD) and the 22 local distribution companies (LDCs).

These tariffs officially came into force on 1 January 2006, under the terms of the decision of 27 December 2005 of the Ministers for the Economy and Energy. They were set up to incorporate the application of the employee pension scheme reform to electricity and gas industries (IEG). This reform resulted in a reduction in pension costs for DSOs, due to the setting up of a transportation tariff contribution (CTA) levied on natural gas distribution services.

To fix these tariffs, CRE worked together with the DSOs. It conducted hearings and organised a public consultation from 21 July 2005 to 16 September 2005 so as to gather the opinion of all parties concerned. These consultations revealed that the distribution network pricing principles proposed by CRE for its first tariffs were satisfactory and the general principles were therefore kept.

The total opening up of the natural gas supply market to competition on 1 July 2007, as well as the legal unbundling of DSOs planned for this date, raise uncertainties as to trends in DSO costs. As a result, these tariffs were designed to be applied as of 1 January 2006 for around two years.

The first tariffs for the use of distribution networks proposed by CRE led to a 9% reduction in current Euros in the average unit tariff of Gaz de France RD. Apart from the effect of the IEG pension scheme reform, the two tariffs led to a a 1.9% reduction in current Euros.

For LDCs, with the same pricing method as used for Gaz de France RD, the first tariffs were from 25% to 75% higher than those of Gaz de France RD. These tariff differences will gradually be reduced. The two tariffs form a first step in this direction, insofar as the average unit tariffs of LDCs are decreasing more sharply than that of Gaz de France RD, between 5 and 10% depending on the LDC concerned.

- standardisation of services covered by tariffs for use of different DSO networks;
- introduction of fresh flexibility (grouping of delivery points, choice of meter reading method and daily subscriptions);
- fall in the level of fines for exceeding capacity which could, in some cases, hinder exercising of eligibility;
- simplification of DSO tier 2 pricing.

3 › The new tariff for use of LNG terminals

In 2005, the LNG terminal in Fos-sur-Mer received 167 ships and released 58 TWH of gas on the transmission network. The Montoir-de-Bretagne terminal received 101 ships and released 85 TWh of gas on the transmission network.

The only user in 2005 of the Fos and Montoir terminals was Gaz de France Négoce, with the exception of a cargo unloaded by Total Gas & Power in May 2005.

A ›› The second tariff for use of LNG terminals

In October 2005, CRE proposed a new tariff to the government for use of the LNG terminals in Montoir and Fos Tonkin for application as of 1 January 2006. This tariff was adopted by ministerial decision on 27 December 2005 and is due to be applied at least until the commercial start-up of the Fos-Cavaou terminal currently under construction.

This new tariff takes into account the major increase in capacity subscriptions due to the arrival of Egyptian LNG purchased by Gaz de France. It creates more favourable conditions for the arrival of new shippers at French LNG terminals. It contains special clauses on the operation of terminals when several shippers are operating at the same time. It makes provision for a reduction of around 20% for spot cargoes.

Inset 10: DSO investment criteria

During its work on the setting of tariffs for third-party access to infrastructures, CRE examined the investment decision criteria used by DSOs for network development. Except for small-scale investments, this involves calculating the net present value over the capital committed (ratio called "profit on investment" or "B/I").
CRE checked that the methods used by DSOs avoid extensions that would not be economically justified. The work was based on an audit conducted on a sample of investments made by Gaz de France to extend the distribution networks franchised to it. This experience feedback revealed that on the whole, application of the decision criteria did not produce any systematic bias. However, the formalisation of the decision procedure is evidently largely insufficient. CRE therefore issued a series of recommendations to reinforce the framework of assessment practices and quality of decision-making processes (in-house checking, file traceability, reference tools, etc.).

In order to make its proposal, CRE incorporated the results of the audit it conducted on the unbundled accounts of Gaz de France and it also conducted hearings and organised a public consultation from 23 July to 16 September 2005.

a_ A decreasing tariff

The fall in the average unit tariff is 15% in current Euros, for users bringing in regular cargoes of liquefied natural gas (LNG). The fall is around 20% for users bringing in spot LNG cargoes.

This decrease is a result of a volume effect (increase in capacity subscriptions) and a fall in the costs taken into account for payment of the LNG terminal operator, Gaz de France. Application of employee pension scheme reform to the electricity and gas industries has led to a reduction in pension costs borne by the operator. So as to incorporate trends on the capital markets since the last tariff was fixed, the rate of return of assets has been lowered from 9.75% to 9.25% (real, pre-tax) for assets in use before 31 December 2003, and from 11% to 10.5% for other assets.

b_ New services

Three distinct regasification services have been introduced in CRE's new tariff proposal. This distinction is necessary to define the operation of terminals with several users at the same time.

- "Continuing" service

This service is for shippers unloading an average of at least one cargo a month at a terminal. The operator provides continuous output over a contractual period and as regular as possible for the user, depending on the overall unloading programme of the terminal.

- Band service

This service is for shippers unloading an average of a maximum of one cargo a month at a terminal. Each cargo is released in the form of a constant band, for a 30-day period as from the end date of unloading.

- "Spot" service

This service is for the unloading of cargoes over a given month m, subscribed to after the 20th day of month m-1. The subscription is made on the basis of vacant slots in the monthly programme on the booking date. Each cargo is released in the form of a constant band, for a 30-day period as from the end date of unloading.

The fresh tariff introduces the principle of a secondary regasification capacities market for the first time and also improves transparency.

c_ Available capacites

The LNG terminal operator publishes total monthly capacities, subscribed monthly capacities and monthly capacities available for the next three months (sliding).

For pluri-annual reservations, the LNG terminal operator only publishes the total capacities and the available capacities.

As at 1 June 2006, the capacities of the Montoir terminal (total capacity of 123 TWh) are reserved at:

2006	2007	2008	2009	2010 à 2014	2015 à 2020	2021
90-95%	85-90%	75-80%	65-70%	75-80%	65-70%	50-55%

Source: Gaz de France DGI

The capacities of the Fos Tonkin terminal are reserved at:

	2006 à 2007	2008	2009	2010 à 2013	2014
	100%	95-100%	90-95%	75-80%	65-70%
Total capacity of the terminal	83 TWh	74 TWh	65 TWh	65 TWh	58 TWh

Source: Gaz de France DGI

4 › Tariffs and conditions for using underground storage facilities

A ›› Changes in the offers of storage system operators as at 1 April 2006

Gaz de France and TIGF, a TOTAL subsidiary, are the only storage system operators in France. Gaz de France operates twelve storage facilities spread across the country, except in the southwest where TIGF operates two sites.

The law of 9 August 2004 set up negotiated third-party access to storage facilities and the tariffs and general terms for use of storage facilities are determined by operators.

The law of 9 August 2004 stipulates that access to storage facilities must be transparent and non-discriminatory and gives CRE powers to settle disputes, similar to those it holds for access to other electricity and gas infrastructures.

a_ Gaz de France

On 15 February 2006, Gaz de France published the terms and prices of its storage offer, valid for the gas year 2006-2007 (1 April 2006 – 31 March 2007).

The main changes made to the previous terms are as follows:

- the total capacity offered was increased from 102.2 to 103.2 TWh;
- reservation prices of nominal storage capacity, making up the bulk of operator income, rose on average by 6% for all groups;
- most of the other charges were decreased. The annual fixed charge for access to a storage group went down from 12,000 to 10,000 €. The fixed charges for conditional withdrawal and conditional injection capacity fell from 3,000 to 2,000 €;
- on 3 February 2006, Gaz de France held the first auction for allocating storage capacities to the Centre and Île de France, North groups. Seven companies acquired a total of 0.4 TWh of storage capacities at a price roughly 4 times higher than the price offered for third-party access to storage.

b_ TIGF

On 17 March 2006, TIGF published its new storage offer.

- the total capacity offered by this operator was increased from 26.3 to 27.4 TWh;
- reservation prices of nominal storage capacity rose on average by 10% for all offers;
- TIGF proposed an improvement in its balancing offer characteristics by increasing the withdrawal capacities on offer for an identical volume subscribed;
- the fixed charges and costs for changing direction were reduced or removed. The annual fixed fee for access to a storage offer dropped from 10,000 to 5,000 €, the fixed amount for changing direction was scrapped;
- new services are available: commercialisation of separate capacities in volume, secondary market of separate capacities and commercialisation of unused subscribed capacities.

B ›› Benchmarking of storage tariffs

CRE conducted benchmarking of tariffs and offers of underground natural gas storage systems (salt caverns, depleted gas reservoirs or aquifers) for the months of January and February 2006 among 11 operators in Europe: Gaz de France, TIGF, Fluxys, Stogit, Enagas, MOL, DONG, Centrica, OMV, Wingas and BEB.

The objective of this study was to assess the offers and price levels practised by the two French operators (Gaz de France and TIGF) in comparison with their European counterparts.

The study mainly involved:

- collecting information on the offers and tariffs in force for the 16 European operators;
- identifying the relevant analysis criteria (for example: regulated or negotiated access to underground natural gas storage systems and technical characteristics of storage facilities) (Table 6);
- defining the standard profiles of storage systems use.

The study revealed that prices were lower in countries where access to storage facilities is regulated. Nevertheless, the results place the French operators in the range of average prices in Europe, despite having negotiated tariffs (Figure 23).

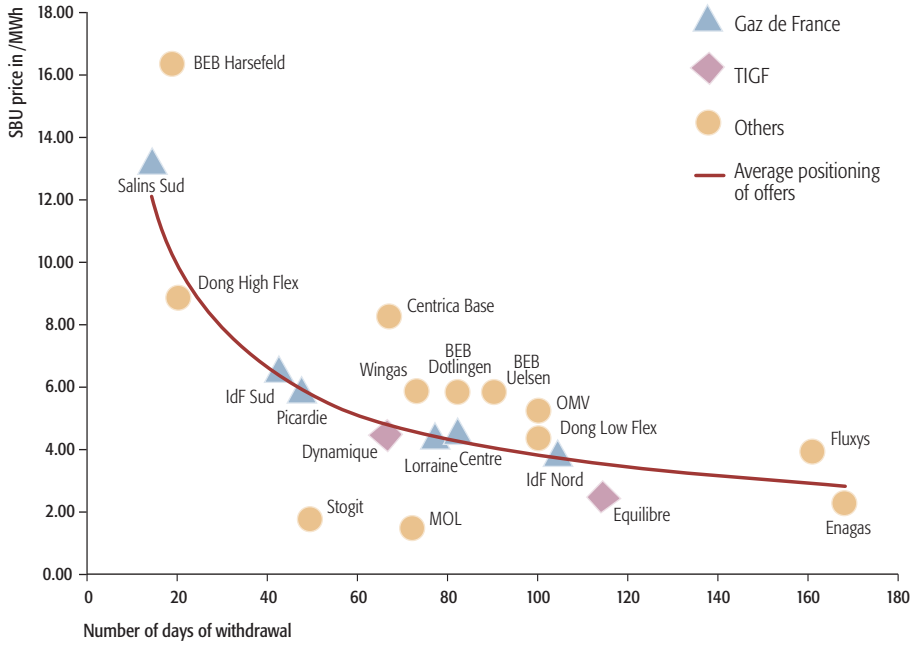
Many operators offer a mix of slow and fast storage systems for the transit of peak consumption.

Table 6: List of studied European operators

Operators	Country	Access to negotiated or regulated storage systems?
Gaz de France	France	Negotiated
TIGF	France	Negotiated
Wingas	Germany	Negotiated
BEB	Germany	Negotiated
Dong	Denmark	Negotiated
OMV	Austria	Negotiated
Centrica	United Kingdom	Negotiated
MOL	Hungary	Regulated
Fluxys	Belgium	Regulated
Stogit	Italy	Regulated
Enagas	Spain	Regulated

Source: CRE on the basis of benchmarking conducted between December 2005 and January 2006

› Figure 23: Study of the price of standard bundled units in €/MWh according to the number of days of withdrawal



Source: CRE on the basis of benchmarking conducted between December 2005 and January 2006

› Regulation of the electricity market

I Electricity players and markets

II Access to public electricity grids

III Public electricity service

I_ Electricity players and markets

1_ European players on the French market

1 › Numerous participants operating on the French market

French electricity market players operate in all or part of the following fields: generation, trading, supply for end consumption, and supply of losses to transmission and distribution system operators.

Generation in France is dominated by EDF, which holds around 85% of the generation capacity. The four main alternative generators operate a total generation capacity of 6%, with the remaining 9% belonging to a large number of small-sized generators and industrial companies.

Around 60 operators take part in trading activities, which mainly consist of carrying out arbitrage transactions in the various wholesale market segments. These operators are mainly subsidiaries of European energy groups, but there are also banks present in the field.

Suppliers of electricity to end consumers are composed of incumbent suppliers (EDF and 166 local distribution companies) and 26 alternative suppliers, 9 of which propose commercial offers to small-sized sites, 10 to medium-sized sites, and 25 to large-sized consumption sites.

2 › Main French market players carrying out external growth operations

The period July 2005 – June 2006 was marked by concentration operations in the European energy sector and opening up of EDF and Gaz de France capital.

›› EDF

In September 2005, EDF and a consortium of Swiss Atel minority shareholders signed an agreement for the purchase of 55.6% shares held by UBS in Motor Columbus, a holding company controlled by Atel. Upon completion of the transaction in the first half of 2006, the partners agreed to group Motor-Columbus and Atel within a new structure, in which EDF will hold a stake of around 25%.

In November 2005, an IPO of 13.8% of EDF capital was carried out, with EDF shares being listed on the CAC 40 in December 2005. The law of 9 August 2004 authorises the State to sell a maximum of 30% of the incumbent operator's capital.

›› Gaz de France

In June 2005, Gaz de France, in partnership with Centrica, purchased 51% of the second largest Belgian generator, SPE.

In July 2005, an IPO of 19.8% of Gaz de France capital was carried out, with Gaz de France being listed on the CAC 40 in September 2005. The law of 9 August 2004 authorises the State to sell a maximum of 30% of the incumbent operator's capital.

In February 2006, Gaz de France and the French operator Suez announced a merger project for the two groups (cf. page 26).

›› Suez

In the last quarter of 2005, Suez acquired the whole capital of the Belgian incumbent operator Electrabel, of which it was already the main shareholder.

In October 2005, Suez increased its holding to 8.6% in ACEA, responsible for electricity distribution and supply in the Romanian agglomeration (1.5 million customers).

In February 2006, Suez and Gaz de France announced a merger project for the two groups (cf. page 26).

›› Enel

Enel has declared its intention of becoming a major player on the French market. The Italian group is supported by an agreement with EDF ensuing from the cooperation accord signed in May 2005 for partnership in the French nuclear programme of the third generation EPR. In December 2005, the Italian operator also proposed purchase of the 35% of SNET still held by Charbonnages de France and EDF.

In September 2005, Enel sold 29.99% of the capital of Terna, the Italian transmission grid owner to the Italian State financial agency, Cassa Depositi e Prestiti (CDP). After completion of this transaction, Enel now only owns a holding of 6.15% in Terna.

In July 2005, the Italian Treasury continued to sell off its stake in Enel reducing its holding to 23.1%.

›› Endesa/Gas Natural

In September 2005, the Spanish operator Gas Natural launched a hostile takeover bid for Endesa, the number one Spanish electricity company (cf. page 26).

2_ Wholesale electricity market

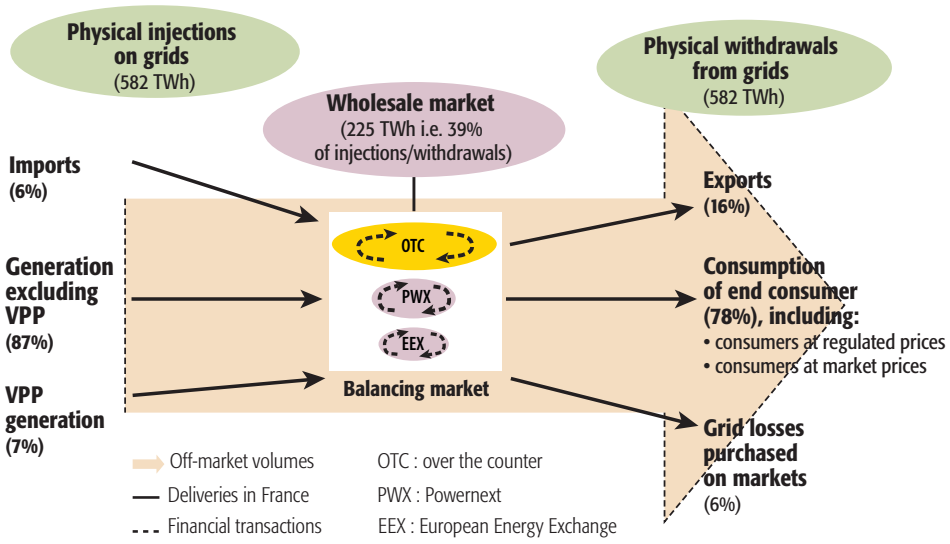
1 › Despite development of power exchanges, most of the transactions are OTC transactions

Opening up of the markets was accompanied by the setting up of a wholesale market characterised by the size of volumes and standardisation of products exchanged. Participants in these wholesale markets, which can take different forms (exchanges, pools and bilateral contracts), mainly consist of generators, suppliers and traders.

In France, the wholesale electricity market started up at the end of the year 2000. It is composed of transactions on the electricity exchange Powernext and those carried out OTC (over the counter). It consists of purely financial exchanges and transactions resulting in physical delivery of electricity on the French grid (Figure 24).

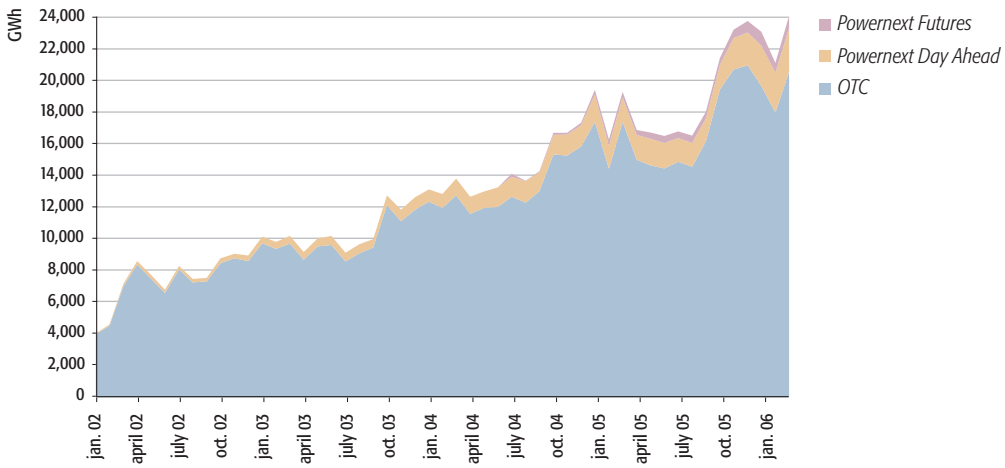
As demonstrated by figure 25, volumes traded on the French wholesale market for delivery in France went up steadily over the past four years.

› Figure 24: French wholesale market



Source: CRE based on data provided by RTE 2005

› Figure 25: Block-trading volume on the French wholesale market



Sources: RTE, Powernext (deliveries on the French hub)

In 2005, volumes of transactions on the French wholesale market rose sharply by 31% to 225 TWh, compared to 2004 (172 TWh).

During the first quarter of 2006, total volume of transactions on the wholesale market delivered in France is estimated at 68.3 TWh, accounting for around 41% of injections and withdrawals on the French electricity grid during this period.

In France, volumes of transactions on exchanges remain very limited compared to volumes exchanged between operators. This is also the case in Germany, the United Kingdom and the Netherlands, who have not opted for formation of pools. On the French market, OTC trading accounted for 93% of transactions for forward products and 30% of spot transactions.

Despite development of organised exchange markets, most wholesale electricity trade is conducted on a bilateral basis, through direct OTC transactions or via intermediaries (broking firms and trading platforms).

A ›› Continuing development on the OTC market

As data on volumes of bilateral transactions is not made public, only the volume of block exchanges (transactions giving rise to deliveries) is known. CRE estimates the volume of purely financial transactions concluded before delivery at around double the delivered volume.

In 2005, OTC transactions recorded a total volume of 200 TWh, a rise of 27% compared to 2004 (157 TWh). After a sharp rise in the last quarter of 2005, volumes traded OTC fell slightly in the first quarter of 2006, recording a monthly average of 19.4 TWh (against 16.4 TWh in the first quarter of 2005).

Even if these figures are rising, volumes exchanged on the French OTC market remain far below those observed on national markets such as Germany and the United Kingdom.

B ›› Increasing volumes exchanged on organised markets

a_ Continuing development of Powernext

- Powernext Day Ahead

Throughout 2005, Powernext Day Ahead continued to expand with volumes traded going up by 39% in one year from 14.2 TWh in 2004 to 19.7 TWh in 2005. This trend continued with the levels recorded since January 2006: 7.8 TWh were traded during the first quarter of 2006, an increase of 64% compared to the volume of the first quarter of 2005.

4 new trading members joined Powernext Day Ahead in 2005. As at 1 June 2006, Powernext Day Ahead had 52 active members.

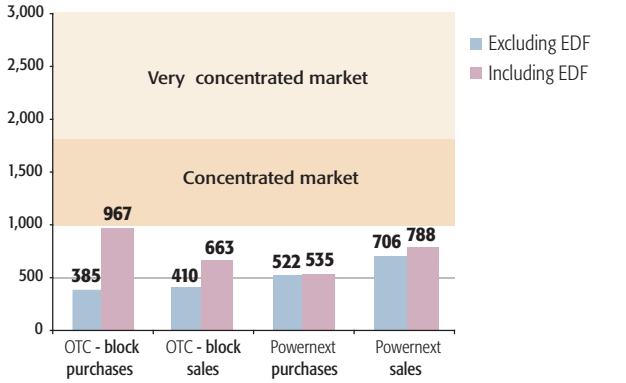
- Powernext Futures

Since the opening of Powernext Futures on 18 June 2004, monthly volumes have steadily increased, exceeding 8 TWh in December 2005. In 2005, 62.4 TWh were traded on Powernext Futures (against 12.8 TWh for June to December 2004). In the first quarter of 2006, 29.7 TWh were traded i.e. more than five times the volume exchanged in the first quarter of 2005. Daily volumes exchanged reached a peak on 4 January 2006 with 1.9 TWh traded.

Inset II : Wholesale market concentration

In 2005, out of the 88 balancing responsible entities active on the French wholesale market, 49 operated on Powernext Day Ahead and 21 on Powernext Futures.
Figure 26 presents the Herfindahl-Hirschman index (HHI) for various segments of the French wholesale market. This index is an indicator of the extent of market concentration.
The HHI is equal to the sum of the squares of operators' market shares and the higher it is the more the market is concentrated. It is normally considered that a market is only slightly concentrated if its HHI is lower than 1000, and very concentrated if it is above 1800. Given electricity market specificities, great care is required when using this index as an indicator of the degree of competition. In the case of electricity, concentration and competition are not related as directly as for most markets. In certain circumstances of strained supply-demand balance, an operator with a limited market share may have sufficient market power to be able to influence the prices.
The OTC market and exchange seem to be slightly concentrated markets whether EDF is taken into account or not.

› Figure 26: HHI concentration index for the wholesale market,2005



Source: CRE based on data provided by RTE

In 2005, the most traded profile was baseload (70% of transactions) and the most traded periods were months and quarters (80% of power transactions).

As at 1 June 2006, Powernext Futures had a total of 23 active members.

b_ A futures market launched in France by EEX France

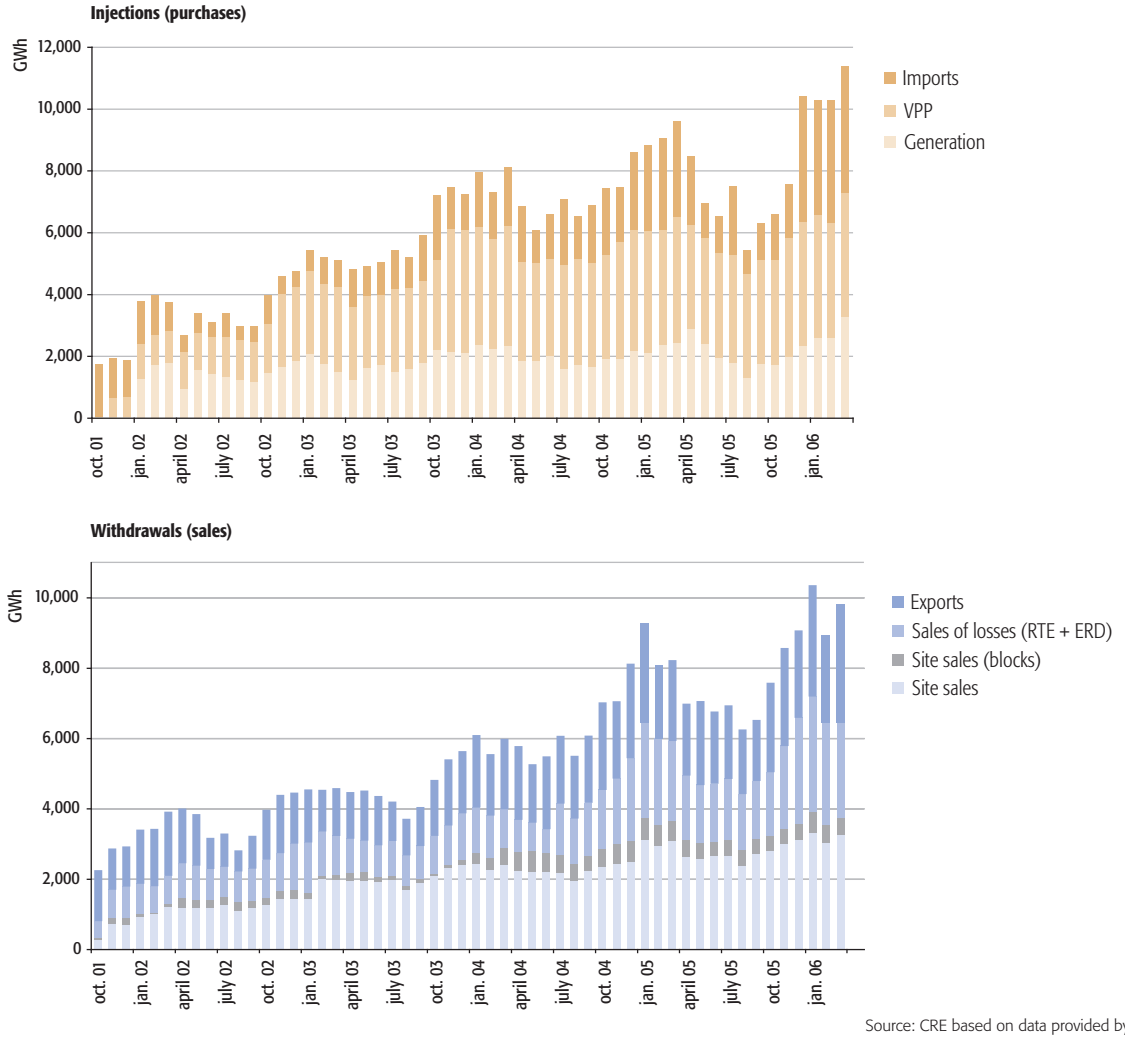
Since 29 August 2005, the German exchange EEX has proposed baseload and peakload futures products for physical delivery in France. After launching annual products last summer, quarterly products have been quoted since October and monthly products since December 2005. EEX also proposes a clearing service for OTC transactions for products with the same characteristics as those quoted on EEX France.

From 29 August to 31 December 2005, EEX France traded a volume of 1.6 TWh. The prices observed on EEX France and Powernext Futures were aligned during this period. As at 1 June 2006, 17 members are currently operating on EEX France.

2 › EDF remains the dominant player even with competition developing upstream and downstream of the wholesale market

Increased volumes exchanged on the French wholesale market demonstrate an overall strengthening of competition in the upstream and downstream segments. Figure 27 confirms this analysis showing accumulated activity of suppliers (excluding EDF Group) operating in France. The overall trend is of development in all market segments. Over the past year, suppliers' sales (excluding EDF Group) increased by 29%.

› **Figure 27: Trends in suppliers activity (excluding EDF Group)**



Source: CRE based on data provided by RTE

A ›› Several power plant projects announced

a_ Commissioning of two new power plants

2005 was the first year of commercial operation of two significant new power plants:

- the Gaz de France combined cycle plant in Dunkirk, the first facility of this type in France, which enables the operator to have a generation capacity of 550 MW for their own needs using natural gas;
- the Total natural gas cogeneration plant in Gonfreville, which with a capacity of 250 MW, becomes the most powerful cogeneration facility in France.

b_ EDF should stay dominant in the generation segment, despite the announcement by alternative operators of several projects for new power plants

On the occasion of the opening up of its capital, EDF defined its investment plan for the period 2006-2010. The operator is planning the construction in France of combined cycle plants, with capacity of 150 MW to be operational in 2007, and an additional 350MW available in 2008. EDF has also announced the restart of four mothballed oil-fired generation groups: 600 MW in 2006, an additional 700 MW in 2007, and 1300 MW in 2008. Moreover, EDF is studying the replacement at the latest by 2011 of three 250 MW oil-fired generation units in Martigues power plant with two 440 MW combined cycle power plants.

Four of EDF's competitors have announced the imminent commissioning of natural gas combined cycles plants. The total capacity of the new power plants announced by Gaz de France, SNET, Poweo – in partnership with Verbund – and Electrabel exceeds 4900 MW.

These power plants should be commissioned between 2008 and 2010. If all these projects are completed, at that time, EDF would only have 82% of France's installed capacity, as opposed to around 85% nowadays. EDF's market share will increase with commissioning of the EPR planned for 2012.

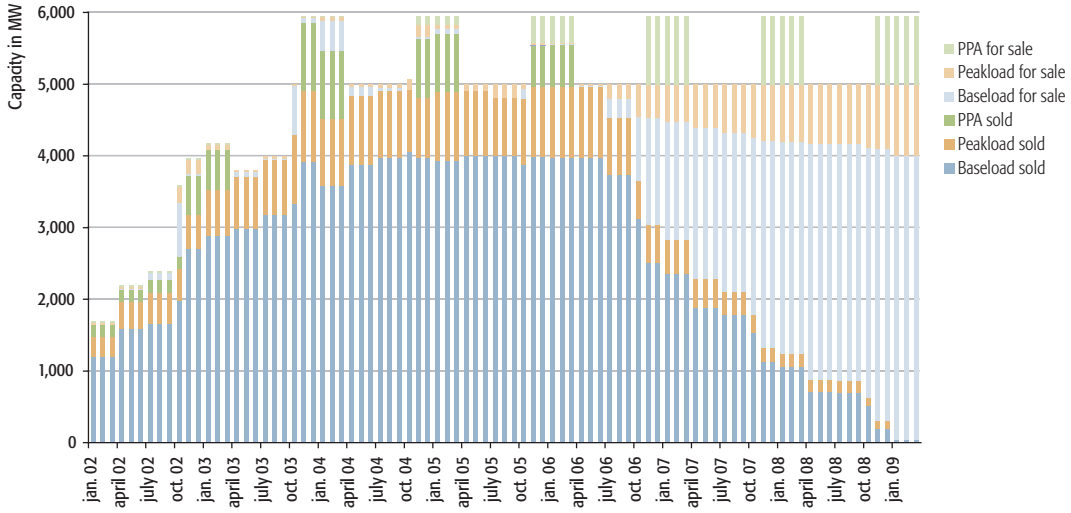
Moreover, RTE has launched a call for tender aimed at securing electrical supply in Brittany. RTE is proposing contracts for the reservation of generation capacities from a power plant to be located in the St Brieuc region. As at 1 June 2006, the outcome of this consultation was not yet known.

B ›› VPPs – still a key source of supply for the wholesale market

- Auctions in 2005

Virtual Power Plants (VPPs), virtual generation capacities periodically put up for auction by EDF in return for the European Commission ruling allowing it to acquire a 34.5% stake in the German electricity company EnBW, constitute an essential element of opening up of the French market. In 2005, VPPs accounted for 56% of procurement necessary for alternative operators to cover their eligible customers' consumption and their commitments concerning supply of losses to RTE and EDF distribution grid.

› **Figure 28: Total capacity sold since launch of VPPs – status after auctions on 1 March**



Source: CRE based on data provided by EDF

During the four auctions which took place in 2005, successful bidders acquired an average of 290 MW of 3-month products and 146 MW of 6-month products at each auction. For the total of auctions held in 2005, purchasers acquired 339 MW of 1-year products, 601 MW of 2-year products and 842 MW of 3-year products.

Baseload VPPs accounted for 73% of volumes sold, peakload VPPs for 22% and PPA VPPs for 5% (Inset 12).

During the auction on 1 March 2006, VPP purchasers mainly focussed their demand on baseload products (97% of volumes purchased), with a maturity of 1 and 2 years (34% and 54% respectively of baseload VPP volumes purchased) (Figure 28).

In 2005, capacities held by VPP purchasers (which they acquired in 2005 and previous years) were subject to great demand: the rate of utilisation of energy sold by EDF amounted to 95%.

Inset 12: Products sold at auction by EDF

- Baseload virtual power plants (VPP): this involves products reflecting economical baseload power plant operating. Bidders pay a fixed premium (in €/MW) every month to reserve power available and every day they decide on utilisation of these capacities for the following day. They then pay a user price of 8 €/MWh withdrawn (approximate variable costs of EDF nuclear power plant generation). Auctions enable the definition of the price of reservation of capacities requested by purchasers (monthly fixed premium).
- Peakload VPPs: this involves optional products reflecting economical plant operating of a mix of semi-baseload and peakload capacity. The principle is the same as for "baseload VPPs" but the price paid for each withdrawn MWh varies over the course of time in line with a formula only known to EDF. The auction price for June 2006 is 48 €/MWh.

Furthermore, since 1 November 2002, EDF has included in its user price for baseload and peakload VPPs the "generator" tariff for utilisation of HTB 2 and HTB 3 grids, i.e. 0.18 €/MWh.

- VPP Power Purchase Agreements (PPA): they represent energy purchased by EDF for its purchase obligation concerning electricity produced by cogeneration. This involves baseload supply from 1rst November to 31rst March. There is no optional nature to this product and auctions are carried out only at the price of purchased MWh.

- Future of a VPP type system

The European Commission had obliged EDF to hold auctions of capacities for a minimum period of 5 years as from February 2001. In December 2005, CRE launched a public consultation concerning the future of the mechanism. The questions addressed to the contributors involved their assessment of the effect of VPPs on the French market and their suggestions as to the continued use of the current system or the setting up of a new mechanism for the availability of energy and generation capacities provided by EDF.

Twenty-three participants replied to this consultation and twelve of them attended CRE hearings. Except for incumbent operators subject to VPP systems in their countries of origin and an industrial customer, all contributors indicated that in their opinion a regulated programme of provision of electricity by EDF is necessary for proper French wholesale market operations and for development of competition on the retail market.

Inset 13: CRE's communication concerning the existence of a regulated programme for the sale of electricity on the wholesale market by EDF

"In the absence of such structural measures as disposal of generation assets by EDF, CRE is in favour of the existence of a regulated programme of provision of electricity on the French wholesale market by EDF". CRE's missive specifies the methods for implementing such a programme:

- "Doubled capacity sold" compared to capacities currently offered by VPPs, in order to "offer alternative operators a source of supply enabling them to develop their activity on already open markets, and then to break into the market of household customers on 1 July 2007" and reduce the effect of strong vertical integration of the French market".
- "An extended portfolio of products and index linked prices. Products must offer a range of user prices representative of the respective variable generation costs of nuclear power plants, coal-fired and oil-fired plants (…) these user prices must change on a quarterly basis through transparent index linking based on standard indexes of fuel prices and CO_2 emission permits".
- "Extension of contract durations (…) from 3 months to 15 years or longer, for products simulating nuclear power plant economy (…) from 3 months to 5 years or longer, for products simulating fossil fuel plant economy".
- "A regulated ex ante programme (…). Market players must be involved in programme definition and development."
- "Methods for allocating separate short- and long-term contracts".
- "Respect of anonymity (…) of purchasers and capacities purchased".
- "Appropriate methods for utilisation" and especially a "time fixed for transmitting day ahead (…) at 12.30 at the earliest".

In its communication of 16 March 2006, CRE indicated that it is in favour of the existence of a regulated programme for provision of electricity on the French wholesale market by EDF. In the absence of such structural measures as disposal of generation assets, such a programme implemented in keeping with methods similar to VPPs decided upon by the European Commission, constitutes an effective remedy to reduce effects of generation concentration and increase wholesale market liquidity for forward products.

CRE specified the essential characteristics of the proposed programme, including the necessity for the sale of products with durations up to 15 years.

Moreover, in the preliminary report of the gas and electricity sector inquiry which has been ongoing since June 2005, the Directorate General of Competition of the European Commission mentioned "a possible more generalised use of gas and electricity release programmes under regulation, in order to reduce the effect of concentration in the upstream supply level and inject liquidity into the market, as well as other measures reducing the effects of concentration".

C ›› Increased imports

In 2005, imports increased by 10.5% and exports by 1.5% (Figure 29). This trend confirms the observation made since 2004: France is no longer structurally only an exporting country. Frequent inversion of flows observed at the German and Italian borders confirms this statement. Except for periods of extremely high demand when France has to import to ensure supply-demand balance, market players are increasingly supplied on foreign markets due to price differentials which are often favourable to imports.

- Germany

Les échanges d'électricité entre la France et l'Allemagne confirment le changement de structure amorcé en 2004: la France a été, en 2005, globalement importatrice sur l'interconnexion avec l'Allemagne.

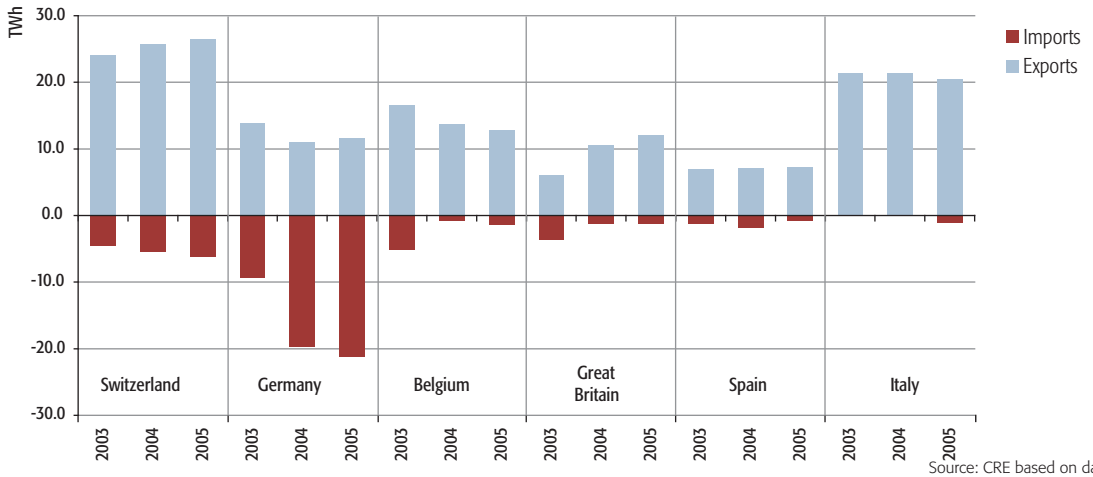
- Italy

With the sustained increase in French prices and relative stability of prices in Italy, the interconnection between the two countries was significantly used for the first time in the direction of imports to France. However, the volume of these imports remained limited.

This trend could last. Whilst in France installed generation capacity shows signs of insufficiency when consumption is high, strain on supply-demand balance has eased off in Italy. Significant gas generation capacities – more than 10 GW – were commissioned in the peninsula in 2004 and 2005, and many projects are underway.

Moreover oil-fired plants which have so far dominated generation in Italy are gradually being converted to coal-fired plants. By lowering marginal generation costs of the domestic generation capacity, this substitution has a downward effect on Italian wholesale market prices.

› **Figure 29: Imports and exports, 2003-2005**



Source: CRE based on data provided by RTE

• Activity of alternative operators

In 2005, EDF's competitors continued to develop their cross-border activities, with around 30% of exports and 79% of imports – an increase in imports of 17% and in exports of 10%, compared to the previous year.

In 2005, contractual border trading was still composed of long-term contracts signed by EDF with foreign partners before opening up of the markets as well as of daily inter-border arbitrages carried out by traders. This configuration should change, since long-term contracts no longer foster priority in the allocation of interconnection capacities (cf. page 69). Moreover, explicit auctions held to allocate interconnections since 1 January 2006 should facilitate EDF's competitors' operations.

D ›› Almost 20% increase in sales to end customers

Supply to eligible customers constitutes the first heading of physical withdrawal for suppliers competing with EDF (43% in 2005, as opposed to 45% in 2004), before losses and exports. In 2005, annual sales of EDF's competitors to eligible customers experienced a growth of 18% in volume.

The French market continued to experience deconcentration of sales to end consumers, since the 5 main alternative operators accounted for around 60% of this market in terms of volume as at 30 June 2006, compared to about 70% the year before.

E ›› Energy required to compensate for losses purchased by RTE and EDF distributor on the market

Electricity transit on the transmission and distribution grids causes losses that need to be compensated for. These depend on the physical volume transiting on grids, physical characteristics of the lines and temperature conditions.

RTE and EDF distributor are obliged to procure the energy necessary to compensate for these losses in line with competitive, non-discriminatory and transparent procedures.

They therefore organise calls for tenders on a regular basis. RTE and EDF distributor are mainly supplied with forward products (baseload and peakload). Optional products enable them to face up to risks related to uncertainty surrounding their forecasts. In 2005, grid operators purchased electricity from around thirty suppliers to cover their losses

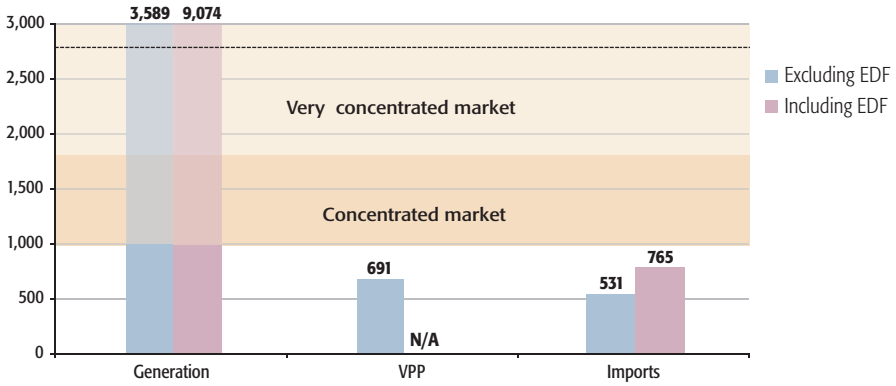
According to data provided by RTE, physical losses on all the grids (transmission and distribution) amounted to 32.4 TWh in 2005. For purposes of comparison, in 2005, 39.5 TWh were sold to consumption sites by operators other than EDF.

F ›› Constrasting competition means on the upstream and downstream markets

As the wholesale market is the place of exchanges between injections and withdrawals, it is worth comparing relative concentration on these markets (Figure 30).

As regards injections, for segments other than generation (VPPs and imports), market shares are evenly spread between the participants.

› **Figure 30: Concentration index for physical injections**



Source: CRE based on data provided by RTE (2005)

Markets making up withdrawals are particularly concentrated (Figure 31). Sales to end consumers are relatively concentrated even without taking EDF into account. For exports, the effects of EDF's long-term contracts resulted in a high HHI, but this situation will be changed in 2006 with the end of priority of access to interconnections for these contracts. Finally, the losses' market is also concentrated although EDF's position there is limited.

3 › Wholesale prices remain at high levels

A ›› Spot prices increase and remain volatile

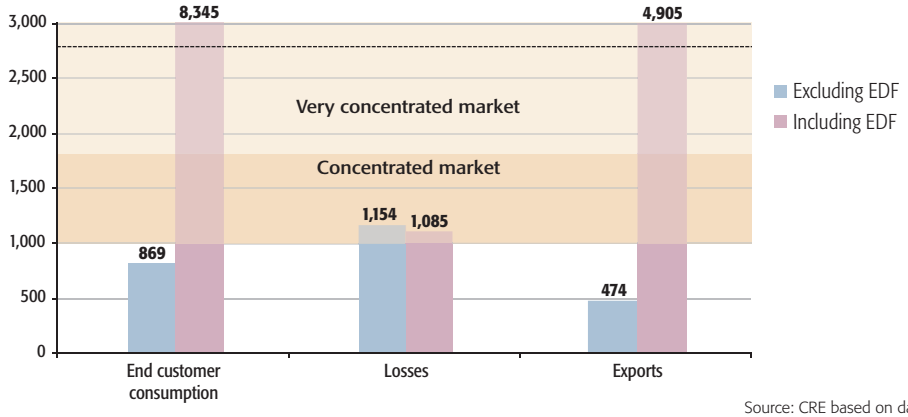
a_ Trends in prices

Spot or day-ahead prices correspond to market prices for delivery the next day. These short-term prices are subject to a high volatility, due to the impossibility of storing electricity – excess demand at any given moment cannot be compensated for by excess supply a few hours before – and to a great variability in factors affecting the supply-demand balance, such as climatic conditions (for example, cold spells raising consumption and absence of wind causing a fall in wind power generation in Germany) and unforeseen events concerning the electricity system (plant breaking down, reduced interconnection capacity, etc).

In 2005, levels of spot prices on the French exchange were far higher than in 2004, with annual spot prices on Powernext averaging 46.67 €/MWh for baseload and 64.05 €/MWh for peakload compared to 28.13 €/MWh for baseload and 37.55 €/MWh for peakload in 2004 (Figure 32).

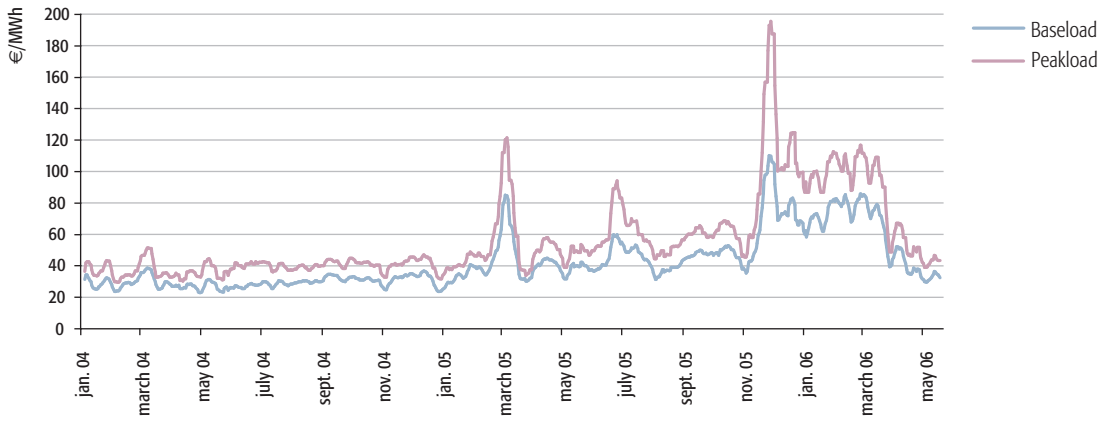
Moreover, price fluctuations were far higher than those in 2004, due to price peaks during periods of high strain on the supply-demand balance in France.

› Figure 31 : Concentration index for withdrawals



Source: CRE based on data provided by RTE (2005)

› Figure 32: Trends in baseload and peakload spot prices on Powernext and EEX (7-day sliding average)



Source: CRE based on data provided by Powernext

In February and March 2005, hourly price peaks up to 305 €/MWh were observed for several days. This period is subject to a detailed analysis on page 62.

In June 2005, a heat wave and drought caused a significant drop in hydroelectric generation, generation restrictions due to problems with cooling thermal power plants and increased consumption. Baseload spot prices on Powernext averaged 59 €/MWh over the last ten days of June.

In November 2005, due to a cold spell in north Europe, spot prices reached an all-time record high on the French and German markets and the peakload strain in France was considerable. Hourly peak prices of 517.60 €/MWh occurred on Powernext on 28 November 2005 and of 609.04 €/MWh on 29 November 2005 (at 7 pm in both cases).

Spot prices then fell but remained at a very high level, due to poor thermal power generation availability and the historic low level of hydroelectric reservoirs. Spot prices averaged 73 €/MWh in December, 68 €/MWh in January 2006 and 78 €/MWh in February 2006.

As from mid-April, spot prices fell to a level comparable to that at the end of 2004. This drop resulted from milder temperatures, a high availability of nuclear power plants and a great improvement in the filling of hydropower dams in France.

b_ Comparison with other European markets

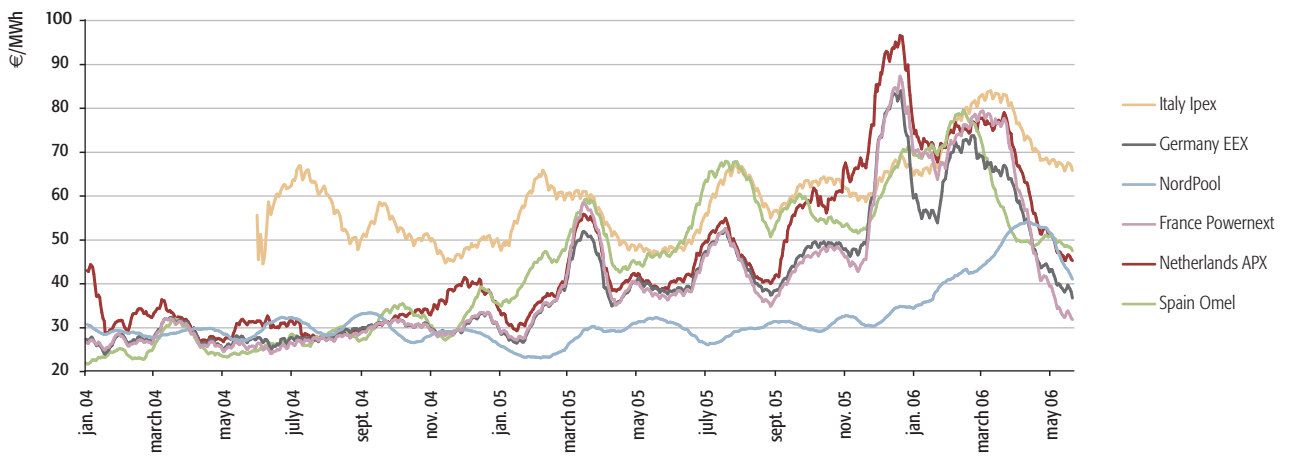
As shown by figure 33, most of the other European markets experienced an increase in spot prices in 2005. In Italy and on NordPool (Norway, Sweden, Finland and Denmark), prices only rose at the end of the year.

The French markets, which up till now had been amongst the least expensive in Europe, were amongst the most expensive between December 2005 and March 2006, especially for peakload.

This increase in French prices was accompanied by an increased disassociation with German prices, firstly during the cold spell in March 2005, then as from December 2005. This trend was partly due to the great sensitivity of French electricity consumption to climatic conditions, high generation costs for peak generation in France, and a reduction in the surplus of French generation capacities. During cold spells, the supply-demand balance in France was far more strained than in Germany and the French market imported up to saturation of the interconnection. Prices on the two markets could therefore no longer be aligned.

The differential between the French and German forward prices and high prices of annual import capacities from Germany confirm that the market players expect a repetition of such episodes of spot price disassociation between the two countries.

› Figure 33: Trends in baseload spot prices in main European marketplaces (30-day sliding average)



Source: CRE based on data provided by PWX, EEX, APX, Omel, NordPool, and IPEX

B ›› Sharp rises in forward prices

Forward prices correspond to the purchase or sale of electricity in advance, for coming months, quarters or calendar years.

Figure 34 shows trends in forward prices for Y+1 baseload since January 2004. Whereas prices for the annual product in France and Germany were stable at around 35 €/MWh in 2004, they have risen sharply since March 2005, amounting to more than 55 €/MWh in France at the end of the year. In 2006, the forward price for Y+1 (delivery in 2007) increased to more than 62 €/MWh, before losing more than 10 €/MWh by the end of April due to the fall in CO_2 prices. The increase in the price of this product as from mid-May was also related to the rise in CO_2 prices.

The differential between German and French prices, slightly in favour of the French market in 2004, fell by the end of the year to be reversed in a sustainable fashion as from March 2005.

› **Figure 34: Annual baseload forward prices for Y+1**

Source: CRE based on data provided by Powernext, and EEX

Inset 14: Transparency and formation of French wholesale market prices

Spot and forward prices on the wholesale market change due to the effect of actual and expected evolutions:

- strain on supply-demand balance;
- variable generation costs of the different technologies including the cost of CO_2;
- electricity prices on border markets and interconnections' available capacities.

Transparency of generation information, both actual and forecast, is therefore essential to proper market operations. The guidelines currently being drawn up by the European group of regulators (ERGEG) specify the information which should be made public at the European level.

In France, the generation offer is not subject to any transparency. Only EDF has information on the forecasted availability of a significant part of the French generation capacity. This lack of transparency has negative consequences for market operations:

- it unduly favours the integrated EDF Group, which is the sole operator to have access to data allowing the anticipation of price variations;
- it can result in erroneous expectations for other spot and forward market players;
- it fuels overreactions to one-off events which can especially result in price peaks;
- the impossibility of explaining observed prices lessens participants' confidence in the French market thus curbing development of its liquidity;
- lack of usable data for investors can eventually cast a doubt on security of supply on the French market.

It is therefore essential that information related to forecasted availability and power generated by French power plants be made public. CRE observed that the French market is less transparent in this matter than the two largest border markets (the United Kingdom and Germany).

C ›› Fundamentals driving prices upwards

a_ Fuel prices

The impact of fuel prices on wholesale electricity prices depends on the degree of use of each generation sector during the year to generate the last MWh sold on the market known as "marginal".

In France, marginal generation mostly results from the coal-fired sector. Oil-fired and nuclear generation are also marginal for certain hours during the year, but to a lesser extent. Centralised gas generation, only slightly used in France, is never marginal. On the other hand, it is in most of France's border countries.

Trends in wholesale prices in France should therefore mainly be linked to coal, CO_2 and heavy fuel oil prices.

The average level of coal prices fell by around 16% between 2004 and 2005 (coal delivered to Amsterdam/Rotterdam/Antwerp in 180 days).

The average level of heavy fuel oil prices shot up by 56% in 2005 compared to 2004.

CO_2 emission quotas only started up in 2005; between 1 January and 31 December, their price more than doubled.

Gas prices already rising in 2004, skyrocketed during 2005. The average level of gas spot prices at the NBP in the United Kingdom soared by 65% in 2005 compared to 2004.

CRE observed that since mid-2005 French prices have been very closely related to gas prices at the European hubs. However, French gas generation, very slight in volume, does not significantly affect price setting. The increased impact of gas prices on French prices results from the increasing role of exchanges with border gas generating countries in the formation of French prices.

Figure 35 compares trends in annual forward prices for electricity on Powernext and that of fuel (gas and coal) and CO_2.

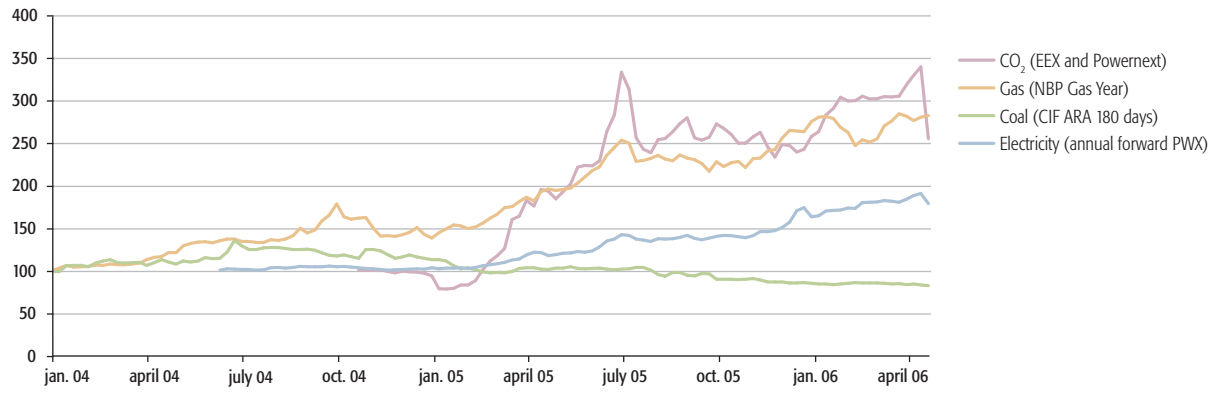
b_ Emission permit prices

Most of the emission quotas held by electricity companies have been allocated to them free of charge. However, according to electricity generators, the logic of marginal pricing in wholesale markets forces generators emitting CO_2 to pass on the entire cost of emission permits to their generation costs and therefore to spot prices. Therefore, the impact of CO_2 on electricity spot prices increases with the rate of marginality of emitting sectors (gas, coal and oil). This impact is logically knocked onto forward prices.

The price of a tonne of CO_2 depends on the supply and demand balance for emission permits, with multiple determining factors.

A hike in gas prices increases the demand for emission permits, as it fosters the economic option of the coal-fired generation sector, more highly CO_2 emitting than the gas sector. On the other hand, a good level of rainfall increases hydropower generation, replacing m CO_2-emitting generation, and decreases the demand for emission permits.

› **Figure 35: Comparative trends in electricity, fuel and CO_2 prices**
(Base 100 as at 01/01/2004 (coal), 01/06/2004 (Forward 2006), 01/10/2004 (gas), 01/01/2005 (CO_2))



Source: EEX, Platts, and Powernext

The price of permits shows a great variability (Figure 36). In summer 2005, a drought in Spain, the increase in gas prices and the reduction in allocation plans in Poland, the Czech Republic and Italy raised prices up to a peak of almost 30 €/t in July. The drop in prices at the end of November was related to a ruling of the European Court (Court of First Instance), obliging the European Commission to review the refusal of the British application to increase its allocation plan of 20 million in emission permits. In January 2006, prices rose due to the combined effect of increased gas prices and the European Commission's refusal to raise the British allocation plan.

Between the end of April and mid-May 2006, CO_2 prices were slashed due to the announcement of CO_2 emissions in 2005 for facilities subject to the system of rights trading. These emissions were lower than market expectations: the European market recorded a surplus of 163 million in CO_2 emission permits. Forward electricity prices for delivery in France in 2007 also dropped at the end of April to recover as from mid-May, confirming the direct impact of CO_2 prices on electricity prices.

4 › Insufficient market monitoring

A ›› Limited CRE remit

CRE, as provided for by Article 3 of the law of 10 February 2000, must ensure "regular electricity market operations". This remit was confirmed but limited by the law of 13 July 2005 under which "the Commission de régulation de l'énergie monitors (…) transactions carried out on the organised electricity markets as well as border exchanges."

On this occasion, the Assemblée nationale did not adopt the amendment entrusting CRE with the monitoring of price formation and OTC transactions. In addition, as at 1 June 2006, the decree governing the application of the system had still not been published.

Consequently, CRE does not have access to information on OTC transactions. It therefore cannot base itself on incontestable data to assess the behaviour of players on the OTC market, which accounts for 90% of French market transactions, nor can it validate cogency of the current level of French wholesale market prices.

B ›› CRE's analysis of wholesale prices and border behaviour

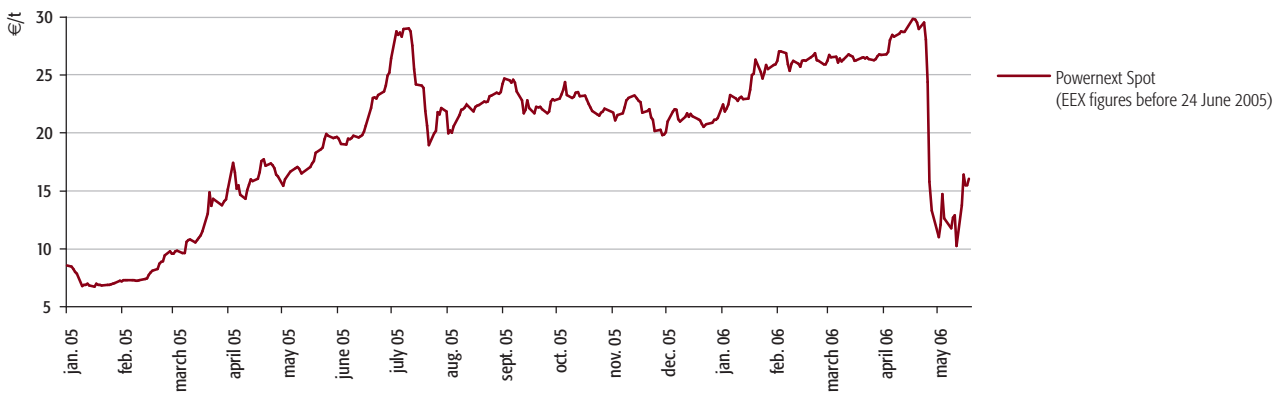
CRE carries out a regular analysis of market participants' behaviour and occasional analyses, depending on the events occurring. Amongst the topics which have been subject to specific studies are the relationship between spot prices and forward prices, France-Germany exchanges and price variations in March 2005 and the winter of 2005-2006.

a_ Relationship between spot prices and forward prices

Wholesale market exchanges involve two types of products: spot products traded the day before for delivery the next day, and forward products for delivery in the coming months, quarters or years.

CRE has analysed the relationship between these two types of products from two different perspectives: quality of spot prices forecast by forward prices and the impact of spot prices on forward prices.

› **Figure 36: Trends in CO_2 emission permit prices**



Source: Powernext and EEX

• Quality of forecast

Forward prices are compared to the spot prices that they anticipated. This involves analysing to what extent the futures market has correctly anticipated the actual level of prices on the date of delivery and if it is more advantageous to spot or forward buy.

There is no systematic overvaluation or undervaluation of the average level of spot prices by forward prices i.e. that there is no possibility of systematic arbitrage. Forward products represent insurance for generators and consumers against the spot price risk. This does not systematically favour one or other of the counterparties.

• Impact of spot prices on forward prices

CRE looked for a relationship between past spot prices and current forward prices, in order to see how spot prices affect forward prices. This can determine if isolated price peaks and atypical events for spot prices raise forward prices and consequently if it is possible to manipulate forward prices by causing a sporadic price peak in spot prices (Figure 37).

CRE's analyses show that trends in Y+1 prices are related to past and present trends in spot prices – although drifts have been observed during certain periods. In addition, based on CRE's observations, volatility of spot prices (especially price peaks) does not raise Y+1 prices.

For the period observed, spot prices affected forward prices with the same upward or downward trend. Market players take into account atypical sporadic events on the spot market in their estimations of forward prices but do not overweight them.

b_ Monitoring of border exchanges: France-Germany interconnection

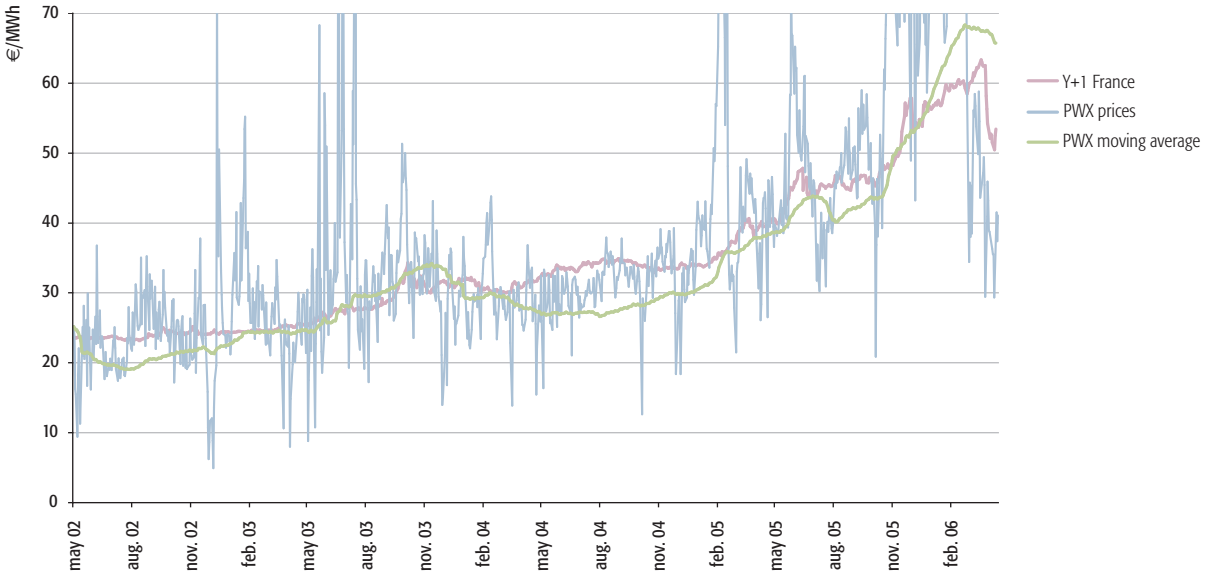
On a competitive market, the direction of daily short-term exchanges (imports/exports) is consistent with the price differential at the borders, as has been observed for French-English and French-Spanish exchanges.

However for French-German exchanges in a significant number of cases the exchange direction is not consistent with the France-Germany price differential (Table 7).

Over the studied period, most of the abnormal cases were when France imported at prices that were higher in Germany. This can be explained by a lack of liquidity on the French market, forcing operators to be supplied from Germany even if the prices were higher, as it would have been difficult to find a counterparty in France.

CRE has determined that more than thirty traders – virtually all the truly active participants at the German border – have at one time or another apparently imported in the wrong direction between 2003 and 2005 (importing when the price differential was more than 2 €/MWh).

› **Figure 37: Trends in spot prices and forward prices, France, May 2002 – February 2006**



Source: CRE based on data provided by Powernext and Platts

Table 7: Breakdown of days in the year according to observed price differential and short-term importer balance with Germany

Breakdown as a percentage according to the importer balance and price differential (peak hours from 2003 to 2005)	Peakload price differential lower than 2€/MWh (France more expensive)	Peakload price differential between -2€/MWh and +2€/MWh	Peakload price differential higher than 2€/MWh (France less expensive)
France exporter at peak hours	4%	7%	13%
France importer at peak hours	26%	32%	19%

Red: abnormal cases, Green: normal cases, Grey: undetermined cases

Source: CRE

CRE did not identify any manipulation or complicity. It observed that no single operator is alone responsible for most of these misdirected imports: for the period 2003-2005, the main misdirected importer only accounted for 25% of these abnormal imports and the 5 largest only accounted for around 55%.

c_ *Monitoring of organised markets: high prices in March 2005 and in the winter of 2005-2006*

Spot prices at the beginning of March 2005 were particularly high (cf. page 56).

CRE has conducted an in-depth analysis of this period which confirmed that the supply-demand balance on the French market was strained. A prolonged cold spell raised demand in Europe and especially in France, where electricity consumption is particularly sensitive to temperatures. This high consumption was combined with extremely unfavourable hydroelectric conditions and according to the traders the strain was worsened by increased demand in Germany due to the low level of wind power generation.

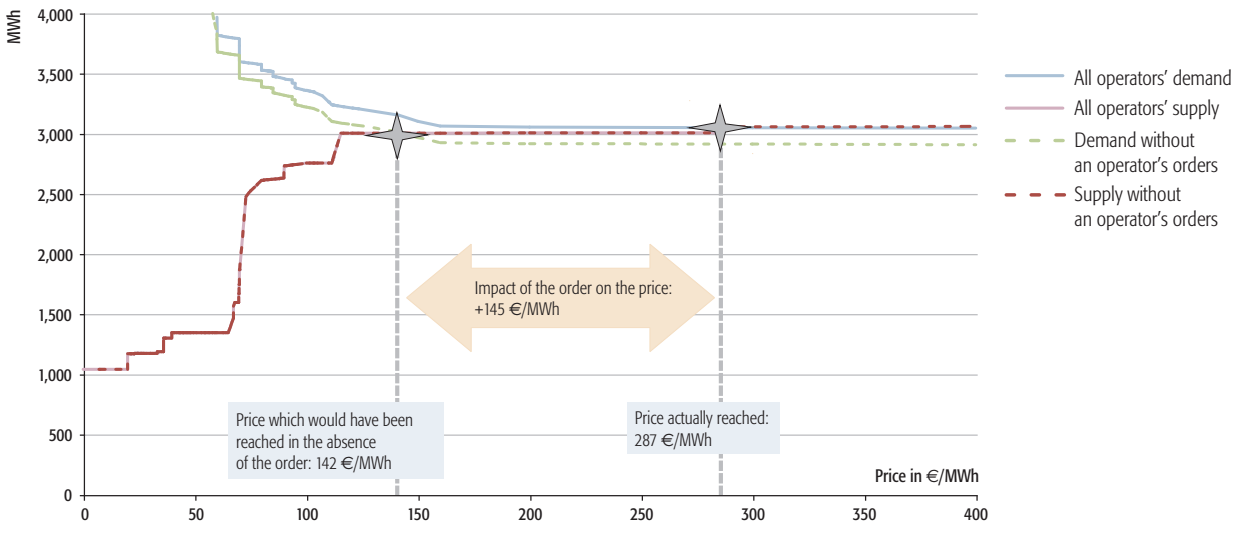
From then on the use at full power of all means of generation plants, including plants whose variable costs are the highest, was not always able to satisfy French demand, and France was a net importer on several occasions.

Moreover, CRE conducted a study on price peaks observed on Powernext and no attempt to manipulate prices has been determined so far. Price peaks have frequently resulted from the combination of orders from several operators involving limited volumes. Within a highly strained context, at certain times, a purchase order for a few MWh is sufficient to raise the price by more than 100 €/MWh, as illustrated by figure 38.

In this type of situation, each participant's behaviour can have significant impact on the price, but as the price is determined by a single fixing operation, none of them can anticipate the effect of their actions. Therefore, no single operator can manipulate the prices.

Spot prices were also very high during the winter of 2005-2006.

› **Figure 38: Powernext Day Ahead supply and demand graphs, at a given time on a day in March 2005, with and without orders from a non-dominant operator**



Source: CRE based on data provided by Powernext

CRE's analysis determined that the supply-demand balance on the French market was yet again strained due to temperatures lower than normal, highly unfavourable hydroelectric conditions and poor nuclear power plant capability.

Just As in March 2005, French generation was insufficient to cover domestic demand bringing about particularly high prices with France having to import significant volumes.

3_ Retail market

France's energy sector industries contribute 2.5% to the GDP. Of these industries, the electricity industry concentrates slightly more than half of the jobs and is the only one to have a negative energy bill, as France is a net exporter of electricity.

French consumption has risen sharply over the past 30 years especially due to soaring household-tertiary sector consumption (Figure 40). From 1978 to 1990, consumption rose more quickly than economic activity, with electricity taking a growing share in the country's economy. Since the beginning of the 90s, electricity consumption has been rising at a pace closer to that of GDP. Over the past six years, the annual growth rate of electricity consumption was around 1.8% (domestic consumption not adjusted to climatic variations).

In 2005, French consumption totalled 482 TWh.

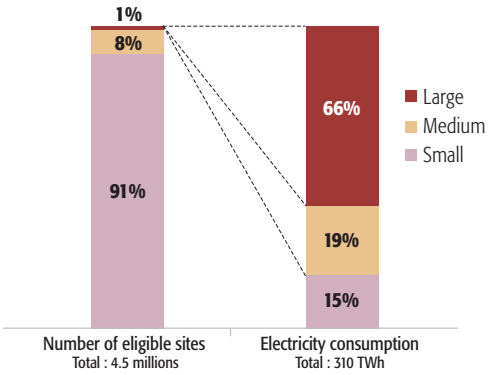
Inset 15: Segmentation of customers as adopted by CRE

Large-sized: sites connected to high voltage supply with rated power of higher than or equal to 250 kW. These sites are industrial sites, hospitals, hypermarkets, and large office blocks. This segment accounts for about 1% of sites in number but 66% of electricity consumption of eligible sites (Figure 39).

Medium-sized: sites connected to high voltage supply with subscribed power lower than 250 kW and low voltage sites with rated power higher than or equal to 36 kVA. These sites correspond, for example, to premises of SMEs. This segment accounts for 8% of sites and 19% of consumption of eligible sites (Figure 39).

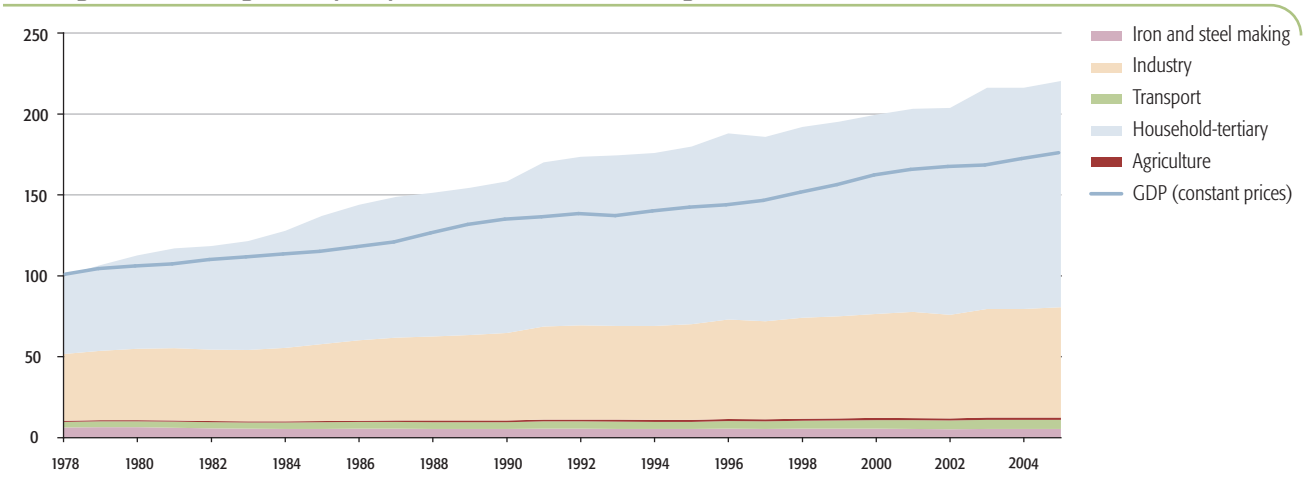
Small-sized: sites connected to low voltage supply with rated power lower than 36 kVA. These sites correspond to the non-household mass market (freelancers, craftsmen, etc). This segment accounts for 91% of sites in number and only 15% of consumption of eligible sites (Figure 39).

› **Figure 39: Breakdown of consumption of eligible sites**



Source: CRE based on data provided by DSOs and RTE

› **Figure 40: Electricity consumption per sector and economic activity – base 100 in 1995**



Sources: CRE based on data provided by Eurostat, RTE and energy observatory

1 › Continued exercise of eligibility on the retail market

Since 1 July 2004, all companies and local councils – 4.5 million sites – have had the possibility of choosing their electricity supplier.

CRE has set up a mechanism for monitoring the retail market consisting of two types of indicators, based on data collected from the main DSOs and RTE:

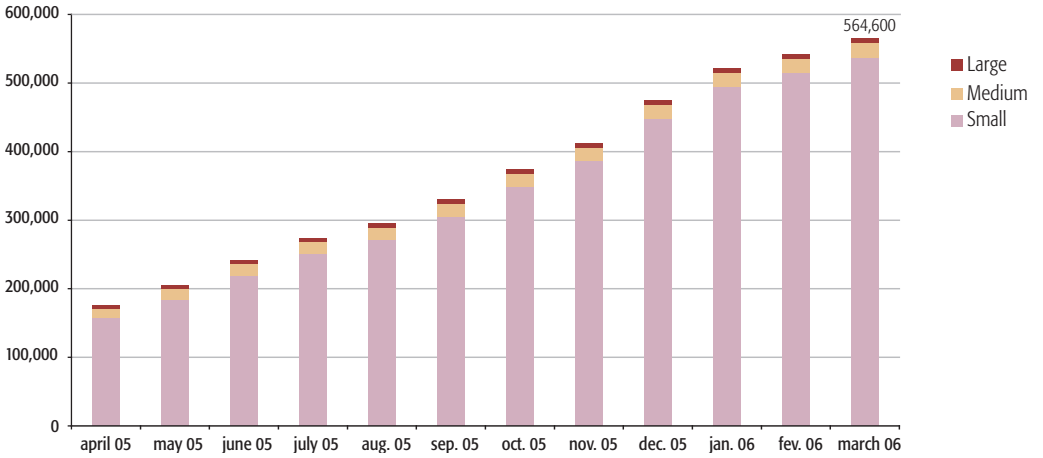
- commercial indicators including the monitoring of trends in exercising eligibility, alternative suppliers' market share, number of connections and disconnections, etc.);
- quality of DSO service indicators (lead times for switching suppliers, connections and time taken to process complaints made to DSOs).

This mechanism for monitoring the retail market enables CRE to detect any market malfunctions.

Insofar as the information is not commercially sensitive, it is made public in the quarterly observatory set up in February 2005, accessible on CRE's website.

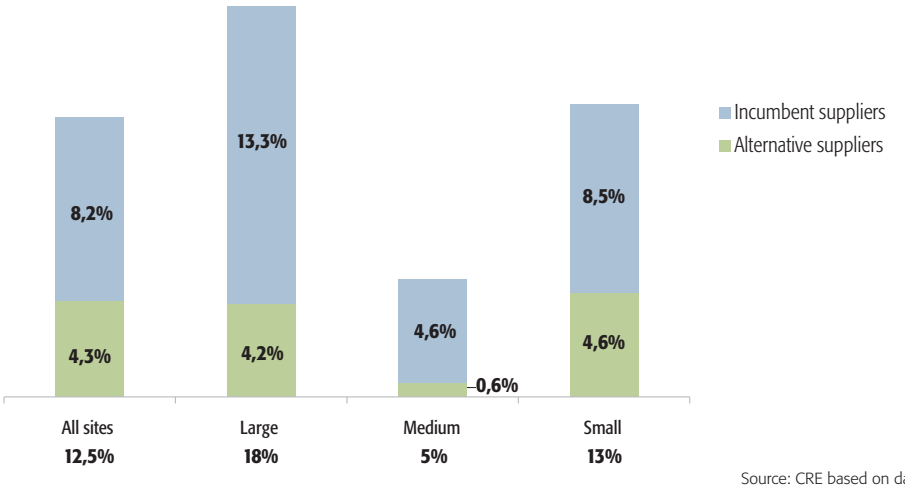
As of 1 April 2006, 564,600 eligible sites, i.e. 12.5% of all eligible sites, had left the regulated tariffs to be supplied on the market (Figures 41 and 42). Every month, an average of 30,000 sites sign supply contracts at market prices.

› **Figure 41: Accumulated number of sites having taken up their eligibility**



Source: CRE based on data provided by distribution system operators and RTE

› **Figure 42: Percentage of sites having taken up their eligibility as of 1 April 2006, compared to the total number of eligible sites**



Source: CRE based on data provided by DSOs and RTE

As of 1 April 2006, amongst the sites having exercised their eligibility, 194,500 sites had opted for an alternative supplier. For the whole open market, alternative suppliers' share accounted for 4.3% of sites and 14.8% of volumes (Figure 43).

As of 1 April 2006, 23 alternative suppliers were active on the market (Table 8).

2 › Retail market prices

A ›› Regulated retail prices and market prices following two different principles

In the electricity sector, two distinct principles coexist concerning retail prices applied to consumers:

- regulated tariffs, monopoly tariffs, set by the public authorities to cover the costs of the integrated company EDF in the segment of customers remaining with the tariffs (generation by national power plants, commercialisation and electricity transmission);
- market prices for supply set by free play of the supply-demand balance.

Market prices for supply is compared to the supply part (generation + commercialisation) of the regulated retail tariff, obtained by deducting from this tariff the transmission part related to grid activities, which is regulated.

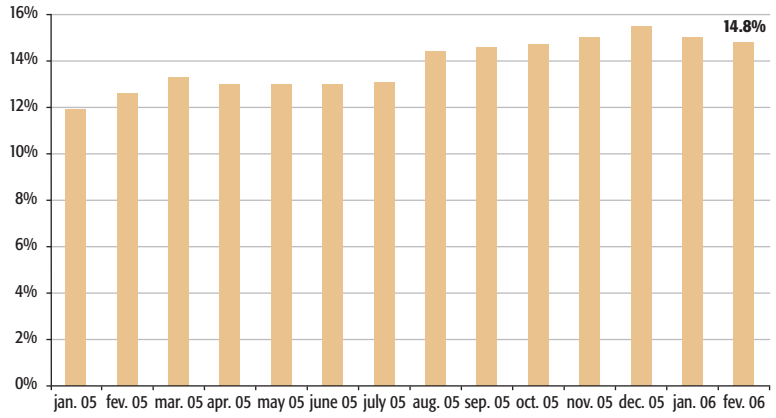
Due to the continuing rise in market prices observed since 2003, the gap in the supply part of regulated tariffs (stable since 1 January 2004) from market prices is widening (Figure 44).

Table 8: Number of alternative suppliers operating in France

As at 1 April 2006	All sites	Large-sized	Medium-sized	Small-sized
Number of active alternative suppliers	23	22	9	9

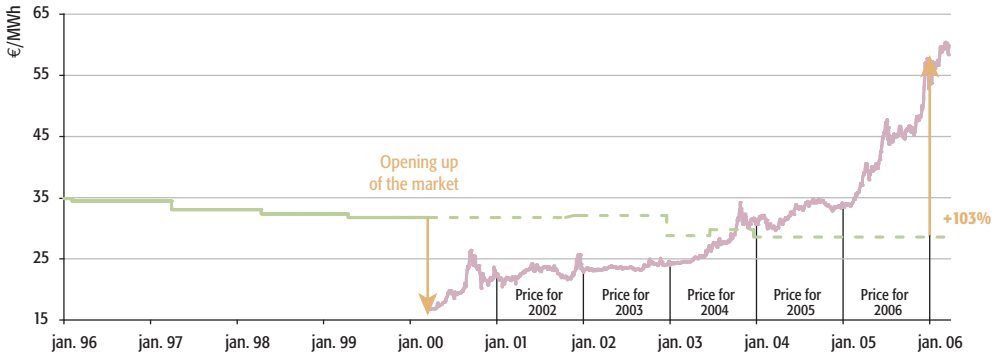
Source: CRE based on data provided by DSOs and RTE

› **Figure 43: Share in consumption of eligible sites serviced by alternative suppliers**



Source: CRE based on data provided by DSOs and RTE

› **Figure 44: Large-scale industrial sites at "green tariff", prices excluding taxes in € at constant values as at 1 January 2005, excluding transmission, excluding CSPE**



Baseload price for France for the coming year

Regulated tariff (green tariff C8 TLU) for purchase of a ribbon supply, reduced by the current grid access tariff in force:

Before opening up of the market

After opening up of the market

Source: CRE (April 2006)

Inset 16: Monitoring of the retail market has identified three situations where competition is developing slowly

- In the segment of medium-sized sites

Penetration of alternative suppliers in this customer segment is five times lower than in the segments of large-sized and small-sized sites. This comes about from the low level of "yellow" tariffs applicable in this segment.

- Connections

Whenever there is a connection giving rise to exercise of eligibility, in 95% of the cases customers opt for the incumbent supplier. This situation is probably due to a lack of information provided to customers concerning opening of the markets and the possibility of opting for a supplier of their choice.

- In the LDC territories

In areas serviced by the 6 largest local distribution companies, as of1 April 2006, fewer than one eligible site out of 200 had opted for an alternative supplier, i.e. 8 times less than the national average. This situation is mainly attributable to the complexity generated by the different contractual terms imposed by LDCs.

B ›› Retail tariffs still applicable to all eligible customers

Regulated retail tariffs are retail prices for end customers covering electricity supply and transmission. These integrated tariffs are set by the Ministers for Economy and Energy, once the CRE has been consulted.

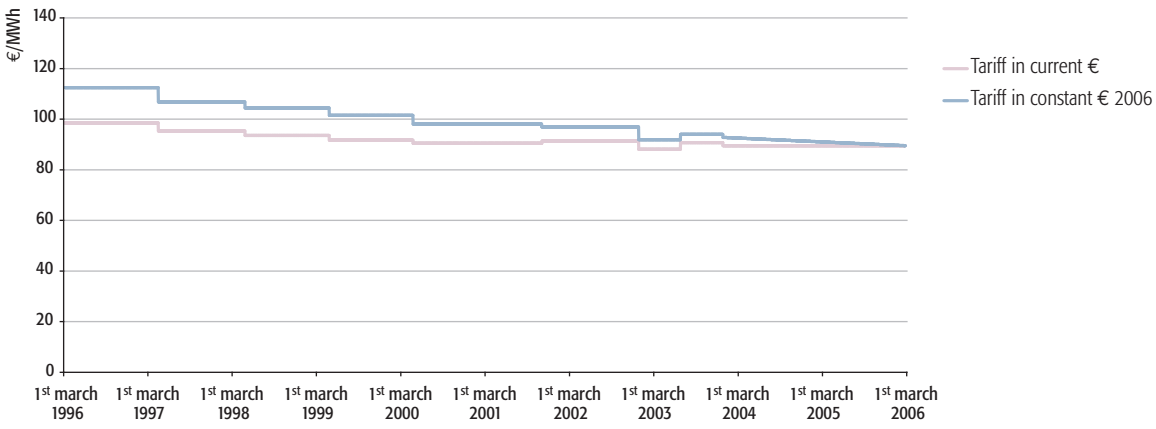
These tariffs are applied uniformly throughout the national territory by the incumbent operators, EDF and local distribution companies, to household customers who are not eligible until 1 July 2007. They are also applied to non-household customers who have not exercised their eligibility, for whom the electricity market was progressively opened between the year 2000 and 1 July 2004.

Market principles entail, in the end, the eventual suppression of regulated retail tariffs, with a requisite transition phase. Priority must be given to the quest for better matching of tariffs with costs in compliance with the law.

C ›› Continuing fall in tariffs in constant euros

The last change in regulated tariffs applied to take into account trends in EDF costs took place in July 2003. Tariffs have not been altered since 1st January 2004, when they were lowered to cancel out the concomitant rise in the public electricity service contribution (CSPE) (Figure 45).

› Figure 45: Trends in retail electricity tariffs for household customers (excluding local taxes, CSPE and VAT)



Source: EDF - CRE calculations (2006)

For household customers, tariffs excluding taxes have fallen by 20% in constant euros over the last ten years.

In July 2005, regulated retail tariffs for household customers (excluding VAT) were below the average of prices in the 15-country Europe (102.9 €/MWh compared to 124.4 €/MWh) (Figure 46).

D ›› Regulated tariffs must cover the costs

The law of 10 February 2000 states that regulated tariffs shall cover all costs borne by EDF in this matter, i.e.:

- transmission costs (covered by the grid utilisation tariffs proposed by CRE);
- supply costs composed of:
  - total costs of national power plant generation (fixed investment costs and operating costs);
  - commercial costs (marketing and sales);
  - customer management costs (customer services, billing, debt recovery, unpaid bills, etc).

E ›› Incumbent operators have to implement cost accounting

In order to check that regulated tariffs cover incumbent operators' costs and in the absence of cost accounting in the customer segment concerned by these tariffs, in 2005, CRE together with EDF set up financial modelling of a simplified business plan for its regulated generation, commercialisation and management activities.

The main outcome of this modelling backdated to 2003 and 2004 is as follows:

- "Yellow" and "green" tariffs concerning SMEs do not average out as being profitable;
- "Blue" tariffs concerning household and non-household consumers do average out as being profitable.

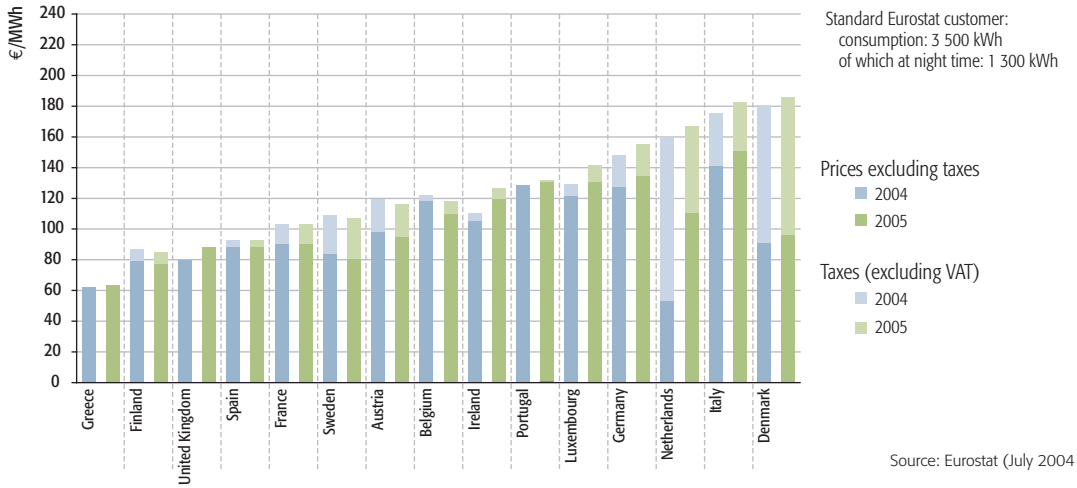
Before the next pricing change, the rate of return on supply operations at regulated tariffs needs to be defined.

3 › Tariff structure has to be promptly reviewed in-depth

The regulated retail tariff structure has not changed to take into account application of the tariff for utilisation of public grids in 2002. Consequently, the part of tariffs covering supply obtained by deducting the tariff for grid utilisation from retail tariffs does not generally reflect actual supply costs. Some categories of customers pay tariffs of which the supply part is negative whilst others generate a very high profitability for EDF.

In order to avoid any distortion of competition on the non-household market and with the perspective of opening up of the household market, CRE points out the need to review the tariff structure in force by 1 July 2007, in order to reflect true costs.

› **Figure 46: Price of electricity for household customers in Europe (excluding VAT)**



Source: Eurostat (July 2004 and 2005)

Inset 17: European regulation of 26 June 2003 Article 5 "Provision of information on interconnection capacities"

1_ Transmission system operators shall put in place coordination and information exchange mechanisms to ensure the security of the grids in the context of congestion management.

2_ The safety, operational and planning standards used by transmission system operators shall be made public. The information published shall include a general scheme for the calculation of the total transfer capacity and the transmission reliability margin based upon the electrical and physical features of the network. Such schemes shall be subject to the approval of the regulatory authorities.

3_ Transmission system operators shall publish estimates of available transfer capacity for each day, indicating any available transfer capacity already reserved. These publications shall be made at specified intervals before the day of transport and shall include, in any case, week-ahead and month-ahead estimates, as well as a quantitative indication of the expected reliability of the available capacity.

II_ Access to public electricity grids

1_ CRE's action concerning access to interconnections with neighbouring countries

Electricity grids of the various European countries are interconnected, this enabled system operators to help each other out in the event of failure and now facilitates development of competition in the electricity sector with in mind the emergence of a European energy market.

As interconnection lines between France and its neighbours are currently not sufficiently developed, increase in cross-border electricity exchanges firstly requires strengthened coordination by grid operators in calculating interconnection capacities, and in utilising the existing capacities (cf. page 74).

Inset 18: European regulation of 26 June 2003 Article 6 "General principles of congestion management"

1_ Network congestion problems shall be addressed with non-discriminatory market based solutions which give efficient economic signals to the market participants and transmission system operators involved. Network congestion problems shall preferentially be solved with non transaction based methods, i.e. methods that do not involve a selection between the contracts of individual market participants.

2_ Transaction curtailment procedures shall only be used in emergency situations where the transmission system operator must act in an expeditious manner and redispatching or countertrading is not possible. Any such procedure shall be applied in a non-discriminatory manner.
Except in cases of "force-majeure", market participants who have been allocated capacity shall be compensated for any curtailment.

3_ The maximum capacity of the interconnections and/or the transmission networks affecting cross-border flows shall be made available to market participants, complying with safety standards of secure network operation.

4_ Market participants shall inform the transmission system operators concerned a reasonable time ahead of the relevant operational period whether they intend to use allocated capacity. Any allocated capacity that will not be used shall be reattributed to the market, in an open, transparent and non-discriminatory manner.

5_ Transmission system operators shall, as far as technically possible, net the capacity requirements of any power flows in opposite direction over the congested interconnection line in order to use this line to its maximum capacity. Having full regard to network security, transactions that relieve the congestion shall never be denied.

6_ Any revenues resulting from the allocation of interconnection shall be used for one or more of the following purposes:

- a) guaranteeing the actual availability of the allocated capacity;
- b) network investments maintaining or increasing interconnection capacities;
- c) as an income to be taken into account by regulatory authorities when approving the methodology for calculating network tariffs, and/or in assessing whether tariffs should be modified.

1 › European objective: a transparent and non-discriminatory access to interconnections

A ›› Requirements of European regulation 1228

European regulation 1228 of 26 June 2003, which came into force on 1 July 2004, states that methods for managing congestion at interconnections must be coordinated with neighbouring grid operators, non-discriminatory, based on the market and likely to provide market operators with effective economic signals. These methods must fulfil requirements concerning scheduling and publication of interconnection capacities and operational management (compensation of concerned parties in the event of reduction in capacity, application of the rule of automatic redistribution of unused capacities called "Use-It-or-Lose-It", freeing up of maximum available capacity, netting of nominated flows and supervised use of revenue from auctions).

B ›› Suppression of priority access for original contracts

The issue of maintaining priority access to interconnections for original contracts concluded before enforcement of the 19 December 1996 directive has been the subject of much discussion. These debates can now be considered as settled with the decision of the Court of Justice of the European Communities of 7 June 2005 which removed priority access previously granted to contracts known as "original" at interconnections with Belgium, Germany, Italy and Spain.

This ruling states that "priority access […] provided to an operator due to commitments taken before application of the directive, but without compliance with the procedure provided for by article 24 of the directive, must be considered as discriminatory in the sense of articles 7 paragraphs 5 and 16 thereof, and following, as infringing such articles". Based on this decision and after consulting the various regulators concerned and departments of the European Commission, as from 1 January 2006, CRE requested from RTE to no longer recognise right of priority access to interconnections through original contracts concluded before enforcement of the 19 December 1996 directive.

Inset 19: Record of public consultations launched by CRE in 2005

- **5 July 2005:** public consultation with the Belgian **(CREG)** and Dutch **(DTe)** regulators concerning regional integration of Belgian, French and Dutch markets.
- **31 August 2005:** Public consultation with the Austrian regulator **(E Control)** concerning standardisation of congestion management methods across France; Italy and Austria.
- **22 September 2005:** Public consultation with the German regulator **(BNA)** concerning application of a coordinated congestion management method at the Germany-France interconnection.

2 › Work programme shared with other regulators

A ›› Consultation of market players

In 2005, CRE launched three public consultations with its European counterparts concerning border exchanges.

The purpose of these consultations was to collect the opinion of market players concerning the setting up of allocation mechanisms in compliance with the European regulation. Market players were invited to express their opinion on the definition of explicit auction rules and their interest in the development of intraday exchanges and of balancing.

A large number of participants replied to these consultations (generators, traders, transmission system operators, industrial companies, market operators and universities). Except for industrial associations, the setting up of auction mechanisms was unanimously recognised as an important step in the integration of European electricity markets. However, all market players recognised that significant progress must be made as regards the coordination between TSOs (calculation and allocation of capacities), standardisation of ground rules and market design, market and TSO transparency as well as regards preventing deviant behaviour.

These consultations enabled regulators to draw up and publish a work programme (roadmap) for TSOs at the beginning of December 2005 to improve allocation mechanisms in 2006.

B ›› Regulators' roadmap

The roadmap drawn up with the German, Austrian, Belgian and Dutch regulators in 2005 constitutes regulators' priorities for the year 2006 concerning access to interconnections. Its application was started on 1 January 2006 with the setting up by grid operators of an explicit auction mechanism to allocate available exchange capacities at interconnections with Belgium, Germany, Italy and Spain.

It emphasises the need for greater cooperation between grid operators in order to improve management of interconnection exchanges. It provides for the:

- creation, as from the beginning of 2006, of an inter-regulator working group to monitor the smooth running of allocation mechanisms. A joint report is to be published at the end of 2006 to keep the market players informed;

- setting up of a secondary market of capacities so as to improve their use planned for 1 July 2006;
- setting up of intraday exchanges and balancing exchanges with Belgium and Italy planned for 1 January 2007;
- standardisation of allocation rules based on auction between different interconnections planned for 1 January 2007;
- in compliance with article 5.2 of the regulation of 26 June 2003, setting up by grid operators of a coordinated and transparent procedure for calculation of interconnection capacities subject to formal prior approval from regulators planned for 1 January 2007.

C ›› Regional electricity initiatives

In keeping with mini-forums(5), organised in 2005 by the European Commission further to discussion held at the 11th Forum of Regulators in Rome in September 2004, ERGEG launched regional electricity initiatives on 27 February 2006.

These "regional electricity initiatives" are committed with the European Commission to carry out homogenous electricity market operations within the 7 regions constituting an initial stage for the setting up of a domestic electricity market.

France is electrically interconnected with six neighbouring countries and is involved in the work of four out of the seven regional groups constituting the "regional electricity initiatives" (the British Isles, centre-west, centre-south and southwest).

ERGEG has identified four work priorities, around which regulators must organise their concerted efforts:

- maximum availability of electricity transmission grid capacities;
- availability and checking of information provided by and to market players;
- improved cooperation between grid operators with in mind developing grid interoperability;
- compatibility of different countries' market mechanism.

This process must be considered as a step on the way to setting up the domestic electricity market, which is the objective fixed by the directive of 26 June 2003. That implies that the regional electricity initiatives must not result in incompatible regional solutions preventing the future setting up of a domestic market.

Moreover, five governments (France, Belgium, Netherlands, Luxembourg and Germany) have launched an initiative for coordination of the various players involved in cross-border electricity exchanges – the quintilateral energy forum. This initiative must contribute to energy policy coordination actions, which are the responsibility of governments. CRE and other regulators concerned are also expecting actions rendered necessary by the exercise of regulators' powers as defined by article 23 of the directive, such as the lifting of national legal obstacles to the setting up of cooperation between regulators.

3 › Significant progress since 1 January 2006

Since 1 January 2006, a first step towards further transparency at interconnections has been made. On the one hand, congestion at interconnections between France and the neighbouring Member States is managed thanks to explicit auction mechanisms and on the other hand, original contracts no longer benefit from priority access.

A ›› Auction results consistent with price differentials on national wholesale markets

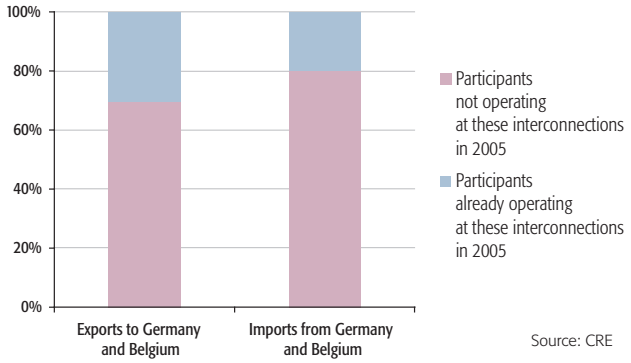
The inclination of price signals revealed by auction results is generally consistent with the inclination of price differentials between markets. This consistency is all the greater as allocation mechanism between grid operators is better coordinated (as is the case of Belgium and Germany). This confirms the importance of a good coordination for market confidence between the bodies concerned on each side of the border, whether this involves TSOs or the relevant public authorities. On the other hand, whilst there is no of sufficient duration of application of auction mechanisms at French borders, the relevant value of price signals has not yet been demonstrated.

(5) Cf. page 118.

B ›› Greater competition at interconnections

Exchanges at interconnections constitute one of the means of developing competition in France. In 2005, imported energy accounted for almost 7% of total domestic consumption (32 TWh out of 482 TWh consumed), whereas the share in consumption provided by alternative suppliers was 9% (42 TWh).

› Figure 47: Breakdown of capacity purchased by incumbent operators and newcomers at annual and monthly auctions for January 2006



Source: CRE

Combined effects of the setting up of more transparent market-based allocation procedures and suppression of the recognition of the right of priority access, from which original contracts had benefited for a long time, have resulted in the reduction of EDF's share and newcomers operating at interconnections (Figure 47).

C ›› Better utilisation of interconnection capacities expected

At most borders, congestion implies that there is a lack of capacity available to market players to carry out cross-border transactions, required to set up a domestic electricity market. It is therefore necessary to use the rare commodity constituted by interconnection capacities available for commercial transactions in a more rational way.

Holding of explicit auctions for the allocation of capacities with lead times ranging from a day to a year constitutes a first stage. The setting up of intraday exchanges and imbalance exchanges at interconnections in highly connected grid zones such as the continental plate should further improve the rate of interconnection use. However, it is only with the drawing up and implementation by grid operators of a coordinated and transparent method for calculating available capacities at different times that there is any hope of substantially improving the level of capacities currently made available to market players.

4 › Current methods for managing interconnections with neighbouring countries

Although since 1 January 2006, interconnection capacities between France and European Union border countries have been allocated using explicit auction mechanisms, the extent of coordination between grid operators differs greatly from one border to another.

As in 2005, RTE keeps auction revenue resulting from allocation of capacities and must use it in compliance with the provisions of article 6-6 of the European regulation of 26 June 2003 (cf. page 68).

A ›› France - Germany

RTE organises auctions of capacity for export to Germany, and RWE Transportnetz Strom manages auctions of capacity for import from Germany. In compliance with the road map published by CRE and the German regulator (Bundesnetzagentur, BNA), significant improvements are expected at this interconnection over the year 2006.

B ›› France - England

CRE proposed the British regulator (OFGEM) that the following improvements be made to the current mechanism for allocation of capacities at this interconnection:

- effective application of the rule for automatic redistribution of unused capacities (Use-It-Or-Lose-It) sufficiently early on D-1, in any case before the last auction of the current day;
- setting up of a secondary market of capacities;
- setting up of an intraday allocation and balancing mechanism.

These improvements will significantly increase utilisation of interconnection capacities. Application of the Use-It-or-Lose-It rule sufficiently early on D-1 should, as well as improving utilisation of a rare commodity by operators, enable grid operators to carry out netting operations. Consequently, this rule would make cross-border exchanges between the continent and the United Kingdom more fluid. Adoption of these proposals will be reviewed in 2006, within the framework of the regional initiative for the British Isles.

C ›› France - Belgium - Netherlands

Discussions held with the Belgian (CREG) and Dutch (DTE) regulators in 2005, have resulted in the setting up of an explicit auction mechanism at the France-Belgium interconnection, similar to that which has been applied at the Belgium-Netherlands interconnection for several years. Over the2006 year, significant improvements are expected at these two interconnections within the framework of the three regulators' roadmap.

D ›› France - Spain

Whilst pending for Spanish regulatory modifications necessary for the setting up of a coordinated allocation mechanism planned for the joint stance of the two French and Spanish (CNE) regulators, published on 28 January 2005, CRE decided on 1 December 2005, to implement, as from 1 January 2006, an explicit auction mechanism managed by RTE for total capacities available at the France-Spain interconnection.

In December 2005, the Spanish Government published two ministerial orders opening the way up for regulatory modifications governing the setting up of a coordinated allocation mechanism between the two grid operators at this interconnection.

In this way, CRE and the Department for Trade, Industry and Tourism have jointly decided on application of the new rules governing allocation of interconnection capacities between France and Spain as from 1 June 2006. These new rules, submitted by the two transmission system operators on 26 April 2006, correspond to the first stage of the joint stance adopted by the two regulators to be completed at a later date by market coupling organised on a daily basis.

Coordinated explicit auctions make it possible to allocate capacities on an annual, monthly, daily and intraday basis under the terms stipulated by the European regulation of 26 June 2003. Firstly, TSOs are able to propose two intraday auctions and secondly, in order to provide the additional flexibility requested by market players, they are committed to holding six intraday auctions by 15 November 2006.

E ›› France –Italy - Austria

In 2005, Austrian, Italian and French regulators formed a working group so as to improve and standardise allocation methods used for the three countries over the coming years. However, this working group has not resulted in a joint stance between the three regulators concerning the most appropriate method for managing congestion at the common interconnections with Italy.

On one side, CRE and E-Control (Austria) consider that the explicit auction method is the sole method of operational allocation for 2006 in compliance with the regulation of 26 June 2003. On the other side, AEEG are intent on continuing for 2006 the method of implicit allocation by the Italian market operator based on virtual market zones and prices, supplemented by an allocation of financial rights (cover instruments).

This has resulted in the coexistence of two complementary allocation mechanisms, one managed by RTE (explicit auctions) and the other by the Italian grid operator TERNA (method "S1"), with each party allocating 50% of total available capacity.

F ›› France - Switzerland

The announcement of the creation of a grid operator, ETRANS, which would solely be in charge of exchanges on the Swiss side of the border, allows the consideration of the implementation over 2006 of a daily coordinated explicit auction mecha-

nism at the France-Switzerland interconnection. However, the advantage of this system for electricity market operations greatly depends on the level of available capacity after deduction of the required capacity for transit covered by incumbent contracts which still have priority access to this interconnection. The legitimate status of this priority access is currently being reviewed by the European Commission.

5 › Strengthened interconnections essential to setting up a European market

Interconnection capacities of numerous Member States' electricity transmission grids were built up within the context of integrated monopolies, prior to the directive of 19 December 1996. They have been dimensioned so that electricity companies can help each other out and long-term contracts can be concluded and are therefore not always adapted to increased cross-border exchanges of electricity required by the single market.

Insets 20 and 21 assess implementation of reinforcement projects at the France-Belgium and France-Spain borders.

When deciding on approval of RTE's investment programmes, CRE asked the transmission system operator to embark on requisite infrastructure reinforcements as a priority in areas where there is no technical difficulty related to border area topography. However, progress in this matter is slow.

Duration of administrative procedures prior to the implementation of such projects carried out separately in each Member State is one of the main reasons for this situation. It is therefore necessary to develop coordination of procedures of Member States involved in the setting up of these interconnections.

Work embarked upon in 2005 by CEER has defined homogenous analysis grids likely to speed up the decision-making process for such infrastructures. This work constitutes a first step towards the removal of numerous barriers to making these investments.

Inset 20: State of play of reinforcement works at the France-Belgium border: works carried out on schedule

Up to 2005, the interconnection grid between France and Belgium had been composed of 4 very high voltage lines with an average commercial capacity of 2200 MW, deemed insufficient within the context of opening of the European markets. Interconnection reinforcement constitutes an essential stage in the process of merging with the Belgian market as well as with the German market. A significant part of the loop flows resulting from exports from France to Germany is delayed on the France-Belgium interconnection grid.
The technical solution, provided by RTE and included in the investment programme approved by CRE, consists of strengthening the Avelin-Avelgem line with a second electrical circuit, for a total cost of 15.7 M€. The reinforcement structure inaugurated on 14 December 2005 after 15 months of work has increased commercial capacity by at least 700 MW.

Inset 21 : State of play of reinforcement works at the France-Spain border: works behind schedule

Commercial capacity of transits between France and Spain is currently around 1600 MW. The Iberian Peninsula interconnection rate is one of the lowest in Europe. It is far from being in line with recommendations made by the European Summit held in Barcelona in 2002 (10% of domestic consumption i.e. 4000 MW). The objective currently targeted by TSOs is to raise the capacity to 2800 MW, and then to 4000 MW at a later date.
Interconnection reinforcement initially consisted of two headings: strengthening of the existing electrical line of Baixas/La Gaudière, and construction of a cross-border structure between Baixas and Bescanos. Even if the Baixas/La Gaudière reinforcement successfully passed through the stage of local consultation in 2003, the same cannot be said for the second heading. New in-depth studies were therefore conducted by RTE in order to determine options complementary to the initial project. RTE transmitted possible solutions to the Department for Industry with the intention of drafting the new project to be submitted for local consultation.
The start-up date for the project has already been postponed several times and has now been set for 2009 with an estimated budget of 150 M€.

6 › Analysis of utilisation of interconnection capacities in 2005

RTE provides CRE with data enabling the regulator to carry out precise monitoring of interconnection utilisation. Based on analysis of this data, the effectiveness of rules governing interconnection access can be measured.

Assessment of utilisation of interconnection capacities in 2005 shows that interconnection capacities made available to market players were not always efficiently used.

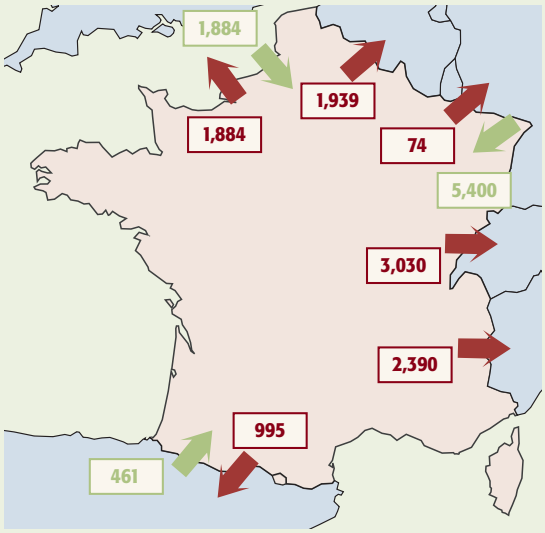
A ›› France - Germany

In 2005, especially in winter, this interconnection was mainly used for imports just like the previous year.

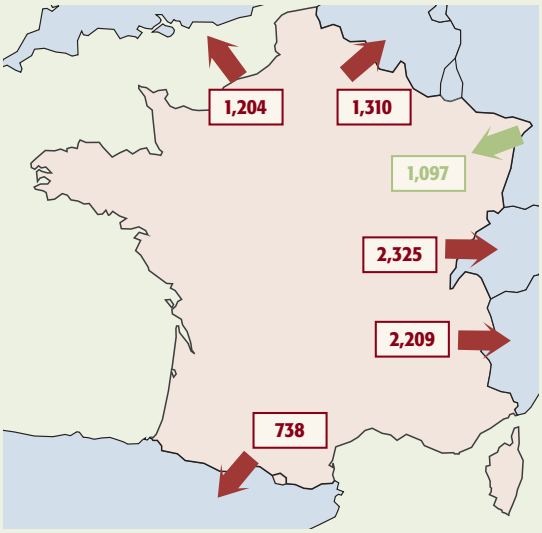
Due to great constraints experienced by the German grid, resulting from its structure, on days when significant wind power was generated in Outre-Rhin, flows scheduled for D-1 in the German-France direction had to be reduced several times at the beginning of the year to the pro rata of quantities that the operators wished to have transited. As of April, the

Inset 22: Interconnection capacities and cross-border electricity flows in 2005

Average of NTC export and import (MW)



Average of net commercial flows (MW)



Source: CRE

Comment: As no congestion occurred in the import direction at interconnections with Belgium, Switzerland and Italy, there is no point in publishing NTC figures for import at these interconnections.

Inset 23: Rate of saturation observed at interconnections in 2005

This involves the proportion between the number of hours during the year when the difference between net commercial flows and net import and export capacity was less than 200 MW and the number of hours in a year. It can be observed that even when an interconnection appears to be quite well used on average, it is in fact seldom used to its maximum capacity.

Interconnection	France - Germany	France - England	France - Belgium	France - Spain	France - Italy	France - Switzerland
Exports	14%	48%	31%	66%	80%	19%
Imports	2%	1%	-	6%	-	-

Source: CRE based on data provided by distribution system operators and RTE

German grid operator, RWE Transportnetzstrom, set up a unilateral mechanism of daily explicit auctions for the German capacity exported to France, in order to limit commercial flows in this direction and thus prevent grid congestion.

B ›› France - England

This interconnection was mainly used as normal in the export direction. Average prices on the English market were higher than French prices and the auction mechanism managed by RTE and NGC enabled operators to use the interconnection more or less in keeping with the price differential between the English and French market. The exporting trend was greater at the end of the year, as English prices, closely related to gas prices, experienced a sharp rise. However, the rate of saturation of this interconnection (cf. Inset 23) shows that it was only fully used either for import or for export for 49% of the time in 2005.

C ›› France - Belgium

In 2005, exports to Belgium actually mainly intended for the Netherlands rose against the previous year. However, some imports were scheduled, up to more than 1000 MW in July 2005.

The interconnection was sometimes congested in the export direction, especially during the second half of 2005, since for almost 70% of the time at least 200 MW available for export was not used (cf. inset 23). Congestions will henceforth occur less frequently as the interconnection between the two countries was reinforced at the end of 2005.

D ›› France - Spain

As a general rule, the direction of flows at this interconnection is related to price differential between the two markets. Up to October 2005, as Spanish prices were usually higher than French prices, the interconnection had been virtually exclusively used for exports. At the end of the year, as French prices had risen sharply due to a persistent cold spell, imports were observed on a regular basis.

E ›› France - Italy

Due to the structural generation shortfall, which had existed in Italy until the year 2004, this interconnection was traditionally used exclusively for exports to Italy. As from March 2005, and especially during the last six weeks of the year, there was a sharp drop in export flows even an inversion of flows at certain times. The rate of interconnection saturation for exports (cf. inset 23) fell from virtually 100% in 2004 to 80% in 2005.

This new phenomenon bodes well for decreased congestion at this interconnection over the next few years.

F ›› France - Switzerland

As in previous years, this interconnection was mainly used for exports to Switzerland. Furthermore, thanks to numerous means of hydropower generation, which are particularly flexible, Swiss operators were very active at the interconnection within the framework of the balancing mechanism, for import and export alike.

2_ Application of a new tariff for use of public electricity grids as from 1 January 2006

The directive of 26 June 2003 imposed the unbundling of activities making up the value chain for electricity supply (generation and commercialisation, transmission and distribution) and opening up of generation and commercialisation activities to competition.

Transmission and distribution grids are essential infrastructures and it would not be economically viable to allow each supplier to develop facilities for their own use. Their management is

Inset 24: Principles of account unbundling

In compliance with account unbundling rules, integrated operators keep separate accounts for generation, transmission, distribution and other activities. The law of 9 August 2004 requires that, as from 1 July 2004, operators keep separate accounts for supply activities to eligible customers and to non-eligible customers. This new obligation was applied to unbundled accounts in 2004. The principles of account unbundling for supply activities proposed by EDF were submitted for approval to the Competition Council, which ruled on 20 October 2005.

therefore assumed to constitute a natural monopoly. This results in the activity of grid management being carried out in each geographical area by a monopoly subject to regulation. The general regulation principles are described in European Community directives but its application is currently entrusted to national regulators. Regulation must focus on financial terms for the exercise of the right to grid access which is a right recognised in all European Community texts (Figure 48).

1 › A new regulatory framework for approval of tariffs for utilisation of public electricity grids

In application of article 23 of the directive of 26 June 2003, regulators are responsible for setting pricing principles. In the various Member States, the situation ranges from proposal of tariffs by grid operators and government decision to direct setting of these tariffs by the regulators themselves. In France, CRE is in charge of proposing tariffs for government decision, which can accept or reject them, without being able to directly modify them.

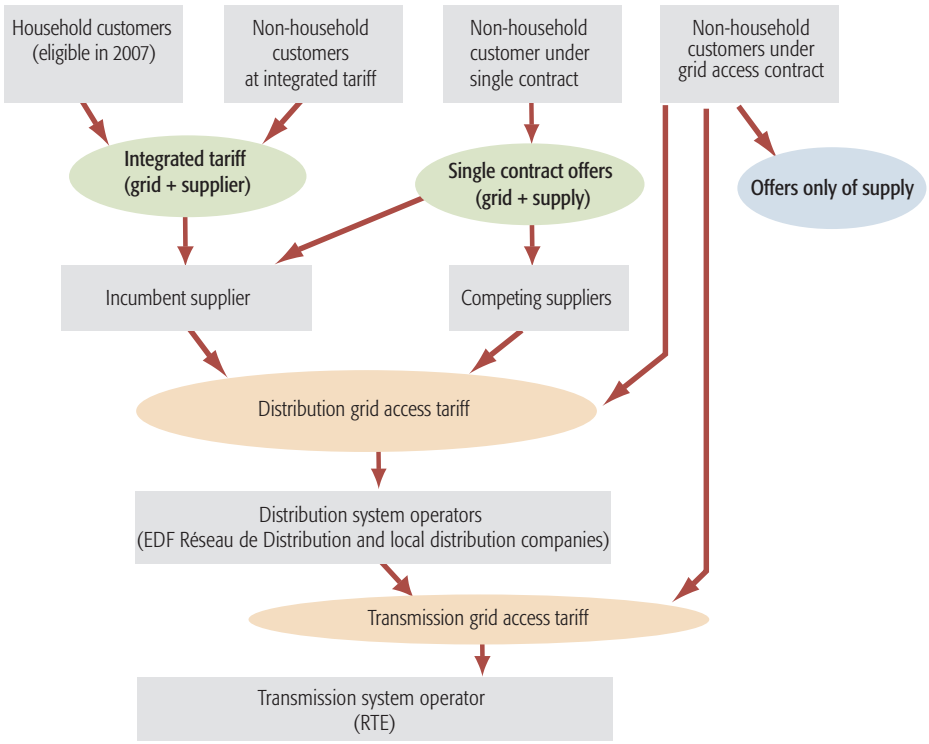
The law of 13 July 2005 amended article 4 of the law of 10 February 2000. Henceforth, CRE's proposal is applied two months after being transmitted to the Ministers for Economy and for Energy, unless one of the Ministers voices their opposition within this period of time. This new procedure, used for the second pricing proposal sent to the Government on 29 July 2005, enabled CRE's proposal to be much more promptly approved. New tariffs for use of public electricity transmission and distribution grids were enforced on 1 January 2006.

2 › Improved transparency and pricing rules

A ›› Distinction between management and metering components

Grid operators carry out activities which are different in nature and for which it is technically possible to separate costs. Activities of grid development, operation and maintenance can be distinguished from activities of flow measurement and metering and from activities of management of contracts with

› **Figure 48: Flowchart of financial inflows related to tariffs for use of public electricity transmission and distribution grids depending on the type of contractual relations between consumers and suppliers**



Sources: CRE (2006)

grid users. This distinction makes it possible to define the various pricing components for recovering these separable costs in order to improve tariff transparency for users. Unlike previous tariffs, this distinction can henceforth highlight trends over time in cost effectiveness of the different activities of grid operators.

The tariff applied as from 1 January 2006 identified:

- contract management component which is billed in euros per year, depending on the type of contract (single contract or grid access contract);
- metering component (including rental, maintenance, inspection and reading costs), the amount of which depends on metering services requested by the user;
- pricing components related to use of grid infrastructures and based on accounting costs of grid elements related to the different levels of voltage required to provide effective services for every user.

Detailed billing enables users to have a more precise understanding of what they pay for contract management, metering-related activities and use of infrastructures, to which they are connected.

B ›› Setting up of grid utilisation tariff calculators

With the same aim of improving information provided to grid users, CRE has deemed it necessary to facilitate simulation of the calculation of new tariffs and the choice of those most suited to their situation. For this purpose CRE has put a grid tariff calculator on its website.

This tool identifies the part of the electricity bill coming under use of public transmission and distribution grids. It also fulfils the following needs:

- for customers with a single contract, the calculator makes it possible to check the choice of pricing option made on their behalf by their supplier and the amount of the "grid use" part billed;
- for customers with a distribution grid access contract (CARD) or transmission grid access contract (CART), the calculator provides information useful for the choice of their pricing option;
- for consumers who have remained at the integrated tariff, the calculator assesses the "grid use" part of their bill and deduces the supply part which is likely to be affected by competition between suppliers.

C ›› Improved formulation of rules

Experience feedback on application of the initial pricing rules and settlement of disputes submitted to CRE, highlighted the need to define certain terms and notions. For this purpose, a section of definitions has been inserted in the new rules. It provides definitions useful for the proper application of these rules, such as notions of connection point, complementary and emergency power supply as well as pricing applicable to the various voltage ranges. The content of the various pricing components has been defined, such as metering activities and management of contractual relations between users and grid operators.

3 › Changing grid operator charges

In order to draw up its pricing proposal, CRE based itself on the findings of audits conducted on EDF's unbundled accounts for the financial years 2000 and 2002, and on the accounts for 2003. In addition, the pricing proposal takes into account changes in sector organisation when the non-household segment was opened up to competition on 1 July 2004:

- 20% of customer relation management costs borne by grid operators, with the remainder paid for by suppliers who have signed a single contract;
- possibility offered to users of requesting installation of metering systems more suited to their needs and owning their metering device;
- cover of costs related to the setting up of balancing responsible entity and profiling mechanisms for users with a connection point;
- billing by public grid operators, in keeping with a public price band, which is transparent and applicable without discrimination, of additional services, whose costs were previously partially included in regulated tariffs, without the legal status of these services being clearly defined.

The proposal takes into account changes made by the regulation of 26 June 2003 and the law of 9 August 2004. These involve assets included in the transmission and distribution scopes, the amount of pension costs borne by grid operators and revenue from the congestion management mechanisms at international interconnections.

CRE assessed the forecast revenues and expenses of the public transmission grid for the period 2006 to 2007. However, only the year 2006 was the subject of forecasts for the public distribution grids. This method was adopted due to modifications in organisation and operating modes expected in 2007 when the supply of household customers is open to competition.

A ›› Balance of revenues and expenses

The level of forecast expenses is the one resulting from the activity of grid operators to fulfil their public service assignments and recorded in these operators' accounts. These can be broken down into operating costs required for the smooth running and maintenance of infrastructures (personnel costs, external purchases, etc) and capital costs (return on and depreciation of assets used for transmission and distribution activities).

Some of the operating costs occupy a particular place just as much for their importance for electrical system safety as for the level of grid tariffs:

- losses: compensation of losses during power transmission on electrical lines (thermal and magnetic effects) places transmission and distribution system operators amongst the country's main consumers. In compliance with articles 11.6 and 14.5 of the directive of 26 June 2003, this energy is purchased "in line with transparent non-discriminatory procedures based on market rules". Within the general context of rising electricity prices, this cost heading has soared over the past few years and currently accounts for more than 10% of grid operators' costs;
- system services: the transmission grid is responsible for system safety and is therefore obliged to maintain grid frequency and voltage. In order to do so, RTE has concluded contracts with power plants for the supply of control means accounting for 7% of its costs.

Setting of the level of tariffs takes into account all revenue forecast for grid operators. Revenue from external and additional services contributes to the cover of costs and is incorporated to set the level of tariffs. Revenue from auctions at international interconnections lowers the level of transmission tariffs for the benefit of all users.

This overall control of revenues and expenses enables results forecast of grid infrastructure monopolies to be checked.

B ›› ROA of 7.25%

Return on assets (ROA) is a significant determining factor for investment in regulated activities. It is composed of the product of the total amount of the regulated asset base (RAB) multiplied by the rate of ROA, corresponding to the weighted average cost of capital employed. The amount thus calculated is added to the expenses forecast for grid operators in order to set the level of grid tariffs.

For transmission, the value of RTE's regulated asset base corresponds to the net book value of its assets as at 1 January of the year reduced by third-party stakes in the financial year's investments. Its amount as at 1 January 2006 was 10.799 M€.

For distribution, the regulated asset base reflects the book value of franchised assets and takes into account particularities related to the existence of public distribution franchise schemes.

For the tariff applicable as from 1 January 2006, the RAB value of EDF Réseau de Distribution (ERD) was calculated based on the net book value of fixed assets reduced by initial franchise financing as at 31 December 2004.

The whole amount of assets deployed as from 1 January 2005 was incorporated in the regulated asset base. On the other hand, capital costs are reduced by the amount of franchise financing for the year. The amount of ERD's regulated asset base estimated as at 1 January 2006 and adopted for setting the level of tariff was 26.324 M€.

Rate of return on the asset base is valued using weighted average cost of capital (WACC) for the duration of tariff validity it was set at a nominal pre-tax rate of 7.25% for RTE and ERD, against 6.5% for the previous period.

This rate of return is within the band of other European regulators' practices. The highest rates mostly result from incentive schemes for the development of productivity of grid operators which assume the highest risks.

C ›› Productivity gains of 3% on expenses forecast

Grid operators benefit from a situation of monopoly and are therefore not under any competitive pressure to lower their costs. In compliance with article 4 of the regulation of 26 June 2003, CRE wishes to incorporate costs "correspon-

ding to those of an efficient network operator". It has therefore asked grid operators to make productivity gains during the period of application of the proposed pricing rules.

These productivity gains take the form of a general reduction of 3% applied to the total forecast costs proposed by system operators. The cost assessment basis used to calculate this general reduction is defined as the sum of personnel costs and external consumption. Capital costs resulting from investments are therefore not concerned.

D ›› Expenses and revenues clawback account (CRCP)

Given the duration of application planned for tariffs of around two years, CRE determined them based on hypotheses of short-term changes in revenues and expenses. Even in the short term, certain categories of revenues and expenses may change affected by external factors, the effects of which cannot be completely controlled by public grid operators.

This is the reason why CRE has set up the expenses and revenues clawback account, which is an extra-accounting trustee account, to incorporate uncertainty surrounding these revenues and expenses during assessment of the financial effects of these tariffs.

CRE considered that costs related to compensation for losses on public electricity grids, that income related to congestion management mechanisms at interconnections of the transmission grid with neighbouring countries and that revenues from additional services, are difficult for the system operators to control and forecast, thus justifying their incorporation in the expenses and revenues clawback account.

Furthermore, capital costs taken into account in the tariff aim to reflect investments made in application of investment procedures and regulations applicable to public transmission and distribution grids. These capital costs are therefore eligible for inclusion in the expenses and revenues clawback account for the part not forecast by CRE under depreciations of and return on the regulated asset base.

E ›› Pricing level guaranteeing quality

Quality of service provided by public electricity grids is the return for payment of the tariff for use of these grids. This quality is dependent on appropriate investments to ensure long-term viability of public electricity grids. Experience feedback from foreign countries shows that high return on the regulated asset base does not guarantee that these investments are made.

In a sector of activity using assets with a very long lifetime, mechanisms need to be set up to encourage regulated companies to distribute cash flow fairly between dividends to shareholders and investments.

Forecast investments announced by RTE amount to 915 M€ in 2006 and 845 M€ in 2007. Owing to the approval mechanism for annual investment programmes provided for by article 14 of the law of 10 February 2000, CRE possesses detailed information on the application of these funds.

ERD has announced forecast investments of 2300 M€ in 2006, the year taken as a reference, composed of 1500 M€ financed by ERD and 800 M€ financed by third parties. These amounts are in keeping with the amounts spent in previous years. On the other hand, contrary to the case of RTE, CRE does not yet have data related to relevance of the application of funds for distribution.

The level adopted for tariffs cannot constitute a curb to making appropriate investments, even if they are higher than those planned by grid operators and incorporated by CRE at the time of tariff calculation.

Investments are written off over several decades and are consequently recovered over a period much longer than the duration of application planned for this tariff. In its next pricing proposals, CRE will take into account trends in capital costs resulting from actual investments (for example, a rise in investments related to variations in regulatory restrictions occurring during the past regulation period).

4 › Electricity transmission tariffs

For the public transmission grid, to which fewer than a thousand users are connected, usually industrial sites and more than 2300 substations supplying distribution grids, prices paid by users the sum of tariffs and the employee pricing contribution (CTA [6]), set up by the law of 9 August 2004, generally remain stable.

This stability generally recovers a slight drop in the level of HTB1 voltage and a slight rise in the level of HTB2. voltage. These trends were mainly due to improved understanding of actual costs incurred by the transmission grid since the drawing up of the initial tariff in 2001. Furthermore, factors causing a drop in unit transmission prices, such as increased quantities transmitted, only compensate for the rise in prices required for the grid operator to balance out technical losses resulting from grid operations.

(6) CTA – employee pricing contribution – is a sum paid by transmission and distribution grid users, which is set up by the law of 9 August 2004 reforming pension schemes for electricity and gas industries. This contribution must finance pension rights not covered by basic and complementary schemes. The CTA only involves rights acquired as at 31 December 2004 and excludes rights subsequent to this date.

5 › Electricity distribution tariffs

A ›› Fall in low voltage tariffs and wider range of options offered to users

Prices paid by users, the sum of tariffs applicable to distribution grids and the CTA, averaged a drop of 8% (excluding additional services).

As a whole, grid tariffs for medium voltage remained stable whereas low voltage tariffs fell sharply.

Amongst the new features of this tariff, the introduction of an option known as "medium-term utilisation" is worth mentioning. This option concerns the smallest users with a relatively significant rate of use of subscribed power but who do not have particular needs during off-peak night hours. Simplicity of the withdrawal component part, which depends on consumed energy, endows this option with greater neutrality than the energy billing mechanisms which energy suppliers may want to use. This pricing option should facilitate the appearance of new commercial offers made by suppliers.

The new pricing structure which distinguishes contract management, metering and withdrawal enables users to benefit from a wider choice of tariffs to better fulfil the diversity of observed needs.

B ›› Equalisation of distribution tariffs requires an appropriate tool

The tariff for use of public electricity grids was based on the cost structure of ERD, which services more than 95% of the national territory and those of RTE which covers 100% of France. As required by article 1 of the law of 10 February 2000, the tariff is uniform throughout the territory (geographical equalisation). However, local distribution company(LDCs) costs may be higher or lower than the national average.

Local distribution companies operating in rural areas, with significant grid lengths in geographically taxing zones and servicing a low number of subscribers per kilometre of line naturally incur costs higher than the national average, irrespective of the quality of their management.

The electricity equalisation fund (FPE) has been set up to distribute surcharges and surplus revenue between LDCs, who must all apply the same tariff even if their costs differ. This fund currently amounts to 7 M€ and should be revalued to incorporate consequences of the application of the new tariff.

The FPE must logically change in keeping with tariffs for grid utilisation. Certain LDCs amass their resources from the difference between the regulated low voltage tariff which they bill to their customers and the medium voltage tariff which they have to pay to access the grid. If this "gross margin" is no longer sufficient to cover the costs of these LDCs, the FPE system needs to be changed accordingly.

3_ Electricity metering systems

1 › Metering – a multi-purpose activity

Articles 15-IV and 19-III of the law of 10 February 2000 state that each grid operator must carry out the metering operations required to fulfil their role. This results in public electricity grid operators having to manage a vast set of measuring and control devices installed on their systems. In practice, these devices ensure the collection and transmission of three complementary categories of information:

- information on data for correctly applying the tariff for use of public electricity transmission and distribution grids;
- information for control of balance between generation and demand required for grid safety;
- information on quantities of energy sold by suppliers.

The meters currently installed in France have purposes closely related to the billing of the electricity retail tariff applied by incumbent operators (EDF and LDCs) to non-eligible customers and customers who have not exercised their eligibility. This metering duty was entrusted to grid operators by article 19 in the model of franchise specifications for the public electricity distribution service and by article 13 of EDF's public policy for the general supply grid (RAG).

The latest European Community texts provide incentives for adopting more flexible tools for changeover to real-time management of demand (directive of 18 January 2006), and to provide users with information on the time when the energy was consumed and present bills more frequently based on actual consumption (common stance (CE) 34/2005 adopted by the Council on 23 September 2005).

2 › Metering – crucial to electricity distribution

Concurrently with the opening up of the electricity markets, new needs for improved quantity and transmission frequency of data collected by measuring and control devices installed on electricity grids, have arisen.

These needs result from grid users' desire to control their energy consumption and have a better understanding of the origins of their outlay with more precise billing. The latest technologies in the field of metering enable these needs to be satisfied at a reasonable cost.

In its deliberations of 10 January 2006, CRE asked the GTE 2007 to compile, in the first quarter of 2006, draft specifications for a technical-economic study aimed at quantifying the benefits of migrating current metering equipment to electronic meters with load curve and remote meter reading (incorporating trends of devices for remote cut-off and remote changes in subscribed power observed in several countries).

French distribution grid equipment, mainly composed of electro-mechanical meters read manually – in the best case scenario every six months for most DSOs –, would be incapable of satisfying the new requirements appearing in the European Community texts, mentioned on page 80 if these requirements were to be legally enforced. Moreover, implementation of these requirements would imply adaptation of public grid operators' information systems, which would need to be studied to incorporate new needs caused by mass customer exercise of eligibility and multiplication of documents for switching suppliers.

The whole chain, composed of the meter, reading system and information system, is concerned and must be developed for distribution grids over the coming years.

3 › Renewal of RTE's stock of meters

RTE has presented its policy for renewal of metering equipment within the framework of the investment programme submitted to CRE for approval on an annual basis. The regulator has noticed that the technical arrangements adopted by RTE are in compliance with guidelines incorporated in CRE's deliberations of 29 January 2004 and with the functional specifications appended.

CRE also reckons that the technical-economic items submitted on that occasion are based on a relevant analysis and it approved the outlay in its deliberation of 1 December 2005, related to RTE's investment programme for 2006.

4_ CRE's monitoring of the quality of service of public electricity grids

1 › Setting up of activity reports

A ›› Quality of distribution grids

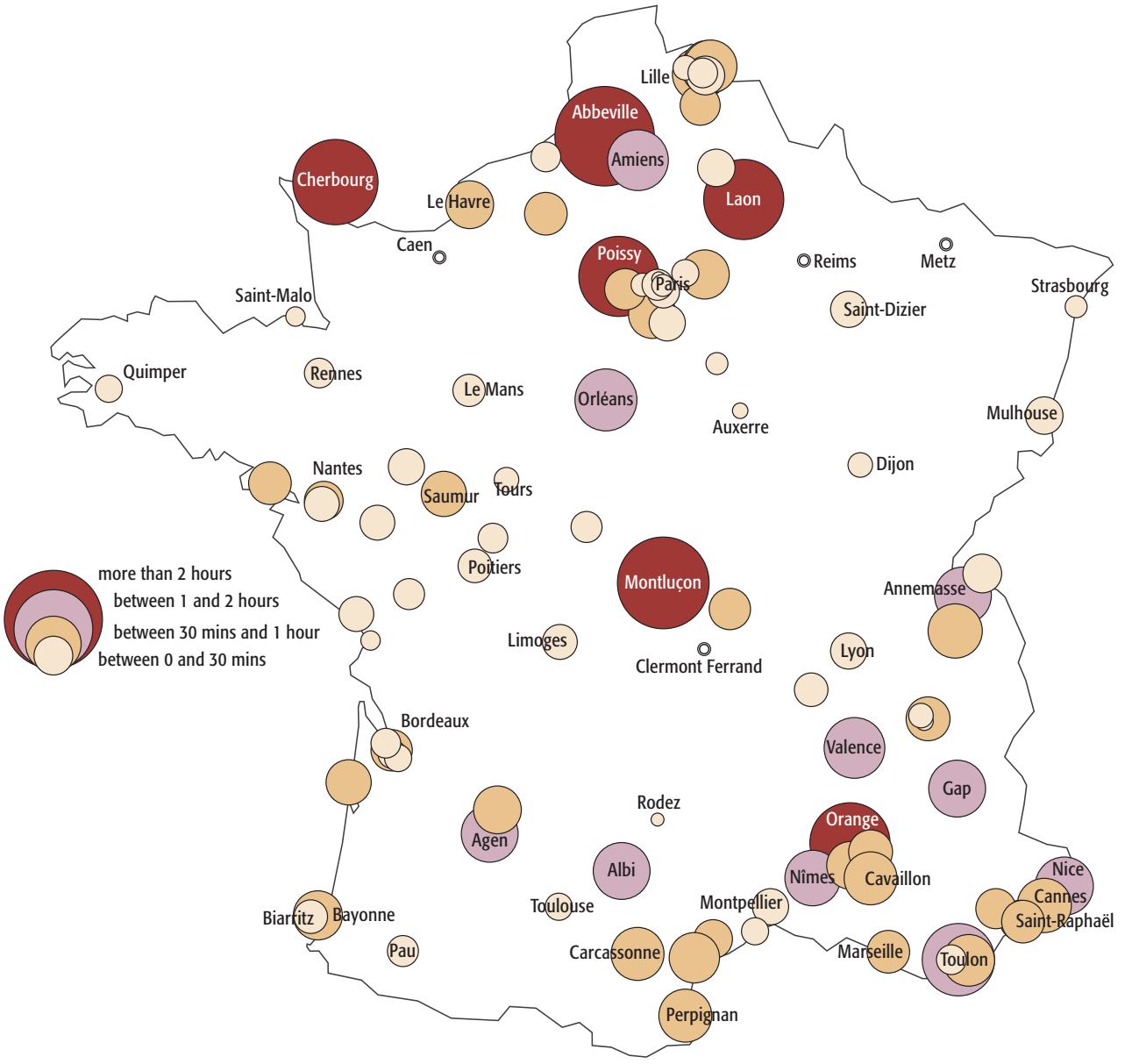
Assessment of the quality of service of public electricity grids must be based on objective, quantified and verifiable elements. For this purpose, since December 2003, CRE has drawn up an activity report containing a set of indicators to be periodically filled in by grid operators. Given the specific problems related to the bulk of information to be processed, the priority was given to activities work in collaboration with ERD, the main French DSO. The content of the activity report was defined in October 2005. The monitoring indicators were broken down into five topics:

- knowledge of distribution assets including description of grid and customer status and physical development of grid infrastructures;
- continuity of supply and power quality;
- quality of distributor service, including connection conditions, routine management of contracts and commitments related to a set of quality parameters and monitoring of metering activities;
- distribution losses;
- trends in revenues and expenses, including those specific to the electricity distribution business as well as fixed assets and grid investments.

These indicators are not significant at the national level and are therefore mostly filled in at the appropriate level (region or franchise). This facilitates detection of zones where quality of service needs improving and this observation is used to encourage investment in these areas. Initial analysis of the data at franchised area level provided by ERD for the financial year 2004 is illustrated by figures 49 and 50.

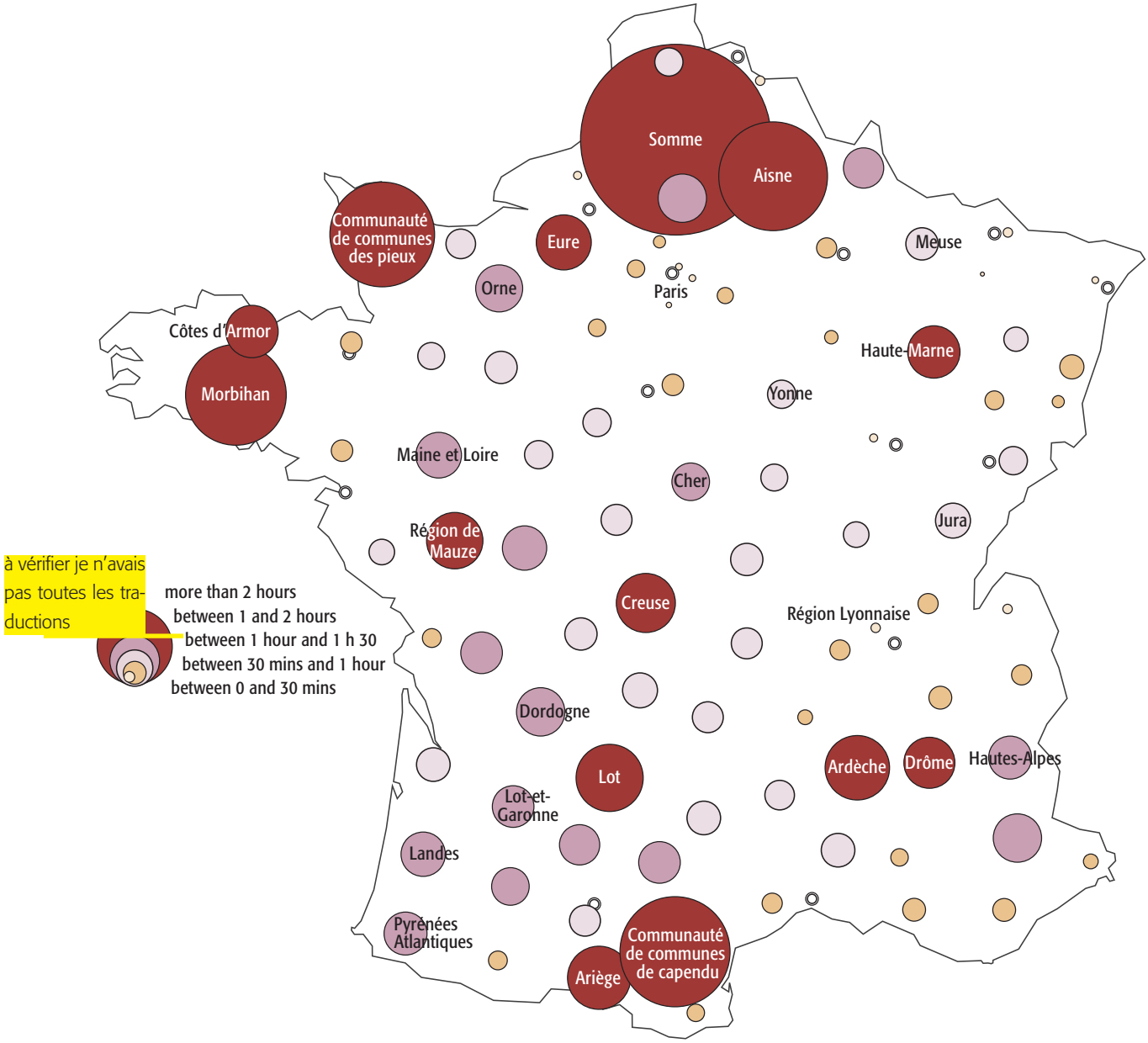
Conditions for setting up a similar report for the main LDCs are currently being examined by CRE.

› **Figure 49: Average System Interruption Duration Index (SAIDI) in the main French cities (LV customers, all long interruptions, including exceptional events)**



Source: CRE (2006)

› **Figure 50: Average System Interruption Duration Index (SAIDI) in the main French departmental franchises (LV customers, all long interruptions, including exceptional events)**



à vérifier je n'avais pas toutes les traductions

Source: CRE (2006)

B ›› Quality of the transmission grid

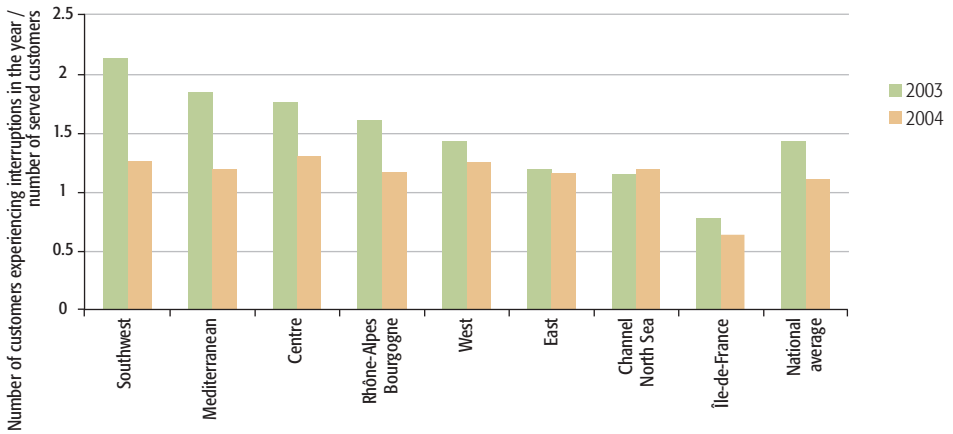
Since 2001, CRE has been collecting data describing the performance of the public electricity transmission grid. RTE's activity report was improved in 2005, with the monitoring of indicators related to its seven regions of territorial organisation and now includes monitoring of significant system events (ESS) classified by gravity.

2 › Improved analysis of quality of service

Activity reports provide practical, reliable tools for CRE to be able to improve its knowledge of overall performance of public grids concerning quality and its trend over time (Figures 51 and 52). These results will be incorporated in international benchmarking carried out for quality of service of European grids.

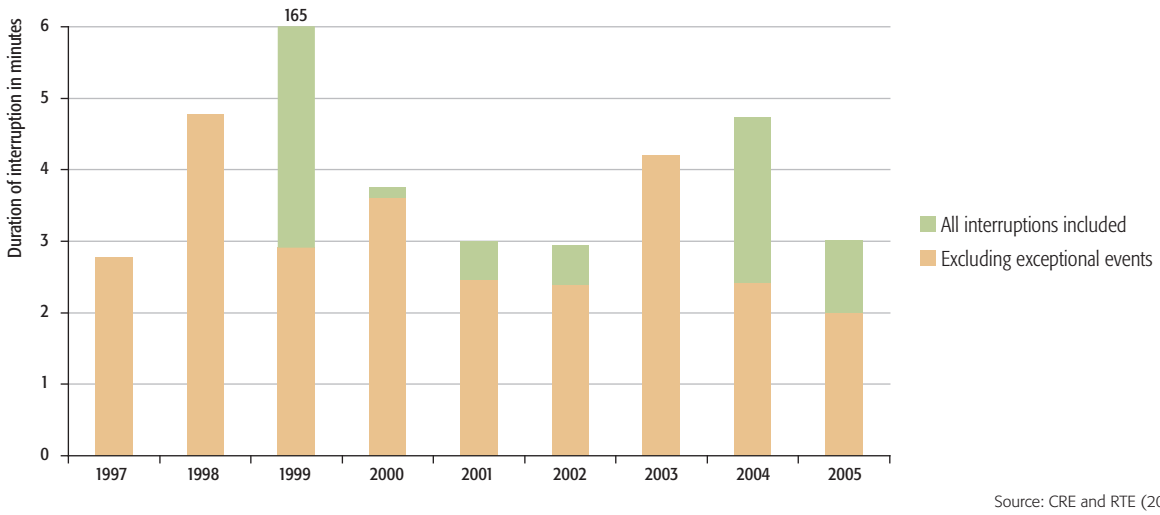
In addition, they provide CRE with the possibility of determining relevant objectives for levels of quality of service and parameters of economic mechanisms for incentive-based regulation of grid operators. This development is foreseen in the appendix to the pricing decision of 23 September 2005 (chapter III-B-2 c), which states that "[…] CRE will apply incentive-based regulation to the financial benefit of [public electricity grid operators] for the improvement of their levels of quality of supply and of service". This system will be "included in the proposal it will make [and] which should come into force at the beginning of 2008". In order to do so, CRE will base itself on the experience of systems already in place in other European countries. These reports will also provide CRE with useful components for drafting opinions and proposals to be issued concerning the regulation of levels of quality to be complied with by public grid operators.

› Figure 51: comparison of the Average System Interruption Frequency Indexes (SAIFI) on distribution grids operated by EDF (LV customers, all long interruptions, including exceptional events)



Source: CRE and ERD (2005)

› Figure 52: Average Interruption Time (AIT) evolution on RTE's public transmission grid



Source: CRE and RTE (2006)

3 › Draft regulations on quality of service on the cards

Article 60 of the law of 13 July 2005 supplementing the law of 10 February 2000 with a new article 21-1 makes provision for a decree setting out "levels of quality and technical requirements for quality which must be complied with by the public transmission system operator and public distribution system operators". The law stipulates that "the corresponding levels of quality required may be modulated by geographical area". This modulation requires knowledge of the actual data on a more restricted scale than the national one.

The law also makes provision for another decree concerning "refundable fines", which the franchising authority could impose on public distribution system operators in case of non-compliance with the quality requirements set by the future regulation.

In order to be useful, these texts must adopt criteria comprehensible for grid users which should be supplemented by the introduction of consistent contractual agreements for quality in order to protect the user concerned against any drop in levels of quality in certain areas.

It is now necessary to speed up the process of drafting these texts in order to provide grid operators with all the information concerning their obligations towards users of their grids.

4 › CRE involved in CEER's Quality of Service Task Force

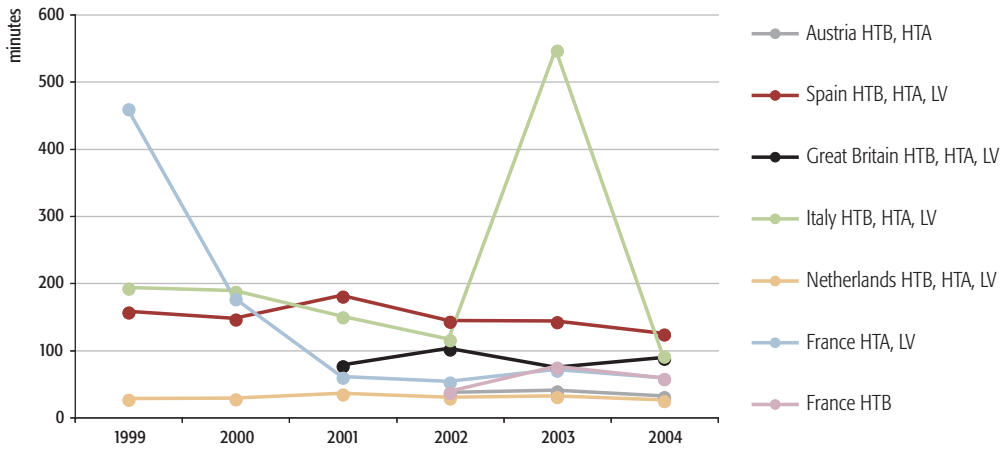
In 2005, CEER's Quality of Service Task Force published its 3rd Benchmarking Report on Quality of Electricity Supply, continuing on from the first two reports published in 2001 and 2003. These documents established benchmarking of levels of quality (commercial quality and continuity of supply) between European electricity distribution grids (Figure 53). The third report contributes to the improvement of work embarked upon by regulators in several fields:

- a wider sample is studied, with the number of participating countries going up from 6 in 2001 to 20 in 2005;
- Benchmarking of levels of quality performance on electricity transmission grids is now carried out in addition to that of distribution grids;
- for the first time it includes benchmarking of the various incentive-based mechanisms of quality regulation currently deployed in Europe (Table 9).

The report is widely distributed and is to be presented at international conferences and at seminars. CEER is thus intent on improving transparency of information on the current performance of the various electricity grids and foster standardisation of quality regulation measures and systems in Europe.

European regulators have set themselves the objectives of drawing up a practical guide to help countries intending to set up an incentive-based quality regulation system, the revision of standard EN 50160 (power quality) together with CENELEC, and a report on management of exceptional events within the framework of quality regulation. These objectives should be attained in 2006. Within this framework, CRE was put in charge of drawing up the CEER practical guide for incentive-based quality regulation together with the Florence School of Regulation (FSR).

› Figure 53: Comparison of Average System Interruption Duration Indexes (SAIDI) in Europe (all long interruptions, including exceptional events)



Source: CEER (2005)

Table 9: Comparison of practices adopted by the main European countries, which have set up incentive-based regulation of quality of service

Topic	Italy	Norway	Great Britain	Hungary	Spain
Recording requirements	Compulsory guidance set by the regulator	Scheme agreed by distribution companies	Compulsory guidance set by the regulator	Compulsory guidance set by the regulator	Compulsory guidance set by the Ministry
Measured indicators	Interruptions planned and unplanned; long, short and transient; at all voltage levels	Interruptions planned and unplanned; long, short and transient; only >1kV	Interruptions planned and unplanned; long and short; at all voltage levels	Interruptions planned and unplanned; only long; at all voltage levels	Interruptions planned and unplanned; only long; only >1kV
Type of continuity regulations	Link with tariff (Duration); worst-served customers (Number; only MV customers, starting 2006)	Link with tariff (Energy Not Supplied)	Link with tariff (Duration; Number; Telephone response); worst-served customers (Duration)	Penalty system (Number); Link with tariff (Duration	Worst-served customers (Duration; Number). Special investment plans for areas with low quality
Scope for regulation	Only unplanned interruptions	Planned and unplanned interruptions	Planned and unplanned interruptions	Only unplanned interruptions	Only unplanned interruptions
Regulated indicators	SAIDI (Customer minutes lost), SAIFI (Customer interruptions)	ENS (Energy not supplied)	SAIDI (Customer minutes lost), SAIFI (Customer interruptions)	SAIDI (Customer minutes lost), SAIFI (Customer interruptions)	TIEPI, NIEPI, 80% percentiles TIEPI and NIEPI
Exclusion of events	Force majeure excluded; strictly defined until 2003; statistical method from 2004 (on choice). Third parties damages excluded until 2004; included (on choice) from 2005, revised targets	Force majeure and third parties damages not excluded	Companies can request the exclusion of exceptional single incidents. Third parties damages not excluded	Public calamity and events beyond technical limits excluded; third parties damages excluded	Force majeure exclue and third parties damages excluded
Incentives and penalties	Symmetric; based on customers' surveys since 2005	Symmetric; based on customers' surveys	Asymmetric; based on customers' surveys since 2005	Asymmetric	Asymmetric; based on cost of energy multiplied by a factor K
Duration of regulation period	4 years (2000-2003; 2004-2007)	5 years	3 years (2002-2005, introduced mid-period), then 5 years.	3 years	Indefinite

Source: CEER *(Third benchmarking report on quality of electricity supply 2005)*

5 › Changes still need to be made to UCTE's Operation Handbook

In compliance with the request expressed by participants of the 9th and 10th Florence forums, the Union for the Coordination of Transmission of Electricity (UCTE) embarked upon reform of its rules to ensure operational safety of the interconnected electrical system within the new context born of opening up of the electricity market. This approach was supported by the drawing up of an operation handbook and the preparation of a contractual framework aimed at ensuring opposability of rules.

During the 11th Florence forum held in September 2004, CEER announced its intention to work with transmission system operators and the European Commission on the setting up of a framework ensuring operational safety of the European electricity system. Six meetings were held between September 2004 and June 2005, attended by representatives of the European Commission, UCTE and ERGEG, so as to discuss the contents of the operation handbook and means of application. CRE took part in these meetings where ERGEG was represented by the System Operation Task Force.

At the 12th Florence forum held in September 2005, ERGEG presented its findings and recommendations concerning the work carried out by UCTE. It highlighted persistent shortfalls in the contents of the first chapters of the operation handbook, which did not incorporate survey reports published by UCTE and by regulators further to the blackout occurring in Italy on 28 September 2003. Then, ERGEG observed that the contractual framework, the multilateral agreement (MLA), set up between sole transmission system operators to ensure opposability of rules did not constitute significant progress. This MLA is still mainly based on the voluntary nature of compliance with its contents. The System Operation Task Force reminded the audience of the need for checking application of rules using a process with credibility based on its independence and transparency.

Since the 12th Florence forum, UCTE has not presented any significant progress despite deadlines announced at the time. The work embarked upon by ERGEG, along with the European Commission and TSOs, will focus on the need to change UCTE's rules. For this purpose, regulators contribute to European Commission reflections on the drawing up of European guidelines for electricity grid safety and reliability, which would then be applied to all synchronous systems.

5_ Approval of RTE's investment programme

In application of article 14 of the law of 10 February 2000, RTE submits its investment programme to CRE for approval on an annual basis.

1 › Investment programme presented by RTE for 2006

In its deliberation of 1 December 2005, CRE approved RTE's investment programme for 2006. The total approved outlay amounted to 682 M€, up by 17% against that of the programme for 2005 (Figure 54).

A ›› Four large-scale projects for very high voltage structures launched in 2006

Planned investment in the very high voltage grid (225 kV and 400 kV), including interconnections, rose by 39% to 159 M€ for 2006, compared to 2005. Works on several large-scale projects have got under way this year:

- construction of the Boutre - Broc-Carros line, enabling most of the Provence-Alpes-Côte d'Azur region to be consolidated;
- construction of the double line of Vigy-Marlenheim;
- reconstruction of the Chaffard-Grande-Île line;
- works for security of supply in the Bassin Annecien and construction of the Biançon substation.

B ›› Interconnections with neighbouring grids

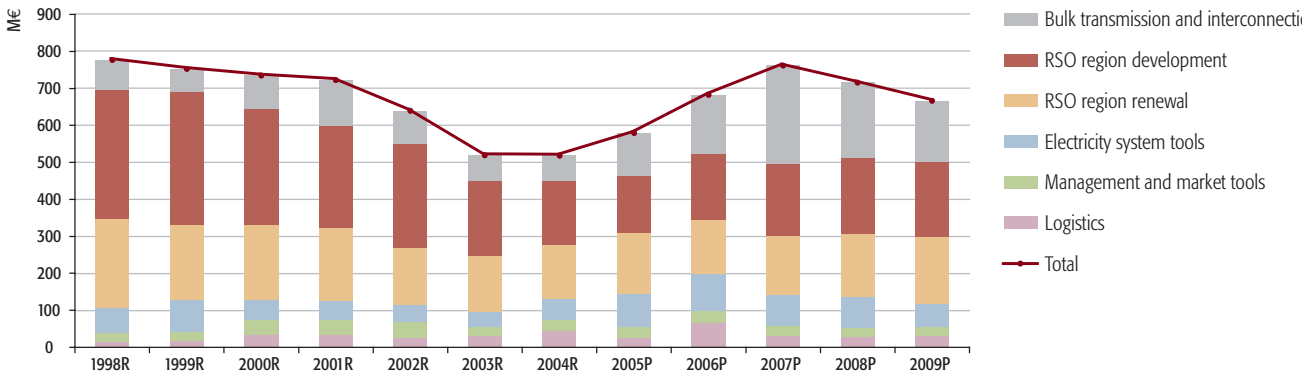
Apart from the France-Spain interconnection, no significant development project for interconnections with neighbouring countries is currently planned by RTE for the years 2006, 2007, 2008 and 2009. Given the persistence of recurrent congestion phenomena at interconnection structures, this situation is incompatible with the aim of setting up a single European electricity market.

C ›› Projects for high voltage structures

Spending related to grids known as "regional" (voltage lower than 225 kV) amounted to 326 M€ and is stable compared to 2005. However, the outlay of 149 M€ planned by RTE for renewals went down by 11%, to a lower level than the average amount which resulted from studies on long-term developments of its grid conducted by RTE in 2003.

Confirmation of this trend has resulted in CRE questioning the relevance of the renewal investment drive embarked upon by RTE. Article 23 of the directive of 26 June 2003 states that the regulator shall ensure that investments required for long-term grid viability are actually made. This is why CRE requested that RTE update the studies that it had previously carried out on renewal needs and present the results at the time of approval of the investment programme for 2007.

› Figure 54: Investments made over the 1998-2004period (R), forecast for 2005-2009 (P)period



Source: CRE (2005)

D ›› Electricity system tools

RTE is planning to invest 98 M€ to continue developing computer tools assigned to the electrical system. The 11% increase in spending in this category, compared to 2005, mainly resulted from deployment of a vast fibre optic network to improve overall transmission grid safety.

E ›› Management and electricity market tools

This cost heading, corresponding to management information systems and tools made available to electricity market players, was stable at 32 M€. Projects aiming to improve customer and market management accounted for 52% of this budget.

F ›› Logistics

Spending on logistics tripled to 67 M€, due to purchase of 285 houses occupied by on-call operating staff from GGF(EDF's property subsidiary) by RTE.

2 › Continued rise in project unit costs

In previous years CRE had noticed an inflationist tendency in unit costs of bulk transmission projects and, in 2005, these unit costs continued to rise (Figure 55).

In this way, the cost of the Boutre-Broc-Carros project, estimated at 74 M€ in 2001 currently amounts to 193 M€. The Chaffard-Grande-Île project has seen its budget soar from 73 M€ to 115 M€. Finally, the cost of the Vigy-Marlenheim line initially assessed at 69 M€ is now estimated by RTE at 143 M€.

This situation resulted, in December 2005, in CRE asking RTE for a study on unit costs of its investments in the public electricity transmission grid. The results should provide:

- better assessment of actual investments made by RTE;
- explanation of the causes of this inflation (trends in supplier prices, strengthening of technical standards and modification of composition granted within the framework of local consultation).

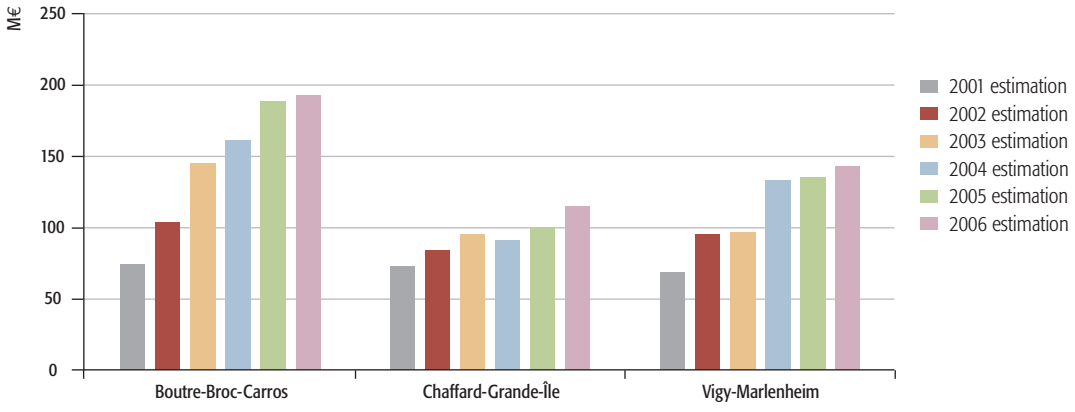
3 › Performance objectives for the public electricity transmission grid still to be completed

A ›› Several fields of performance to be reviewed

In compliance with article 14 of the law of 10 February 2000, investment spending made by RTE must enable the duties of public transmission grid operations and maintenance to be fulfilled:

- maintain a high level of power system safety at national level through balancing injections and withdrawals in real time and adapting very high voltage grids to long-term trends in flows;
- ensure security of supply in each region, through developing high voltage grids in zones where likelihood of power cuts is the highest;
- deliver quality electricity at connection points in compliance with contractual commitments;
- maintain grids under operating conditions through heavy-duty maintenance, restoration or renewal of the most obsolete structures;
- connect generators, public distribution grids and consumers under transparent and non-discriminatory terms;

› **Figure 55: Trends in the budget for RTE's three main unvestment projects over the period 2001-2006**



Source: CRE (2006)

- develop interconnections with neighbouring grids to speed up the merger of European markets and increase capacities of mutual aid;
- improve economic performance of the public transmission grid measured in terms of congestions and losses.

B ›› Further definition of current and forecast performance indicators for the public transmission grid

In order to monitor the extent of progress in duties entrusted to RTE, in its deliberation of 24 November 2004, CRE had asked the TSO to submit a precise and quantified definition of objectives, which RTE has set itself, concerning levels of safety, security and quality of supply to users. These indicators will thus enable the current and forecast status of the public transmission grid to be described.

Indicators are currently in place in the fields of power system safety, and security and quality of supply. Criteria for measuring performance forecast in the fields of maintaining operating conditions, connection and economic performance of the system are currently being compiled.

C ›› Need for a study of constraints and reinforcement requirements of the public transmission grid in the north of France

The region's geographical situation makes its grids strategic to the development of international energy exchanges required by the setting up of the internal electricity market. In its deliberation of 24 November 2004, CRE had asked RTE for a study of public transmission grid constraints and reinforcement requirements in the north of France.

However, the study submitted by RTE in 2005 was incomplete. It did not provide for incorporation of trends in international electricity exchanges, needs for removal of existing generation capacity in this zone and fresh applications for connection to both the public transmission grid and public distribution grids.

In its deliberation of 1 December 2005, CRE asked for another more complete study incorporating constraints for the whole public transmission grid, caused by existing and future generation capacity and reinforcement requirements in the north of France, to be submitted at the end of 2006.

4 › Strategic vision required to develop the electricity transmission grid

The process of electricity market liberalisation must not reduce the level of security of electricity supply. TSO investment projects for the grid affect this security of supply in the short, medium and long term. The directive of 18 January 2006 stipulates Member States' obligations in this matter.

As concerns the transmission grid, it is necessary to check that electricity supply matches demand, both existing and planned for periods of five to fifteen years. This is based on assessment of investment projects for such deadlines planned by the national TSO and by any other party concerning availability of cross-border interconnection capacities. This assumes development of cooperation with border countries' transmission system operators.

In order to reach such an objective of prospective vision of the status of the transmission grid and its capacity to reach security of supply targets as outlined by the directive of 18 January 2006 in a safe and cost-effective way, relevant deadlines should be scheduled. For this purpose, the development scheme provided for by article 14 of the law of 10 February 2000 and defined by the Ministerial circular of 9 September 2002, does not resolve this issue in a satisfactory manner. This scheme is not actually aimed at describing possible technical-economical solutions to remove constraints identified in each region, except for projects currently in consultation or regulatory study stage.

CRE asked RTE to put its annual grid investment programmes into perspective, so that these programmes can be better assessed for targets of performance expected from the transmission grid.

6_ Improvement in terms for access to public electricity grids

1 › Technical and financial rules applicable to connection of equipment to public electricity grids

Article 37 of the law of 10 February 2000 gave CRE the jurisdiction for stipulating rules governing terms for connection and access to public electricity transmission and distribution grids as well as their utilisation. In application of article 38 of the same law, CRE also intervenes for settlement of disputes, with its rulings creating jurisprudence, which contributes to overseeing the grid operators' policy for processing connection applications.

Technical rules applicable to connection of facilities to public electricity grids are laid down by the decree of 13 March 2003, the decree of 27 June 2003, their application orders and CRE's decision of the 7 April 2004 on the setting up of technical guidelines for public electricity grid operators.

A ›› Costs of public electricity grid connection borne by users

Users participate in the costs of connecting their facilities to the public grid and this contribution must be calculated on the basis of the most cost-effective connection scheme, given the technical characteristics of their equipment.

Connection of a facility to the public electricity grid includes reinforcement of the existing public grid, if need be, and construction of any missing structures required between the public grid and the new installation.

In application of article 2 of the decree of 26 April 2001, the costs for public grid reinforcement are included in the tariff for public grid use and therefore cannot be posted to facilities when they are connected.

Costs of new structures are distributed in compliance with the provisions of article 61 of the law of 2 July 2003 (amending articles 4, 14 and 18 of the law of 10 February 2000). For public distribution grids, these provisions stipulate that:

- tariffs for grid use should cover part of the connection costs, with the remainder, not covered by tariffs, being subject to a contribution paid by the connection owner;
- this contribution can be calculated on the basis of scales;
- these scales are set according to principles jointly decided upon by the Ministers for the Economy and Industry after consulting the organisations representing managing authorities and obtaining CRE approval.

For the public transmission grid, article 61 also stipulates that the connection applicant pay a contribution calculated on the basis of scales set in compliance with principles jointly decided upon by the Ministers for the Economy and Industry upon CRE proposal. As at 1 June 2006, the corresponding texts had not yet been published.

In its pricing proposal, CRE checks that grid operators do not receive an amount higher than the cost of construction of equipment necessary for connection to public grids, by the combined application of the tariff for public grid use, urban planning fiscal concerns and direct billing to the connection applicant.

The applicant's financial contribution should only take into account works which are strictly necessary for the connection of their facility to the concerned public grid. Use of existing public transmission or distribution grid structures should only give rise to the user's financial participation if it is necessary to upgrade them.

If, within the framework of their grid development strategy, grid operators choose to make a connection which is different from the most cost-effective connection strictly necessary for installation, they must bear the resulting surcharges.

B ›› Definition of connection to public electricity grids

Article 63 of the law of 13 July 2005 (adding article 23-1 to the law of 10 February 2000) stipulates that a decree will specify the composition of junction and extension structures contained in the connection of a user to the public electricity grids. As at 1 June 2006, this decree had not yet been published.

In order to prevent litigation arising from a suspicion of discrimination, the decree must limit the extension and junction (to the low voltage supply) to the establishment of the line to connect the nearest point on the public grid with a voltage range equal to or lower than the reference connection voltage of the new installation, in application of article 3 of the decree of 13 March 2003 and article 4 of the decree of 27 June 2003.

2 › Technical guidelines for public electricity grid operators

Regulations in force are unable to cover all technical measures pertaining to public electricity transmission and distribution grids. This is why CRE decided on 7 April 2004, based on article 37 of the law of 10 February 2000, to impose publication of technical guidelines by public electricity system operators. The purpose of this decision was to foster objectivity, transparency and non-discrimination in relations between users and public electricity system operators. Publication of these technical guidelines serves a double purpose:

- facilitate users' understanding of the regulations;
- present in-house standards and methods applied by grid operators likely to affect connection and operations of users' facilities.

On 30 June 2005, the deadline set for publication of technical guidelines, CRE observed that the main public grid operators (including RTE and ERD) had published a document in response to CRE's decision. After reviewing these documents, on 26 October 2005, CRE released a statement analysing the grid operators' publications where CRE pointed out deviations from the programme set out in its decision of 7 April 2004.

CRE deems it necessary to promptly complete drafting of the technical guidelines in compliance with this decision. It will check that the required amendments have been made to the initial published documents, as should be the case for functional specifications for metering, measurement of quality and exchange of operational information, as well as for contract and agreement templates.

ERD has accepted to provide LDCs, upon request, with all the documents making up its technical guidelines. There is therefore no obstacle preventing all public distribution system operators from publishing their technical guidelines. In its missive of 26 October 2005, CRE reminded grid operators that it should be kept informed of work on drafting, updating and publishing technical guidelines.

In the second quarter of 2006, a public consultation was launched to measure consequences of the setting up of technical guidelines and their advantage for public grid users. Information from this consultation will enable CRE to make an assessment of the implementation of its decision of 7 April 2004 and prepare follow-up actions.

3 › Modified public grid access contracts

A » Changes to grid access contracts

In 2005, CRE reviewed the templates of contracts proposed by grid operators. This review resulted in improvement of these templates in compliance with principles laid down by CRE (transparency of contractual relations, freedom of user choice of contractual system, equality of rights and obligations, whatever the system chosen, and consistency of access contracts). These contract templates also had to be adapted to the new pricing rules adopted by the decision of 23 September 2005.

Clarity of the contractual system is a constant concern for CRE and one which is also shared by DSOs.

a_ Distribution

In the field of distribution, prior existence of DSO-supplier contracts (GRD-F) is necessary for the conclusion of "single contracts" between suppliers and small-sized consumers and simplifies administrative procedures. DSO-supplier contract templates have only been drawn up by certain DSOs so that it was impossible for them to be standardised. This situation has resulted in administrative complication for suppliers entering the competitive market and constituted an obstacle to gaining new markets shares. However, CRE has ensured that suppliers can obtain existing DSO-supplier contracts and sign them by deadlines which are compatible with the negotiation of their supply contracts with end consumers. CRE checks that grid operators treat all suppliers equally without discrimination during the contract template discussion phase. Emphasis has been put on the procedure for switching suppliers and financial guaranties requested of suppliers by grid operators.

In 2005, ERD worked with CRE on an initial phase of modification of all its access contract templates (CARD HTA, CARD BT (low voltage), CRAE and GRD-F contracts) in order to incorporate the application of fresh pricing rules on 1 January 2006. Most of the proposed contract templates were published by ERD in 2005 in its technical guidelines.

This initial phase enabled ERD to work, at CRE's request, on consistency of the various contract templates for the distribution grid. The CARD contractual system has been structured around the access contract, connection agreement and, if necessary, operating agreement. The notion of contractual scope

has been defined. Drafting of contractual stipulations has been standardised across the different CARD templates (withdrawal, injection, and mixed use) and, henceforth, grid users' rights and obligations appear to be similar. Legibility and transparency of these contract templates have been improved.

b_ Transmission

Contract templates proposed by RTE have been revised incorporating application of the rules as from 1 January 2006, so as to keep grid users better informed. The work carried out with CRE enabled RTE to propose contract templates incorporating the fresh pricing provisions in December 2005. Users concerned had sufficient time to adapt their grid access contracts despite the complexity of most facilities connected to the transmission grid. The proposed contract templates were published in RTE's technical guidelines.

As for the case of distribution, definition of a consistent framework for its contractual system has been embarked upon by RTE. The CART contractual system has been structured around the access contract, connection agreement and, if necessary, operating agreement. The contractual scope has been defined especially for the generator grid access system. Consistency across all contract templates has been reviewed by RTE and CRE, in order to create a core of identical provisions applicable to all grid users, whatever their status.

c_ Relations with LDCs

RTE and ERD have worked under CRE's supervision on preparing contract templates formalising access to the LDC grids connected to them.

In 2005, a transitional contract was drawn up by ERD adapted to the decree of 27 January 2005 governing tariffs for the sale of electricity to LDCs and pricing rules for grid use adopted by the decision of 23 September 2005. Based on this transitional contract, grid access has been billed in keeping with the fresh pricing rules since 1 January 2006.

As regards the transmission grid, in 2005, only around ten LDCs signed the transitional contract proposed by RTE for backdated application of the pricing rules in force. However, RTE stated that invoices established in application of these rules were honoured by all LDCs connected to the TSO.

Discussions between grid operators have still not resolved issues pertaining to organisation of their bilateral relations:

- compatibility between commitments of continuity and quality of service of grid operators to each other and grid operators to grid users;
- methods for applying article 6 of the decree of 26 April 2001, which covers the consequences of grid failure in the event of interruption of supply;
- LDC commitments concerning the level of disturbance caused by their grids acceptable to RTE and ERD;
- terms and methods of payment of transmission invoices by LDCs.

Grid operators reckon that definitive contract templates will be completed in the second half of 2006. In application of article 23 of the law of 10 February 2000, signed contracts must be submitted to CRE.

Work undertaken with grid operators to improve the current templates will continue in 2006, in order to incorporate the opening of the household market on 1 July 2007. Contracts must be adapted to the specificities of this new category of eligible customers and to the specific protection from which they are to benefit.

B ›› Changes to "system services" participation contracts

Articles 15-II and 15-III of the law of 10 February 2000 state that: "the TSO shall ensure at any time the balance between generation and demand on the grid as well as the security, safety and performance of this grid". It also "ensures the availability and provision of services and reserves required for grid operations".

System services are products compiled by RTE from elementary contributions mainly provided by generators: ancillary services. They are necessary for maintenance of grid frequency, voltage and stability. They are of benefit to all users whatever the level of voltage to which they are connected. The cost is borne by users in tariffs for use of public grids, in compliance with article 2 of the decree of 26 April 2001.

In France, no regulatory provision obliges generators to provide ancillary services. The decree of 27 June 2003 and its application order of 4 July 2003, which lay down the technical design and operating requirements for connection of an electricity gen-

eration facility to the public transmission grid, only oblige generators to connect equipment with technical capacities enabling them to provide ancillary services. In order to deploy the "system services" deemed necessary by RTE, it concludes contracts with the concerned parties, who receive payment in return for participation. Article 15-III of the law of 10 February 2000 stipulates that the public transmission system operator "shall freely negotiate [these] contracts with generators and suppliers of their choice […], in compliance with such competitive procedures as public consultations and resort to organised markets".

2005 saw the negotiation and signature of new contracts with the three main generators (EDF, CNR and SNET) for a period of three years, replacing those which expired on 31 December 2004. Application of these contracts was postponed to the second quarter of 2005 due to significant developments, including checking of the effective participation of generators in frequency and voltage control. Studies prior to application provided better knowledge of actual generation group performance.

CRE incorporated trends in the cost of ancillary services resulting from negotiation of these new contracts in its tariff proposal for use of public grids. It ensured that no contractual provision causes discrimination of potential participants.

In 2002, CRE along with RTE set up a mechanism for regular transmission of information to monitor the cost of ancillary services and constitution of associated reserves of a sufficient level. This mechanism has been adapted to modifications made to the new contracts.

7_ Standard specifications for the public electricity transmission grid

1 › Urgent need for new standard specifications for the public transmission grid

Article 12-II of the law of 10 February 2000 states that: "the public transmission system operator shall fulfil their mission under terms laid down by standard franchise specifications approved by the State Council decree, after approval by the Commission de Régulation de l'Énergie."

The purpose of such a text is to organise relations between the State and the franchisee and, due to the fact that it has been approved by State Council decree, act as a reference for establishment of relations between the franchisee and public transmission grid users.

CRE drew the government's attention to the obsolescence or lapsing of provisions in the standard specifications of the franchise to Électricité de France of the general electricity supply grid, approved by the decree of 23 December 1994, given legislative and regulatory changes resulting from opening up of the electricity market to competition. Furthermore, the French public electricity transmission system operator has become a limited company with capital totally held by EDF. Adoption of standard franchise specifications specifically covering the activities of this new company is now urgent.

2 › Adaptation of standard specifications to the fresh electricity transmission context

Within the framework of its regulation remit, CRE measured the range of expectations of the various categories of public transmission grid users. In France, as is the case abroad, the role of TSOs is essential to the setting up of an internal electricity market. Franchise specifications for the public transmission grid must incorporate this new European Community dimension, of which virtually no mention is made in the text currently in force.

A ›› Impact of new transmission specifications on other activities

The main purpose of standard franchise specifications for the public electricity transmission grid is to define the franchisee's remit. Articles 14, 15, 23 and 23-1 of the law of 10 February 2000 define the TSO's remit concerning grid operation, maintenance and development as well as open access for the various categories of users. EDF's franchise for the general electricity supply grid currently involves both energy transmission and supply. The franchise granted to the TSO can no longer involve just electricity transmission.

Given the overlapping of provisions governing transmission and supply in the standard specifications, approved by the decree of 23 December 1994, its repeal seems inevitable.

Replacement texts must cover discharge of missions provided for by article 2-III of the law of 10 February 2000 and purchase of energy from autonomous generators provided for by article 27 of the general supply grid specifications. Indeed, these duties do not really fall to the TSO.

Moreover, the franchise agreement template for the public electricity distribution service of 1992 (articles 16, 19 and 22) states that provisions applicable to customers serviced by the general supply grid are applicable to customers with a high voltage supply from the public electricity distribution grid. For the benefit of grid users, repeal of the decree of 23 December 1994 must not remove standardisation of terms for treating customers supplied with high voltage, whether they are serviced by electricity distribution franchise or public transmission grid franchise. Based on article L. 2224-31 of the general code for local councils, standard specifications can effectively impose a modification, along these lines, to electricity distribution franchise specifications.

Adoption of new public transmission specifications must not discriminate for grid access between customers at the integrated tariff and customers who have exercised their eligibility. Guarantee of the absence of discrimination can only be provided by an appropriate modification to supply contracts at the integrated tariff.

B ›› Application of relevant European Community and national texts by specifications

Due to its technical characteristics and impact on intra-community energy exchanges, electricity transmission is now an activity incorporating a significant community component. This is why standard franchise specifications for the public transmission grid must incorporate European directives and regulations governing electricity transmission issues. The list of these texts includes the directive of 18 January 2006 governing measures to guarantee security of electricity supply and investment in infrastructures.

Development of interconnections and management of exchanges must be handled in keeping with requirements of the 26 June 2003 regulation, with direct application to grid access terms for cross-border electricity changes.

Franchisees should:

- set up mechanisms for information exchange and coordination to ensure grid safety for congestion management, in compliance with point 1 in article 5 of the regulation of 26 June 2003;
- publish the scheduling, operating and safety standards that they use, which must be submitted to the regulator for prior approval, in compliance with point 2 in article 5 of the regulation;
- discharge certain obligations concerning interconnection congestion management (procedures for allocation, corrective restriction of transactions, compensation, and incentives for better use of maximum interconnection capacities, designed in a non-discriminatory manner and based on market mechanisms).

Standard specifications must also fulfil the requirements of point 4 in article 23 of the directive of 26 June 2003, which allow the regulator to ask the grid operator to modify "if necessary, the terms and conditions, tariffs, rules, mechanisms and methodologies […]" in this field.

The text must be compatible with requirements incorporated in point 1 in article 4 of the directive of 18 January 2006 concerning the need to share information amongst European grid operators. These requirements focus on cooperation regarding transfer capacities, supply of information and modelling of electricity transmission grids.

Article 4-1 of the directive of 18 January 2006 imposes consultation of the "concerned parties" in interconnected countries for the drawing up of rules and cooperation with TSOs in interconnected countries which should be incorporated in the franchisee's obligations.

Article 4-2 obliges TSOs to determine transparent and non-discriminatory quality and safety objectives, submit them to the appropriate authorities for approval, and make them public.

Procedures for public transmission grid connection must comply with provisions in the directive of 26 June 2003, of which point 1 in article 23 states that regulatory authorities "shall, through the application of this Article at least be responsible for ensuring non-discrimination, effective competition and the efficient functioning of the market, monitoring in particular: […] the time taken by transmission and distribution firms to make connections and repairs […]" and in point 2 that: "The regulatory authorities shall be responsible for fixing or approving, prior to

their coming into effect, at least the methodologies used to calculate or establish the terms and conditions for: connection and access to national networks […]".

CRE must approve the rules established by the public transmission system operator or lay down those which would take their place. This interpretation of article 23 of the directive of 26 June 2003 is that of the European Commission in its report on the state of progress of the setting up of the internal gas and electricity market for 2005.

C › Specifications protecting grid users' legitimate rights

The general principles of grid user protection are described in paragraphs e) and f) in article 9 of the directive of 26 June 2003, and the users concerned are defined in article 2-18. Specifications must therefore provide for grid user protection in keeping with these principles.

In order to do so, the text must lay down the content and methods of transmitting information to be communicated by the franchisee to connection applicants so that the latter can benefit from effective grid access. Negotiation of connection terms requires provision of exhaustive information to applicants concerning grid capacity, including notification of the short-circuit power of each substation.

The text must comply with article 20-2 of the directive of 26 June 2003, which obliges grid operators to notify connection applicants of any relevant information concerning measures required to reinforce the grid, if necessary, based on a reasonable fee reflecting the cost of provision of this information. The text must state that all transmission grid users know the level of quality to which they have the right. A simple way of achieving this is that they can benefit from quantitative contractual commitments based on quality recorded at their facility connection points in the past. In order to check compliance, a simple obligation of providing users with information should be incorporated. The franchisee, which undoubtedly has this information, must provide each user with an annual report on quality observed at connection points.

Consequences of the franchisee infringing their contractual commitments must be clearly defined in the text. In such a case, the grid operator must compensate users based on the damage caused. Due to information imbalance between the franchisee and grid users, any clause of an all inclusive compensation for loss must be discounted.

8_ Balancing mechanism

Article 15-1 of the law of 10 February 2000 states that "the public transmission system operator shall ensure at any time balance of electricity flows on the grid, as well as security, safety and effectiveness of this grid, taking into account any grid-related technical constraints."

In order to fulfil this mission in keeping with non-discriminatory and transparent procedures bringing the competition into play between sources of supply, a balancing mechanism was set up on 1 April 2003 by RTE under CRE's control. Article 15-2 of the law of 10 February 2000 states that "the Commission de régulation de l'énergie shall approve, prior to implementation, the rules for presenting programmes, balancing bids and offers as well as the criteria for choosing from the balancing bids and offers submitted to the public transmission system operator."

Article 15-3 of the same law states that "the public transmission system operator […] may, given observed deviations from programmes […] and balancing-related costs, ask concerned users for financial compensation or allocate this to them. The Commission de régulation de l'énergie shall approve the methods for calculating imbalances and financial compensations."

All these rules and methods are grouped together in "Rules on programming, the balancing mechanism and recovery of balancing charges" (hereafter referred to as the Rules) published by RTE after CRE's approval.

Since the start-up of the balancing mechanism, these Rules have been updated every year to incorporate experience feed-

Inset 25: Directive of 26 June 2003
Article 23 "Regulatory authorities"

1_ Member States shall designate one or more competent bodies with the function of regulatory authorities. These authorities shall be wholly independent from the interests of the electricity industry. They shall, through the application of this Article, at least be responsible for ensuring non-discrimination, effective competition and the efficient functioning of the market, monitoring in particular:

a) the rules on the management and allocation of interconnection capacity, in conjunction with the regulatory authority or authorities of those Member States with which interconnection exists;

b) any mechanisms to deal with congested capacity within the national electricity system;

c) the time taken by transmission and distribution undertakings to make connections and repairs;

d) the publication of appropriate information by transmission and distribution system operators concerning interconnectors, grid usage and capacity allocation to interested parties, taking into account the need to treat non-aggregated information as commercially confidential;

e) the effective unbundling of accounts, as referred to in Article 19, to ensure that there are no cross subsidies between generation, transmission, distribution and supply activities;

f) the terms, conditions and tariffs for connecting new producers of electricity to guarantee that these are objective, transparent and non-discriminatory, in particular taking full account of the costs and benefits of the various renewable energy sources technologies, distributed generation and combined heat and power;

g) the extent to which transmission and distribution system operators fulfil their tasks in accordance with Articles 9 and 14;

h) the level of transparency and competition.

The authorities established pursuant to this Article shall publish an annual report on the outcome of their monitoring activities referred to in points (a) to (h).

2_ The regulatory authorities shall be responsible for fixing or approving, prior to their entry into force, at least the methodologies used to calculate or establish the terms and conditions for:

a) connection and access to national networks, including transmission and distribution tariffs. These tariffs, or methodologies, shall allow the necessary investments in the networks to be carried out in a manner allowing these investments to ensure the viability of the networks;

b) the provision of balancing services.

3_ Notwithstanding paragraph 2, Member States may provide that the regulatory authorities shall submit, for formal decision, to the relevant body in the Member State the tariffs or at least the methodologies referred to in that paragraph as well as the modifications in paragraph 4. The relevant body shall, in such a case, have the power to either approve or reject a draft decision submitted by the regulatory authority. These tariffs or the methodologies or modifications thereto shall be published together with the decision on formal adoption. Any formal rejection of a draft decision shall also be published, including its justification.

4_ Regulatory authorities shall have the authority to require transmission and distribution system operators, if necessary, to modify the terms and conditions, tariffs, rules, mechanisms and methodologies referred to in paragraphs 1, 2 and 3, to ensure that they are proportionate and applied in a non-discriminatory manner.

5_ Any party having a complaint against a transmission or distribution system operator with respect to the issues mentioned in paragraphs 1, 2 and 4 May refer the complaint to the regulatory authority which, acting as dispute settlement authority, shall issue a decision within two months after receipt of the complaint. This period may be extended by two months where additional information is sought by the regulatory authority. This period may be further extended with the agreement of the complainant. Such a decision shall have binding effect unless and until overruled on appeal.
Where a complaint concerns connection tariffs for major new generation facilities, the two-month period may be extended by the regulatory authority.

6_ Any party who is affected and has a right to complain concerning a decision on methodologies taken pursuant to paragraphs 2, 3 or 4 or, where the regulatory authority has a duty to consult, concerning the proposed methodologies, may, at the latest within two months, or a shorter time period as provided by Member States, following publication of the decision or proposal for a decision, submit a complaint for review. Such a complaint shall not have suspensive effect.

7_ Member States shall take measures to ensure that regulatory authorities are able to carry out their duties referred to in paragraphs 1 to 5 in an efficient and expeditious manner.

8_ Member States shall create appropriate and efficient mechanisms for regulation, control and transparency so as to avoid any abuse of a dominant position, in particular to the detriment of consumers, and any predatory behaviour. These mechanisms shall take account of the provisions of the Treaty, and in particular Article 82 thereof.
Until 2010, the relevant authorities of the Member States shall provide, by 31 July of each year, in conformity with competition law, the Commission with a report on market dominance, predatory and anti competitive behaviour. This report shall, in addition, review the changing ownership patterns and any practical measures taken at national level to ensure a sufficient variety of market actors or practical measures taken to enhance interconnection and competition. From 2010 onwards, the relevant authorities shall provide such a report every two years.

9_ Member States shall ensure that the appropriate measures are taken, including administrative action or criminal proceedings in conformity with their national law, against the natural or legal persons responsible where confidentiality rules imposed by this Directive have not been respected.

10_ In the event of cross border disputes, the deciding regulatory authority shall be the regulatory authority which has jurisdiction in respect of the system operator which refuses use of, or access to, the system.

11_ Complaints referred to in paragraphs 5 and 6 shall be without prejudice to the exercise of rights of appeal under Community and national law.

12_ National regulatory authorities shall contribute to the development of the internal market and of a level playing field by cooperating with each other and with the Commission in a transparent manner.

back and participants' observations. The modifications made have increased flexibility provided to operators for the scheduling of their physical and commercial positions, providing that the safety and effectiveness of electricity system operations are preserved.

In its deliberations of 17 March 2005, CRE asked RTE to study along with the concerned parties improvements to be made to the balancing mechanism in order to:

- develop its capacity to encourage operators to perform in a cost-effective manner without adversely affecting operational safety;
- make it compatible with balancing mechanisms in neighbouring countries, with a view to further integration of electricity markets in Europe.

After reviewing the proposals submitted by RTE and holding hearings with the main concerned parties, CRE asked RTE to conduct further studies as described in its communication of 22 March 2006. The new rules submitted to CRE for approval in June 2006 incorporate the initial results of these studies.

1 › Experience feedback applied to the first three years of balancing mechanism operations

A ›› Increased flexibility provided to operators to balance their position and reduced balancing needs

In order to enable RTE to fulfil its mission, obligations have been established, when the balancing mechanism was started up, for the various parties to submit generation and supply programmes. These constraints limit participants' flexibility to rebalance their position after generation or consumption problems or to set up fresh commercial transactions close to real time. This is why these constraints have been gradually reduced while still enabling RTE to fulfil its mission of guaranteeing operational safety of the electricity system. After an operator has modified its position, it is necessary to leave RTE sufficient time to enable it to take the technical measures for removal of any imbalances still affecting the system after this modification.

Modifications of operators' programmes are only taken into account at certain times known as gate closures, and can only take effect once a period of neutralisation has elapsed after these gate closures.

The three scheduling headings:

- generation scheduling
- scheduling of interconnection exchanges
- scheduling of block exchanges

are affected by these procedures, whose constraints have gradually been relaxed. Table 10 presents changes in generation scheduling constraints as well as the maximum duration required for operators to rebalance their position by themselves (i.e. by modifying the generation programme of their own generation groups) since the start-up of the balancing mechanism on 1 April 2003.

This increased flexibility has enabled operators to reduce their own imbalances and therefore those who RTE must face (Figure 56). Improvement remains necessary to encourage participants to perform more efficiently without adversely affecting operational safety (cf. page 100).

Table 10: Changes in generation scheduling constraints

Modification of rules as at	Number of intraday gate closures	Neutralisation period	Maximum duration necessary for rebalancing
1er April 2003	6	3 h	7 h*
1er July 2004	7	3 h	6 h*
1er April 2005	12	2 h	4 h

* Approximation (gate closures unevenly spread throughout the day).

Source: CRE (2006)

B ›› Price peaks illustrating periods of strain on the electricity system and a robust mechanism able to face up to these situations

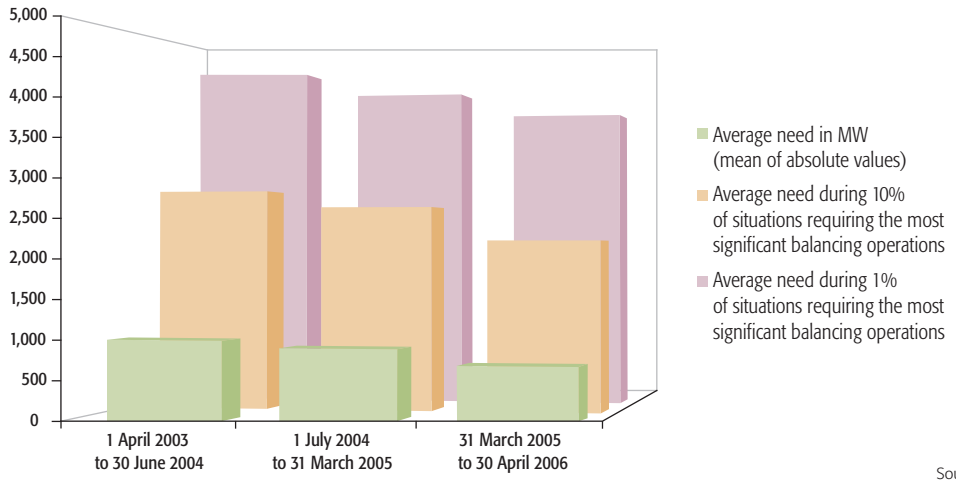
Imbalance between injections and withdrawals observed within each balancing responsible entity's scope gives rise to payment of an imbalance invoice to RTE. The purpose of this invoicing is to recover costs borne by RTE for implementing the balancing mechanism. There is therefore a direct relationship between the average balancing price deployed by RTE to resolve the general imbalance in the system and the one in prices paid by balancing responsible entities. It is possible to go from one to the other by applying a corrective factor called "K factor" designed to balance out mechanism income and outgoings which are subject to specific monitoring in RTE's accounts. The financial balance of the mechanism must ensure that the cost of system rebalancing is not covered by tariffs for grid use.

Since its activation, the mechanism has experienced several periods when imbalance prices were high (Figure 57):

- the heat wave in the summer of 2003 resulted in the rise in prices on the Powernext exchange, and given the mechanism design, the imbalance price reached record levels;
- in June 2004, drops in generation resulting from strikes held by EDF employees required to use expensive balancing offers;
- the cold spell in France from the end of February to the beginning of March 2005 caused significant price peaks resulting from the reduction in French electricity system margins;
- high temperatures along with strikes raised prices during the second half of June 2005;
- the prolonged cold spell in France in the winter of 2005-2006 kept prices at high levels.

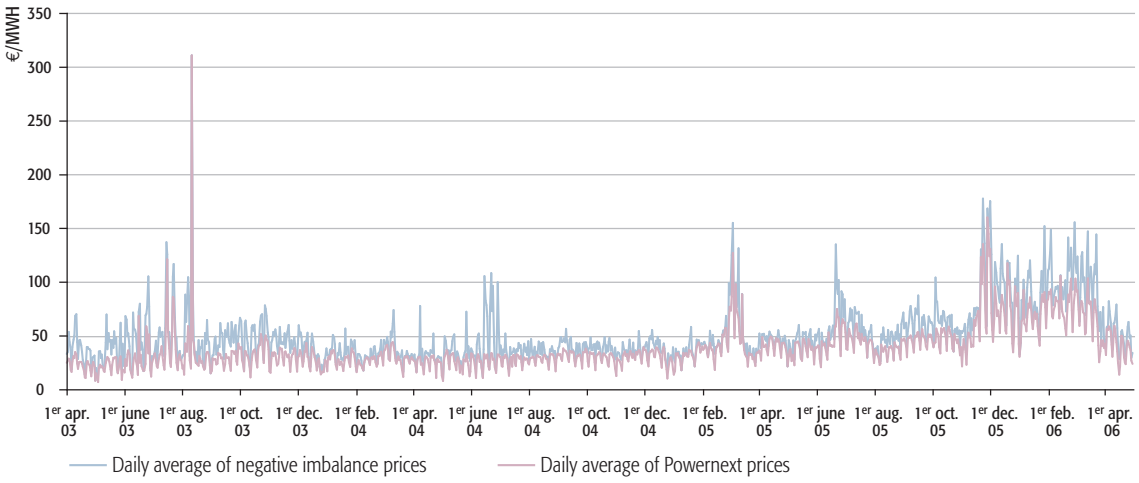
During these episodes, the balancing mechanism nevertheless demonstrated its sturdiness since the grid operator was able to maintain operational safety with overall cost control.

› Figure 56: Development of RTE's need for system balancing



Source: CRE and RTE (2006)

› Figure 57: Trends in Powernext prices and imbalance prices



Source: CRE calculation, based on data provided by RTE & Powernext (2006)

C ›› Helpful participation from foreign players

CRE requested that RTE ensure that the balancing mechanism is open to as wide a spossible competition and that the rules governing selection of offers are transparent and cost-effective.

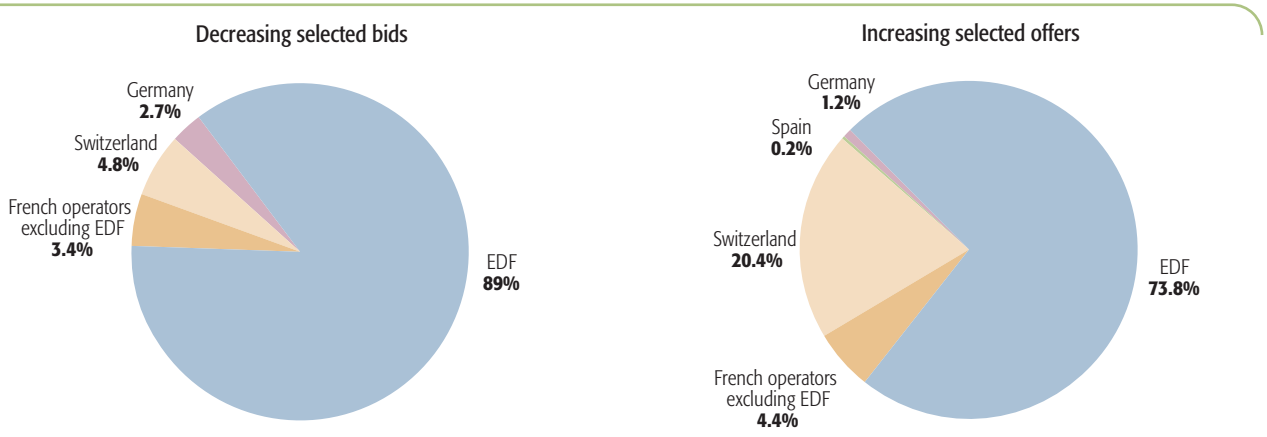
In order to facilitate achievement of these objectives, article 15-3 of the law of 10 February 2000 states that all French generators whose means of generation are technically appropriate to management of the generation-consumption balance must offer RTE their balancing capacity.

Participation of French consumers in the mechanism is possible but remains marginal. French transmission grid balancing requires short reaction time and duration of activation, thus making consumer capacity savings not economically viable unless during periods when prices are very high.

Given EDF's dominant position in generation throughout the French territory, CRE deemed it necessary for RTE to facilitate access to this mechanism for neighbouring countries' operators, when the balancing mechanism was set up. Since its start-up in April 2003, it has therefore been open to operators at the borders with Switzerland, and with England and Spain since November 2004 and with Germany since October 2005.

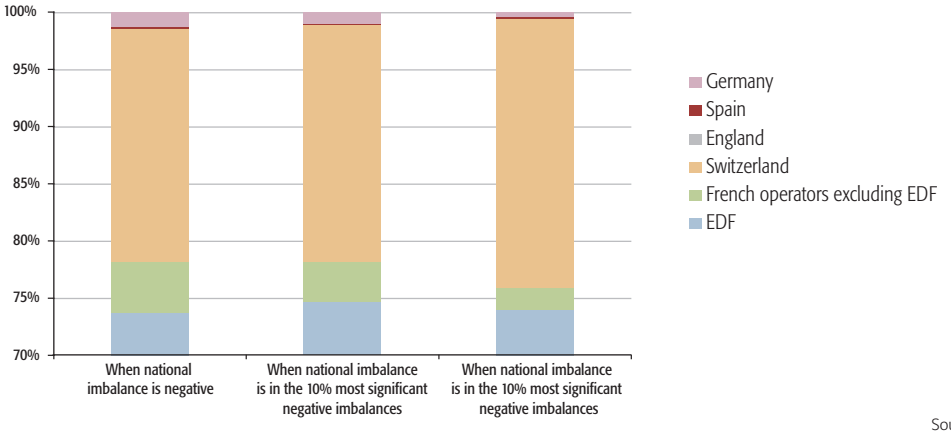
The model for balancing exchange used is based on foreign operators submitting their bids directly to RTE. Foreign operators must fulfil their obligations concerning scheduling to the TSO to which they are connected. In the case of the interconnection between England and France, they must also ensure that they have sufficient capacity for the exchange. These constraints explain the low contribution made by operators at the border with Spain, whereas exchanges with England are inexistent in practice. On the other hand, integrated operators at the border with Switzerland have played a significant role in the mechanism since its start-up. In the same way, operators at the border with Germany have been active since the mechanism has been open to them (Figures 58 and 59).

› Figure 58: Market share of balancing operators over October 2005 to February 2006 period



Source: CRE (2006)

› Figure 59: Market share of balancing operators, in periods of, negative national imbalance, over the October 2005 to February 2006 period



Source: CRE (2006)

Owing to these procedures, foreign operators' contribution increases when RTE is confronted with a national generation shortfall and a significant rise in balancing needs. Foreign operators' contribution helps to curb the rise in imbalance prices invoiced to French balancing responsible entities during these periods of strain and increase French electricity system safety with cost control.

D ›› Increased transparency

Since the beginning of the balancing mechanism, RTE has published such useful information on its website for balancing bidders and balancing responsible entities as forecast consumption and peak consumption margins, balancing trends and prices.

Since October 2004, these publications have been supplanted by a monthly report on the balancing mechanism summarising information on system needs, bids and offers selected by RTE and the financial results of the balancing mechanism.

Since the winter of 2005-2006, information provided to operators has been expanded with publication of the results of RTE's analysis of conditions forecast for winter.

E ›› Largely surplus financial results leading to redistribution of gains to balancing responsible entities

The balancing-imbalance account includes all revenues and expenses related to the balancing mechanism. So as not to affect the tariff for grid utilisation, this account must be as close as possible to being balanced. However, the balancing-imbalance account has been in the black since the start-up of this mechanism. Continuing accumulation of an account surplus would be unfair to balancing responsible entities. Consequently, in its deliberations of 17 March 2005, CRE requested that RTE redistribute the account surplus for 2003 and 2004 amongst the balancing responsible entities. Redistribution was carried out in March 2006, with 32 M€ in credit notes being issued to them.

2 › Balancing mechanism in need of improvement

A ›› CRE's deliberations of 17 March 2005 and definition of a target balancing mechanism

In its deliberations of 17 March 2005 concerning changes coming into effect on 1 April 2005, CRE requested that RTE "in December 2005, after consultation of members of the balancing mechanism operating committee (CFMA), propose changes to be made to the balancing mechanism over the next few years, in order to develop its capacity to encourage operators to perform in a cost-effective manner without adversely affecting operational safety and to make it compatible with European countries' balancing mechanisms, with the prospect of improving the integration of electricity markets".

B ›› RTE's proposals approved by CRE in its communication of 22 March 2006

RTE submitted proposals to CRE which gave rise to hearings held on 15 March 2006 with balancing mechanism bidders and market players involved in imbalance settlement in order to collect their opinions.

Given that RTE's proposals were in keeping with guidelines defined in its deliberations of 17 March 2005 and participants in the hearings did not voice any objections, CRE requested that RTE submit new draft rules for approval by 1 July 2006.

This new draft version must include the following amendments:

- Suppression of generation-consumption balancing orders placed on D-1
  RTE schedules certain balancing operations the day ahead to compensate for injection and withdrawal imbalance expected on its grid. This practice often results in cancellations of balancing orders close to real time, with the risk being transferred to balancing suppliers. It also results in balancing orders contrary to actual needs which, if they involve only slightly flexible means of generation, cannot be cancelled in time and engender further adjustments in the opposite direction and pointless costs.
- Increase to 24 intraday gate closures for generation scheduling and exchanges of blocks between balancing responsible entities
  Market players have 12 gate closures for generation scheduling and block exchanges. As the period of neutralisation incorporated in generation scheduling is two hours, a generator, victim of a generation problem, may have to wait for up to four hours to compensate for loss of a group. After an increase to 24 gate closures, operators will not be able to adjust their position even if it is technically possible for a maximum period of three hours, against around seven hours at the start-up of the mechanism in 2003.

- Suppression of the period of neutralisation imposed before exchange of blocks between balancing responsible entities

  Exchanges of blocks between balancing responsible entities are subject to a period of neutralisation of one hour. As block exchanges do not modify the national imbalance of the system and do not incur any risk for system safety, this period is to be suppressed.

C ›› Further studies requested from RTE

In its communication of 22 March 2006, CRE requested that RTE carry out additional work on the following topics:

- Mechanisms related to settlement of balancing supply and balancing responsible entitles' imbalances. RTE will study the following solutions by 1 May 2006:
  - possibility of publishing financial settlements related to congestionmanagement, by specifying the regions where constraints are removed, with the aim of improving information on constraints arising on the public transmission grid and needs for generation and transmission capacity caused;
  - solutions to re-establish balance of the balancing-imbalance account.

  RTE will contact the foreign TSOs in order to assess with them the risks which are likely to be caused by the differences between mechanisms for payment of balancing supply and imbalance settlement used in Europe
- Mechanisms for notification of operators' positions and implementation of balancing actions.

  RTE will study the following solutions by 1 October 2006:
  - possibility of allowing generators to compensate themselves for the effects of a generation problem occurring in their power plants, and to be exempt from the system of notification by gate closures;
  - impact of increased balancing possibilities for balancing responsible entities on the liquidity of the balancing mechanism and the reduction of opportunities for balancing exchanges with foreign countries, as RTE should act closer to real time to ensure injection-withdrawal balance;
  - provisions and deadlines necessary for generators themselves to report adjustments to their plant generation programmes, currently carried out by RTE;
  - possibility of improved intraday market operations enabling operators to rebalance their position closer to real time.

  RTE will initiate discussions with the concerned parties with the prospect of clarifying the allotment of the different responsibilities of the participants in the constitution of reserves and flow balancing.
- Mechanisms for balancing power exchanges between France and abroad.

  Setting up of a single electricity market requires integration of balancing mechanisms. This is why RTE will study, by 1 October 2006, possibilities of increasing balancing exchanges between France and its neighbours, under terms that ensure that these exchanges reduce total balancing costs and strengthen security of supply in France.

III_ Public electricity service

CRE implements the procedure of calls for tenders launched by the Minister for Energy within the framework of pluri-annual investment planning. Every year, it assesses public electricity service charges along with the unitary contribution for the following year.

In the second half of 2005, CRE expressed its opinion on the choice of candidates made by the Minister for Energy after a call for tenders for onshore and offshore wind power plants.

Purchase obligation was a possible alternative for a project which was not adopted as part of the call for tenders for onshore wind power plants, through disposal sale of generation capacities of less than 12 MW, separated in compliance with the legislation. The feed-in tariff imposed a lower limit on the prices proposed by bidders. The coexistence of two systems was harmful to cost-effectiveness of the competition procedure.

In October 2005, CRE sent the Minister for Energy its proposal for public service charges and unitary contribution (CSPE) for 2006 which was lower than that for 2005. However, in the absence of a ministerial order setting the CSPE for 2006, the 2005 CSPE was automatically renewed for 2006 (4.5 €/MWh), in application of the law of 13 July 2005. At the beginning of January 2006, CRE checked that this amount could recover 2006 costs, revalued upwards to take into account the increase, occurring in October 2005, in payment for electricity generated by most of cogeneration plants.

Impact on 2006 charges of the rise in purchase costs of electricity generated by facilities using renewable energy sources and by cogeneration plants was greatly lessened by the increase in wholesale market prices for 2006, which act as a reference for calculating costs avoided by purchase contracts.

1_ Support systems for cogeneration and renewable energies

1 › Changing legislative and regulatory context

A ›› Redefinition of feed-in tariffs

In their initial definition provided for in the decree of 10 May 2001, the tariffs were equal to generation costs, including investment and operation, avoided for the electricity system over the long term, as well as additional payment corresponding to contribution of facilities to the achievement of the objectives defined in article 1 of the law of 10 February 2000, such as independence and security of supply, air quality and the struggle against the greenhouse effect.

On this basis, in 2001 and 2002, the regulator issued negative opinions on cogeneration, wind power and photovoltaic tariffs, because they exceeded profit expected and, for the first two sectors, because they allowed excessive remuneration of operators.

Since the law of 13 July 2005, feed-in tariffs have resulted from incorporation of investment and operating costs avoided by purchasers, plus a bonus corresponding to the contribution of generation capacity delivered or of the sectors to the achievement of the objectives mentioned above. The level of the bonus cannot result in return on capital tied up in facilities, which benefit from these purchase terms, exceeding normal return on capital, considering the risks inherent in these activities and the guarantee provided to these plants to transit their entire generation capacity at a determined tariff.

The new definition of tariffs, which came into force on 31 March 2006, requires review of all tariffs in force, resulting in adjustments, of which CRE will be notified for approval.

B ›› Only wind power plants installed in a wind power development zone to eventually benefit from purchase obligation

Article 37 of the law of 13 July 2005 set up wind power development zones, defined by the Prefect on proposal from districts, depending on their wind power potential, possibilities of connection to electricity grids and protection of landscapes, historical monuments and extraordinary, protected sites. The cap of 12 MW which had previously been a condition for benefiting from purchase obligation has been suppressed. The projects proposed must comply with the terms of minimum and maximum power defined for the zone.

As a transitional phase, prior provisions will continue to be applied for two years as from promulgation of the law, i.e. until 14 July 2007.

C ›› Increased cap in the cogeneration purchase tariff component related to fuel consumption

In 2005, the gas price taken as the reference for calculating payment for electricity generated by cogeneration plants exceeded the cap defined by purchase contracts. From now on, in order to preserve return on the involved facilities, article 82 of the 2006 Finance Act provides for compensation by the CSPE of surcharges resulting from modification of contractual terms, related to price variations in fuel used at cogeneration plants, backdated to 1 November 2005.

For contracts prior to the law, the Department of Industry approved a rider setting a payment capped at 92.5% of the reference price, which constitutes an increase in payment for fuel consumption of 36% compared to the previous cap.

Cogeneration purchase contracts posterior to the law of 10 February 2000 are subject to the tariff set by the Ministers for the Economy and Industry after approval from CRE. A modification of the terms in these contracts related to variation in fuel prices cannot be made prior to the modification of the ministerial order on tariffs.

This rise in payment resulted in an increase in purchase costs of cogeneration plant electricity of 199 M€ for 2006, which corresponds to a rise of 128 M€ in purchase overcosts financed by community.

2 › Calls for tenders conducted

CRE conducted calls for tenders launched by the Minister for Energy within the framework of the national support system for renewable energies (Table 11).

In its opinion of 28 July 2005, CRE recommended declaring the the call for tenders involving offshore wind power plants as unsuccessful. Based on criteria not featuring in the specifications, the Minister notified the regulator of its selection of the 2nd and 7th projects in the ranking predefined by CRE. The latter considered that the terms of the call for tenders had not been complied with. It highlighted the pointlessly expensive nature of this sector compared to alternatives using renewable energy sources (power plants using biomass, onshore wind power plants, etc), whose potential is far from being tapped in France. The Minister decided to retain only the better classified of the two projects initially envisaged.

On 9 November 2005, an approval was given to the choice of bids that the Minister proposed to retain from the call for tenders involving onshore wind power plants, which complied with the ranking based on CRE's assessment (Figure 60). Five of the seven projects adopted cost less than the feed-in tariff (based on hypotheses of indexation and updating cash flows taken into account for bid assessments).

For a project, the fact of being adopted at this stage of the procedure does not presuppose effective implementation.

2_ Public electricity service charges

Every year, CRE assesses, for the coming year, the amount of public electricity service charges, the number of kWh subject to contribution and the ensuing CSPE.

The CSPE finances:

- overcosts incurred by cogeneration and renewable energies (purchase obligations, purchase contracts prior to the law of 10 February 2000, and calls for tenders);
- overcosts incurred by electricity generation in non-interconnected territories (ZNI): Corsica, Overseas Departments (DOM), Mayotte, Saint-Pierre-et-Miquelon and the Islands of Brittany, Molène, Ushant and Sein;
- costs related to implementing the social tariff and the system set up for persons in precarious situation borne by suppliers.

The public electricity service contribution (CSPE) is charged in proportion to electricity consumption in France. The law of 3 January 2003 makes provision for exemption of contributing kWh for self-generators up to 240 GWh and a 500,000 € cap on the CSPE per consumption site. Article 67 of the law of 13 July 2005 set up a cap equal to 0.5% of their added value for industrial companies consuming more than 7 GWh per year, applicable as from 1 January 2006.

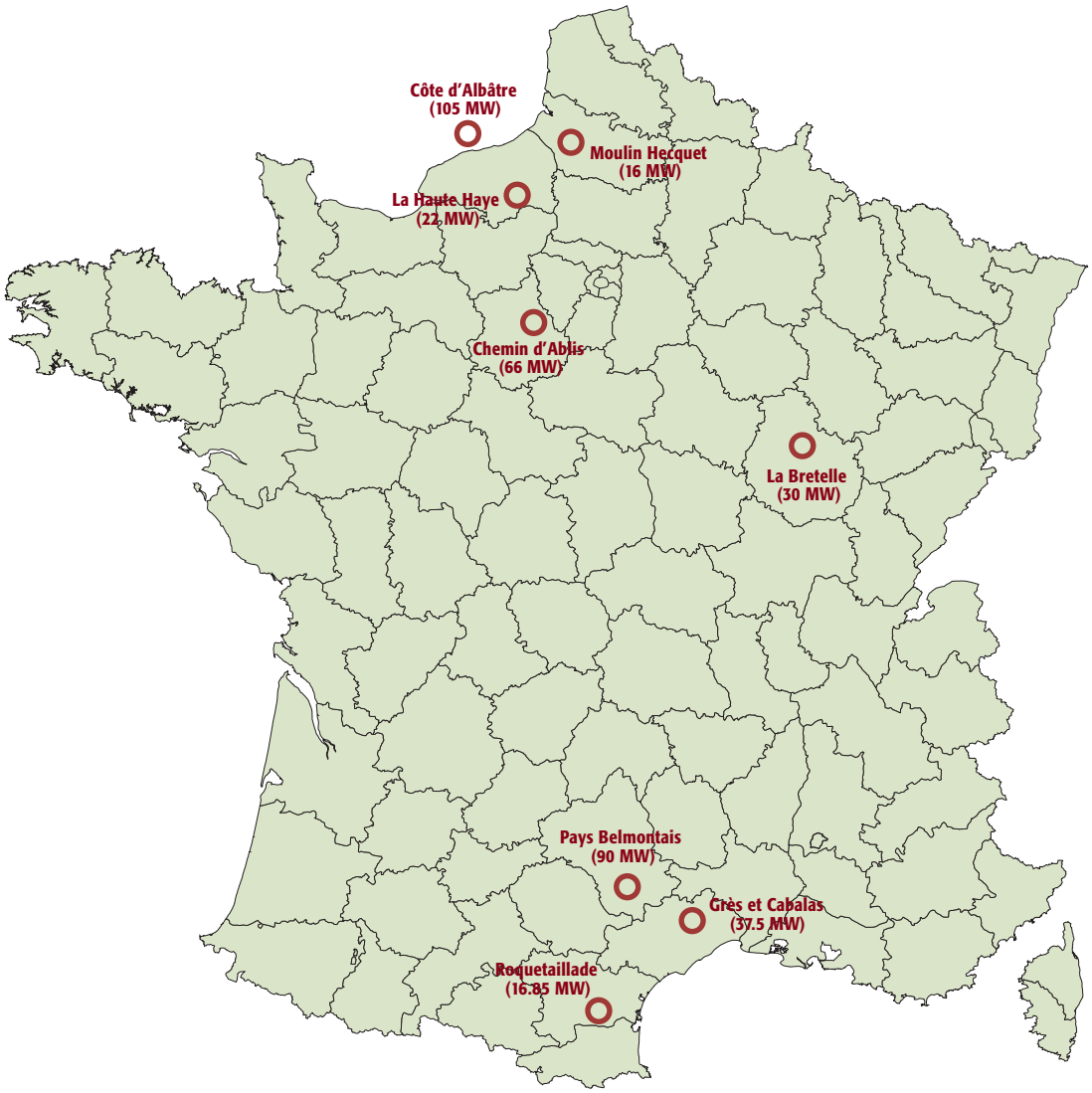
In line with the State Council decision of 13 March 2006, the CSPE is qualified as a tax, like the fund for universal telecommunications services. All related disputes are therefore settled by the administrative authorities.

Table 11 : Calls for tenders studied in 2005

Calls for tenders	Deadline for sending bids to CRE	Number of projects	Studied by CRE (summary report and bid analysis sheets)	CRE's opinion on choice sought by the Minister	Operation authorisation decrees (Minister)
Offshore wind power plants	13 August 2004	11 (one bid refused)	Deliberation du 13 January 2005	Refusal on 28 July 05	13 October 2005 (1 project)
Onshore wind power plants	30 January 2005	14 (two bid refused)	Deliberation du 28 April 2005	Approval on 09. November 05	7 December 2005 (7 projects)

Source: CRE

› **Figure 60: Regional breakdown of wind power plant projects selected**



Source: CRE

1 › Law amending the method for calculating avoided costs for LDCs

The law of 13 July 2005 amends the method for calculating avoided costs for local distribution companies through purchase contracts: for LDCs which have exercised their eligibility, avoided costs are established based on the respective weight of the disposal sales' tariff and the market price in their effective supply (excluding purchase contracts); for other LDCs, the disposal sales' tariff constitutes the sole reference.

This new provision was incorporated in December 2005 in the update of the appropriate accounting rules for declaration of public service charges.

2 › Charges recognised for 2004 closely reflecting forecasts

In 2005, CRE calculated public service charges actually borne by the operators in 2004 (figure 61).

These costs were evaluated according to operators' reports based on appropriate accounting checked by their auditors, or in the case of state-owned companies by the public accountant. The accounting rules had been updated by CRE in December 2004.

CRE checked that EDF and Électricité de Mayotte (EDM) correctly operate the means of generation and electricity systems in non-interconnected territories, and that the physical and financial data presented by EDF and LDCs are consistent with purchase contracts.

Charges retained for 2004 amounted to 1,533.4 M€, composed of 1510.7 M€ for EDF, 16.4 M€ for LDCs and 6.3 M€ for EDM and closely reflect the amount of 1,536.4 M€ forecast in 2003.

3 › 4% rise in charges forecast for 2006 against costs recognised for 2004

Costs forecast for 2006 were assessed based on costs recognised for 2004 and operators' forecasts, taking into account the new provision in the 2006 Finance Act (cf. page 102).

For 2006, the average tariff forecast for cogeneration purchase is 95 €/MWh for contracts prior to the law of 10 February 2000, to be compared with the average tariff of 77.4 €/MWh actually recognised in 2004.

This increase, related to the hike in fuel costs (+45%) and in consumption (+9.3%) in non-interconnected territories between 2004 and 2006, resulted in a rise in costs of 4.2% between 2004 and 2006 (Table 12 and figure 62).

The rise in electricity market prices observed since 2002 did not always result in a decrease in overcosts incurred from purchase contracts (Figure 63). This apparent paradox results from gradual incorporation, as from 2003, of EDF hydropower plants in the scope of purchase obligations (law of 3 January 2003) and, in 2006, increase in the cogeneration purchase tariff (consequence of the 2006 Finance Act).

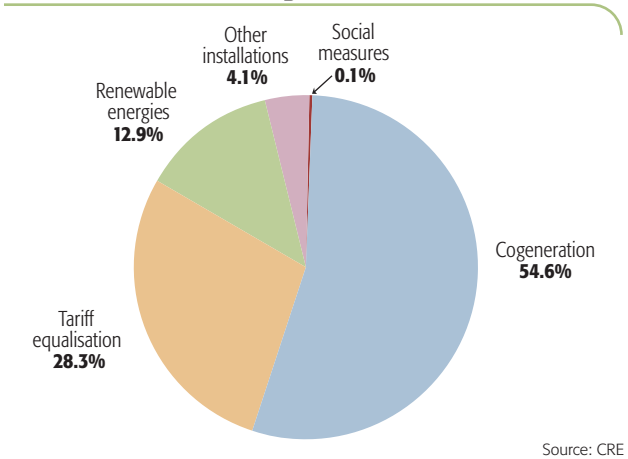
Table 12: Comparison of costs forecast for 2006 and costs retained for 2004

	Costs recognised for 2004 (M€)	Costs forecast for 2006 (M€)	Justification of the trend
Purchase contracts*	1,097.9	994.0	Rise in cogeneration purchase tariff of 18 €/MWh, compensated for by a hike in the weighted average market price of 19 €/MWh
Tariff equalisation**	433.5	559.5	29% rise in fuel oil prices 9.3% rise in consumption
Social measures	2.0	47.8	In 2004, preparation for the application of the social tariff as from 1 January 2005
Total	**1,533.4**	**1,601.3**	

* Excluding non-interconnected territories (ZNI) and Mayotte.
** Generation overcosts + purchase contract overcosts in ZNIs and Mayotte.

Source: CRE

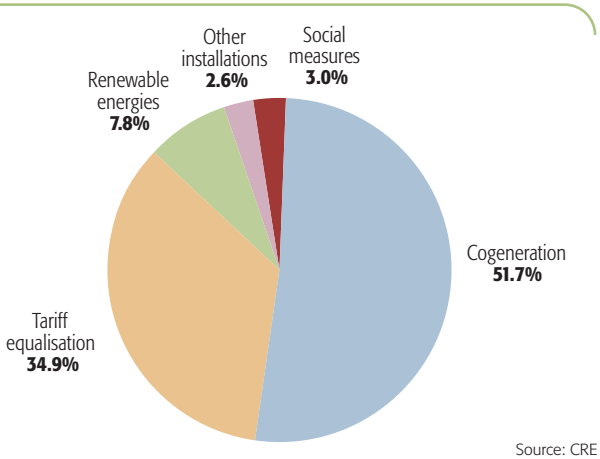
› Figure 61: Breakdown per origin of costs recognised for 2004



Source: CRE

Charges related to social measures correspond to costs for the setting up of the social tariff which came into force in 2005.

› Figure 62: Breakdown per origin of charges forecast for 2006



Source: CRE

4 › 3% drop in charges forecast for 2006 against 2005

Charges forecast for 2006 include costs forecast for 2006 and any discrepancy between costs retained and contributions recovered in 2004.

On 5 October 2005, CRE sent the Minister for Energy its proposal for charges and the unitary contribution forecast for 2006, totalling 4.2 €/MWh, down against 4.5 €/MWh in 2005.

In the absence of a ministerial order setting the public electricity service contribution for 2006, the CSPE for 2005 was automatically renewed for 2006, in application of article 54 of the law of 13 July 2005.

The public electricity service charges forecast for 2006, revalued to incorporate, into charges forecast for 2006, measures introduced at the end of December 2005 by the 2006 Finance Act, amounted to 1,684.7 M€ (Table 13).

5 › Stable CSPE in 2006

CRE checked that the 2005 CSPE, applied to the contribution assessment basis forecast for 2006, enabled charges forecast for 2006 to be recovered.

The law of 13 July 2005 provided for:

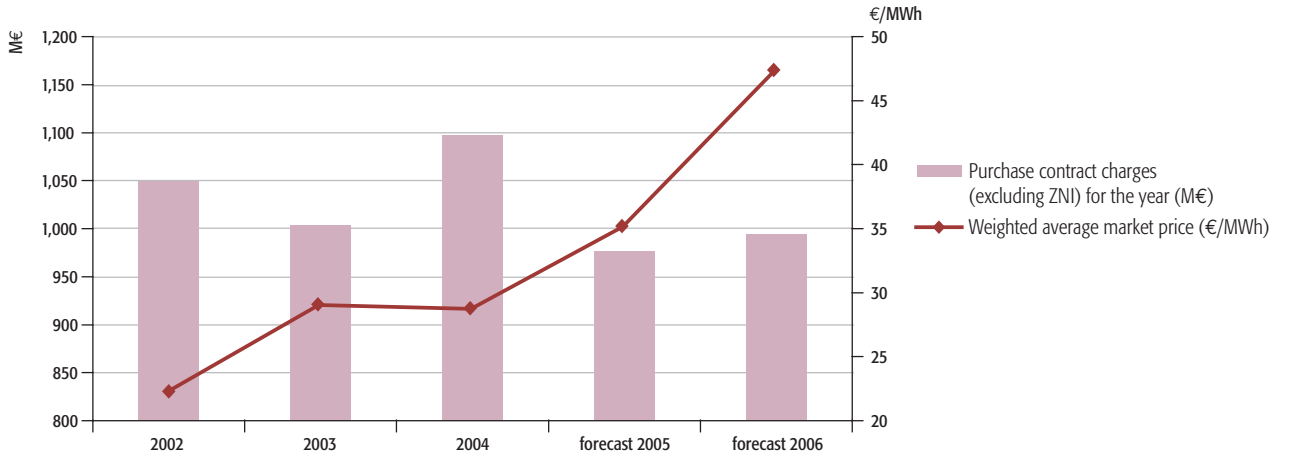
- a cap on the CSPE, as from 1 January 2006, of 0.5% of their added value for industrial companies consuming more than 7 GWh. Impact of the coexistence of this new cap with the pre-existing one of 500,000 € per consumption site is estimated as an additional volume of 9 TWh exempt from CSPE for 2006;
- two measures of taxation/tax removal of electricity generated with renewable energies or cogeneration sold to or purchased from another European Union Member State. The consequence of these measures for the contribution assessment basis, one causing an upturn and the other a downturn, is not very significant.

Table 13: Composition of public service charges forecast for 2006 per operator

	A: charges forecast for 2006 (cf. page 105)	B: charges retained for 2004 (cf. page 104)	C: charges forecast for 2004	D: charges forecast 2004 (including 2002 disparity)	E: contributions recovered for 2004 (cf. page 108)	F: balance of 2002 and 2003 costs	Public service charges for 2006 A+(B-C)+(D-E)+F
Électricité de France	1,554.7	1,510.7	1,512.3	1,712.0	1,633.2	5.7	**1,637.6**
Local distribution companies	26.3	16.4	14.3	13.4	11.6	0.0	**30.2**
Électricité de Mayotte	20.3	6.32	9.8	9.8	9.8	-0.2	**16.7**
Total	**1,601.3**	**1,533.4**	**1,536.4**	**1,735.2**	**1,654.6**	**5.6**	
					Caisse des dépôts et consignation management costs		0.256
					Total costs forecast for 2006		**1,684.7**

Source: CRE

› Figure 63: Trends in costs due to contracts (excluding ZNI) for year n / trends in weighted average market price



Source: CRE

Based on forecast domestic consumption of 460.5 TWh (excluding losses) and a volume of 91.5 TWh exempt from CSPE for 2006 (i.e. 20% of domestic consumption), a CSPE of 4.5 €/MWh enables the charges forecast for 2006 to be recovered (Figures 64 and 65).

6 › La CRE a effectué un contrôle de la comptabilité appropriée d'EDF en Corse et dans les DOM

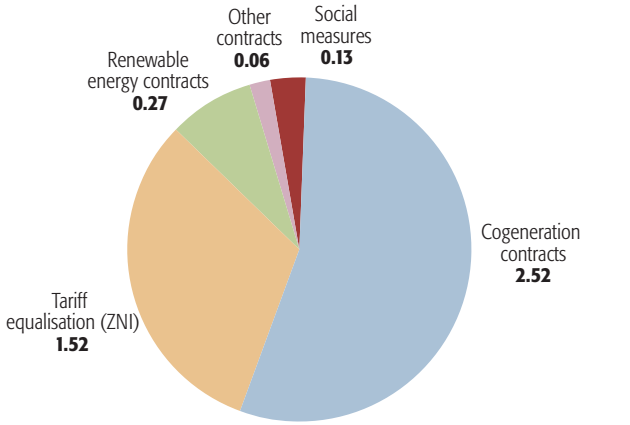
Appropriate accounting established by operators for declaration of their public service charges is checked by their auditors and for state-run companies by their public accountant. The law of 10 February 2000 stipulates that CRE can have operators' appropriate accounting checked by an independent body, with the cost being borne by the involved operator.

In order to check the amounts declared by EDF of generation surcharges borne in ZNIs in 2004, at the end of 2005, CRE commissioned an audit of each component of generation revenues and expenses declared in Corsica and the 4 DOMs (French Overseas departments).

This audit body checked compliance with the account unbundling principles defined by CRE, veracity of information provided by EDF, existence and compliance of related bills, as well as the rigor of internal check processes established within the firm.

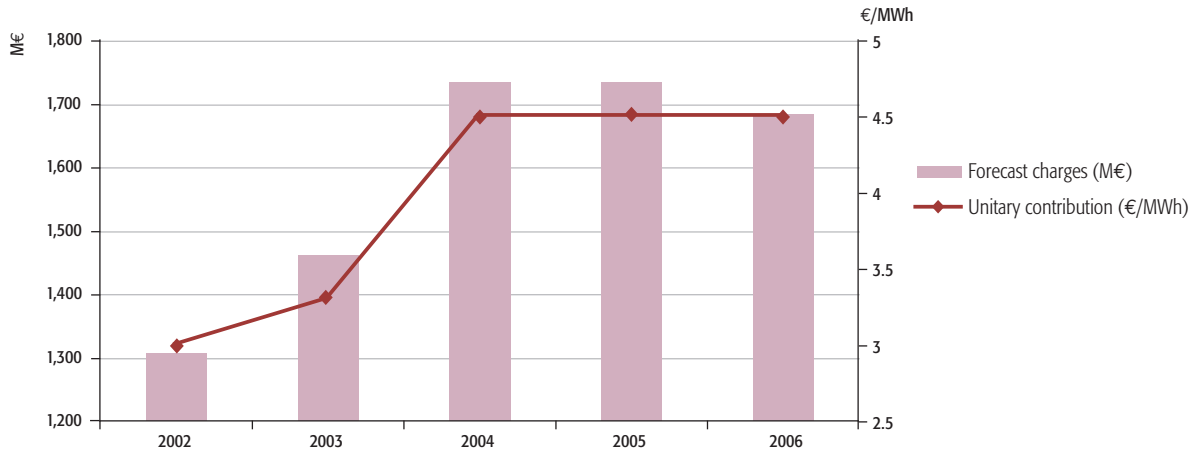
The audit results were submitted to CRE at the beginning of 2006 and will be incorporated in the next assessment of public service charges.

› Figure 64: Composition of CSPE (€/MWh)



Source: CRE

› Figure 65: Trends in total forecast charges / trends in unit contribution



Source: CRE

3_ Recovery of CSPE

1 › Proper recovery of 2004 CSPE

The public electricity service contribution was billed by EDF for the year 2004 until December 2005 (consumptions in December 2004). Some contributions paid to the Caisse des Dépôts et Consignations (CDC) for the year 2004 were recovered after 31 January 2005, regulatory deadline, due to defaulting contributors.

As at 31 December 2005, recovery of the CSPE for the year 2004 was virtually finished. The difference between the sums recovered and those which should have been, i.e. charges forecasted in 2004, amounted to 32 M€. This discrepancy can be mainly explained by the rounding down of the 2004 CSPE from 4.57 €/MWh to 4.5 €/MWh.

This high rate of recovery results from the search of defaulting contributors undertaken in 2005, which identified consumption sites not directly connected to the public grid and self-generators which had not declared their CSPE in 2003 and 2004 (Table 14).

2 › Recovery of 2005 CSPE underway

Recovery of the public electricity service contribution for 2005 is continuing: EDF, ERD and RTE are still billing the 2005 CSPE and not all contributors have settled up with the CDC. All local distribution companies bearing costs in 2005 have been fully compensated.

The report on the 2005 CSPE recovered as at 1 March 2006 forecasts a high final rate of recovery (Table 15).

Table 16 presents the number of sites declaring their 2005 CSPE to the CDC. The number of self-generators liable for CSPE is stable. The number of consumers has increased slightly due to the installation of new sites or transformation of connection to the public grid into connection to a private grid.

Table 14: Results of the search for defaulting contributors

	Number	CSPE recovered for 2003	CSPE recovered for 2004	2003-2004 CSPE refunded(3)	TOTAL net 2003-2004 CSPE recovered
Consumption sites(1)					
Identified Contributing sites	46				
Sites pending declaration	5				
Sites which have declared	41	1,308,159	2,102,478	126,772	3,283,865
Self-generators (2)					
Contributing sites identified	10	615,343	823,334	155,339	1,283,338
General total					**4,567,203**

(1) Consumption sites connected to a site connected to the public grid.
(2) Generation sites subject to purchase obligation physically consuming all or part of the electricity sold.
(3) Exemption.

Source: CRE (2006)

Table 15: State of recovery of 2005 CSPE as at 1 March 2006

	TWh	M€
Contributions not recovered for 2005 as at 1 March 2006		**156.8**
2005 CSPE to be credited as at 01.03.06	27.1	121.8
2005 CSPE rounded down from 4.58 to 4.5 €/MWh		30.0
Unpaid as at 01/03/06		5.0

Source: CRE (2006)

Table 16: Summary of declarations and payments to the CDC as at 1 March 2006

	2003	mise à jour 2003[1]	2004	2005
Number of self-generators that have declared to the CDC	**115**	**133**	**144**	**107/143**
Actual number of payments[2]	21	30	31	31
CSPE paid (M€)	1.6	2.2	3.6	3.5
Number of consumers that have declared to the CDC	**50**	**97**	**115**	**85/123**
Actual number of payments[3]	42	70	84	70
CSPE paid (M€)	4.2	5.2	7.6	7.1

(1) Mainly after the search of sites. Source CRE.
(2) Self-generators can benefit from exoneration of 240 GWh and the 500,000 € cap.
(3) Consumers can benefit from exoneration of 240 GWh from a generator supplying them on the same site and from the 500,000 € cap.

Source CRE

Inset 26: Handling of defaulting on CSPE declaration and payment

Procedures concerning defaulting on CSPE declaration and payment are defined by article 5 of law 2000-108 of 10 February 2000 and articles 16 and 17 of amended decree 2004-90 of 28 January 2004.

Default on payment by a taxpayer[1] or a contributor[2] :
Article 5 of the aforementioned law stipulates that in the event of defaulting or insufficient payment within two months of the CSPE due date, CRE shall send the defaulting contributor a reminder along with a fine for late payment at a rate of 10% of the amount of contribution due. Once the default notice has run its course, an administrative sanction may be issued under the terms provided for by article 41 of the aforementioned law, if failure to pay remains.

Failure to produce a summary statement or declaration:
Firstly CRE must observe the failure of a taxpayer or contributor to produce the summary statement or declaration prior to serving them with a default notice in a registered letter with acknowledgment of receipt, for the production of the summary statement or declaration and, as the case may be, to pay the CSPE due to the Caisse des dépôts et consignations (article 16 of the decree mentioned above). If the taxpayer or contributor refuses to comply, CRE can go ahead with debt recovery procedures (article 17 of the decree mentioned above).

(1) A taxpayer, in the sense of article 10 of the aforementioned decree, is a supply or grid operator recovering the CSPE from end consumers and obliged to draw up periodic summary statements of the CSPE recovered and to pay the sum concerned to the Caisse des dépôts et consignations.
(2) Contributors, in the sense of article 8 of the aforementioned decree, are end consumers. If they are supplied from the public grid, they are billed for the CSPE by their supplier or grid operator. If they are not supplied from the public grid, they must declare and pay the CSPE due to Caisse des dépôts et consignations.

› The working of CRE

I How CRE exercises its jurisdiction

II Resources

III European and international activity

I_ How CRE exercises its jurisdiction

1_ CRE's activity in figures

CRE held 115 formal and informal sessions, as opposed to 106 the previous year (Table 17). Formal sessions lead to the adopting of deliberations in the form of opinions, proposals, decisions or communications.

Table 17: CRE's activity in figures from 1 June 2005 to 31 May 2006

	GAS	ELECTRICITY	TOTAL
Number of opinions	57	8	65
Number of communications/ recommendations	1	5	6
Number of decisions (proposals, regulatory decisions excluding dispute settlements)	4	11	15
Number of hearings	55	81	136
Number of public consultations	3	4	7
Number of dispute settlements	1	3	4

Source: CRE

The number of opinions more than tripled compared with the previous year as the ministerial order of 16 June 2005 requires local gas company tariffs to be included in the decision process.

There was a slight increase in statements. These allow CRE to complete the information provided to energy market players. The statement of 10 January 2006 for example set the preconditions enabling consumers to choose their suppliers freely and easily after complete opening of the market on 1 July 2007.

The number of hearings remained stable: 136 hearings as opposed to 129 the previous year.

These hearings enabled CRE to determine the stance of the concerned parties prior to its opinions regarding tariffs, regulatory texts, communications and tariff proposals relating to the use of networks and infrastructures.

This consultative procedure was used for the two deliberations concerning approval of an increased rate of return for the project to reinforce the Guyenne trunk main and the project to connect the Fos Cavaou LNG terminal.

The number of dispute settlements dropped from twenty-one to four. CRE's dispute settlement decisions form a body of jurisprudence that can be better applied by operators and therefore reduce recourse to this procedure. This year CRE received its first request to settle a dispute in the natural gas sector concerning conditions of access to underground storage facilities.

All CRE deliberations are publicised on its website. Its opinions and proposals addressed to the Government are published in the Official Journal of the French Republic at the initiative of the Ministers for the Economy and Energy.

2_ Dispute settlements: a means of specifying the terms and conditions of access and use of systems

1 › Development of CRE's powers and competence

The law of 9 August 2004 extended CRE's competence in the field of dispute settlement to include disputes concerning access and use of natural gas storage facilities. Under the law of 13 July 2005 setting the energy policy guidelines, the legislator authorised CRE to settle disputes by setting, in an objective, transparent, non-discriminatory and proportionate manner, the terms of access to public electricity grids and natural gas networks and facilities, or the conditions for their use. CRE was also authorised to back up its decisions with penalties.

The conditions for imposing a penalty will have to be defined by law or an application decree. This will represent a significant increase in CRE's authority, placing it among the administrative authorities invested with this power normally reserved for a judge.

The extension, by the law of 9 August 2004, of the field of application of article 38 of the law of 10 February 2000 to disputes arising from access or use of natural gas storage facilities implies that the decree of 11 September 2000 relating to the procedures applicable to CRE must be updated.

The law of 13 July 2005 makes provision for that the dispute settlement procedure cannot concern non-eligible customers, i.e. household customers.

2 › A pragmatic approach to admissibility

Article 1 of the decree of 11 September 2000 defines the conditions for accepting a dispute settlement request. Thorough examination of the file may reveal inadmissible aspects that were not detected during prior review of the referral.

The existence of a formalised dispute between the parties prior to referral to CRE is one of the conditions determining admissibility of the application.

In some cases, recognition of such a dispute may involve in-depth analysis of the facts that led to referral to CRE.

The admissibility of a dispute settlement request presented by a generator, whose file was registered after its deletion from the queue imposed by the distribution system operator for examination of connections, was accepted by CRE. In rejecting the demurrer raised by the transport and distribution system operators, CRE considered that the registering of this second connection file could not be seen as a new request given the similarities presented by the project and the comparable connection conditions of the two successive requests (La Compagnie du Vent decision of 27 September 2005).

In the same spirit, to avoid the need for the claimant to present two successive referrals and to fulfil the mission devolving from article 38 of the law of 10 February 2000, CRE accepts that a dispute remains unresolved while there is still disagreement over the conclusion of a DSO-supplier contract after refusal of access to the grid (SICAE de la Somme et du Cambraisis decision of 11 May 2005).

3 › CRE's competence

Invested under the provisions of article 38 of the law of 10 February 2000 with specific competence to settle disputes concerning access or use of electricity grids and natural gas structures and facilities, CRE carefully specifies its powers.

The purpose of this is to avoid encroaching on the field of action of other authorities and thus prevent conflicts of competence. CRE therefore defines the extent of its competence at both organic and material level.

Since they involved the capacity of the parties, in two cases concerning the same company and relating to the connection of generation facilities to the public distribution grid, which impact on the transmission system, CRE declared itself competent to hear a dispute between a generator and the public distribution system operator. However, CRE considered that this generator, despite being a user of the distribution grid was not in fact a user of the transmission grid and for this reason rejected the findings against the electricity transmission system operator (La Compagnie du Vent decisions of 7 September 2005 and 27 September 2005).

At the material level, CRE is competent to settle disputes relating to the technical and financial conditions of grid access. This is the case when the dispute concerns partial reimbursement of advance payments justified by modification of the project and revision of the price of the technical and financial proposal for connection (La Compagnie du Vent decision of 7 September 2005). It is also the case for a dispute concerning determination of outage days imposed on a generator, considered to be technical conditions of access to the grid in the sense of article 38 of the law of 10 February 2000 (La Compagnie du Vent decisions of 7 September 2005 and 27 September 2005).

Disputes concerning access or use of natural gas storage facilities come under the competence of CRE, which has pronounced itself on the first dispute of this kind. CRE considered that to settle a dispute of this kind, it was necessary to examine the filling level of the concerned storage capacities and the conditions of the corresponding gas transfer, taking into account the technical constraints related to management of the storage facility (Altergaz decision of 8 March 2006).

4 › Access and use of systems

CRE reaffirmed the obligations of a distribution system operator who receives a connection request. It also made its position clear on terms and conditions for concluding a DSO-supplier contract, application of the tariff for use of public electricity grids and third party access rights to natural gas storage facilities.

A ›› Obligations of the distribution system operator

CRE specified the obligations of the public distribution system operator. It reaffirmed that under the provisions of article 5 of the decree of 13 March 2003 the operator is committed to an obligation of transparency and non-discrimination covering preparation of the technical and financial proposal for connection. The operator must:

- explain the methods used;
- provide the applicant with all supporting information enabling the relevance of the recommended solution for connection to the grid to be assessed in both technical and economic terms.

The operator must check that it has obtained, from RTE if necessary, all the information needed to meet its obligation of transparent and non-discriminatory processing when connection could have consequences for the public transmission grid. CRE stresses that the distribution system operator, and

not RTE, is responsible for declaring the confidentiality of data requested by the user. It maintains that the public distribution system operator cannot simply pass on incomplete information provided by RTE who referred to the confidential nature of the requested data (La Compagnie du Vent decisions of 7 September 2005 and 27 September 2005). These two decisions also specify that the use of a "standard administrative procedure" for construction of 90 kV structures that fails to take into account the special aspects of the projects to be connected cannot justify the need to reinforce the public transmission grid or the lead times resulting from this.

An operator who fails to study alternative connection solutions proposed by the user, such as installing a "flanging" or automatic load shedding system does not justify interruption durations imposed on the generator (La Compagnie du Vent decision of 27 September 2005).

The methods used to determine a connection diagram and prepare an estimate must be specified by the public distribution system operator. Under the provisions of article 1 of the law of 10 February 2000, operators are committed to examining the various connection solutions and proposing a diagram corresponding to the most cost-effective solution both for themselves and for applicants. Reaffirmation of these principles enabled the user to divide the cost of connecting its photovoltaic electricity generating plant by ten (Marion Court decision of 12 May 2005).

Article 8.3 of the specifications of the general electricity supply grid (RAG) requires the public system operator to submit a technical and financial proposal for a high voltage connection within a regulatory lead time of three months. This deadline runs from the day on which the application file is considered to be complete (La Compagnie du Vent decision of 27 September 2005).

B ›› Conditions for concluding a DSO-supplier contract

It is not necessary to include jurisdiction clauses for dispute settlement in the DSO-supplier contract as there is provision for them in legislative and regulatory texts.

Given the provisions of article 49 of the law of 10 February 2000, the legislator did not intend compensation to be awarded to the incumbent supplier when a customer first exercises his eligibility. Since it is against the law, invoicing of these costs must be deleted if it is written into a contract.

A grid operator may not defer implementation of the DSO-supplier contract on the grounds that there is no DSO-balancing responsible entity contract, when only a small number of customers have exercised their eligibility in its exclusive service area. This DSO-supplier contract may come into force before the signing of a DSO-balancing responsible entity contract provided that the load curves used to calculate imbalances are previously sent to RTE (SICAE de la Somme et du Cambraisis decision of 11 May 2005).

C ›› Tariff conditions for grid utilisation

In a judgement of 4 October 2005 concerning CPCU v. EDF-RTE, the Paris Appeal Court confirmed that tariffs for use of public electricity transmission and distribution grids are of law and order and applicable notwithstanding any contractual clause to the contrary. Consequently, generators holding purchase contracts whose power plants are directly connected to the public grid cannot be exempt from the injection tariff established by the decree of 19 July 2002. For the appeal court, injection of the power generated into the grid is the fact justifying the application of the tariff, determined on the basis of the injected physical flow.

To dismiss a request for preliminary referral to the administrative jurisdiction in order to assess the legality of the decree of 19 July 2002, in its judgement of 4 October 2005, the Paris Appeal Court referred to the jurisprudence of the Conseil d'Etat (highest administrative authority in France) defined in a UNIDEN judgement of 10 November 2004. The injection tariff is not discriminatory since consumers and generators are placed in situations that justify the application of differentiated treatment (Paris Appeal Court, 4 October 2005, CPCU v. EDF-RTE).

In a series of six cases (decisions concerning EURL Nuages, Société des Chutes de l'Ain, Société de Moulin Neuf, Forges de Lanouée Hydroelectric Plant, Force Motrice Poller and Marc Pralong of 14 April 2005) CRE reaffirmed that under the provisions of section 9 of chapter II of the appendix to the decree of 19 July 2002, meter maintenance is a basic metering service. The service only applies to consumers and public distribution system operators connected to the HTA or HTB voltage range. The public distribution system operator cannot impose nor invoice costs of services relating to electricity meter maintenance to generators. Obviously, this principle could be applied to electricity generators facing similar tariff practices.

This analysis was validated by the Paris Appeal Court in six judgements on 13 December 2005. The appeal court defined the role of EDF in metering activities. Although it is invested with a public service duty and as such is required to conduct these metering activities, this operator does not hold a monopoly for metering equipment maintenance, especially when the equipment belongs to third parties (Paris Appeal Court, 13 December 2005, EURL Nuages, Société des Chutes de l'Ain, Société du Moulin Neuf, Forges de Lanouée Hydroelectric Plant, Force Motrice Poller and Marc Pralong).

D ›› Third party access right to natural gas storage facilities

The law of 9 August 2004 governing the public electricity and gas service and electricity and gas companies, which transposes article 19 of the directive of 26 June 2003 concerning common rules for the internal natural gas market, established a negotiated access system monitored by CRE, which is competent to settle disputes between operators and users of natural gas storage facilities.

The first half of 2006 saw the registration of the first dispute settlement request in the gas sector, concerning conditions of access to storage facilities (Altergaz decision of 8 March 2006). CRE notes that storage facilities are essential means of ensuring security of supply, as stated in point 21 of the preamble to the directive of 26 June 2003. It also considers that the provisions of article 30-2 of the amended law of 3 January 2003 grant suppliers right of access to underground natural gas storage facilities.

Specifying the extent of this right of access, in its decision CRE points out that the allocation of the storage capacities required to supply a new customer, which is guaranteed to each supplier by law, is dependent on prior conclusion of a supply contract and cannot be simply based on customer demand forecasts.

While article 30-2 of the law of 3 January 2003 makes provision for the release of storage capacities for the benefit of a new gas supplier who acquires a customer, this text does not indicate the terms of sale of the stored gas.

On the basis of the essential facilities principle, CRE therefore reaffirms that storage system operators must guarantee transfer of the stored gas to all users under transparent, non-discriminatory and cost-effective conditions. Consequently, Gaz de France was requested to make the necessary additions to the general terms of its contracts and protocols for access to storage facilities by organising the conditions of sale of stored gas during release of capacities, as required under the provisions of article 30-2 of the law of 3 January 2003.

II_ Resources

1_ CRE staff

Based on the State's new method for calculating posts, under the terms of the constitutional bylaw on finance acts (LOLF), the number of budgetary posts within CRE rose from 117 in 2005 to 120 in 2006.

At the end of 2005, excluding the 7 commission members, 91% of the staff held managerial posts. 44% of staff were female and 56% male. The average age was 39. The staff included 80% contract agents, over a third of whom came from companies in the energy sector, and 20% public sector employees.

The wide-ranging background of the staff (companies, consultancies, universities, other regulators, international organisations, etc.), their level of technical ability and their varied experience form the basis of the expertise and competence of CRE's departments (Figure 66).

CRE's recruitment policy draws on the experienced managerial staff, who are immediately operational in the responsibilities which are entrusted to them. The average experience of project managers in 2006 was therefore 6 years. Only 10% of the staff were recruited as first-time employees.

88% of CRE's staff are assigned to regulation functions, while 12% carry out support functions (administration, communication, information technology and documentation) (Figure 67).

CRE's continuing training policy aims to meet three objectives:

- develop specific skills required for regulation activities;
- improve personal efficiency (IT and foreign languages);
- support career plans, including acquisition of qualifications, linked to CRE's activities.

In 2005, 83% of staff received training, covering a total of 718 training days, i.e. an average of 5.5 days per employee per annum.

CRE's pay policy recognises professional ability (level of training and experience acquired), level of responsibility held and effort made by each employee to meet the objectives set for them.

In 2005, average annual gross pay including bonuses amounted to: 30,000 € for non-managerial employees, 33,000 € for middle management, 51,000 € for department heads and project managers and 108,000 € for senior management.

The social report is available to all the staff on CRE's intranet.

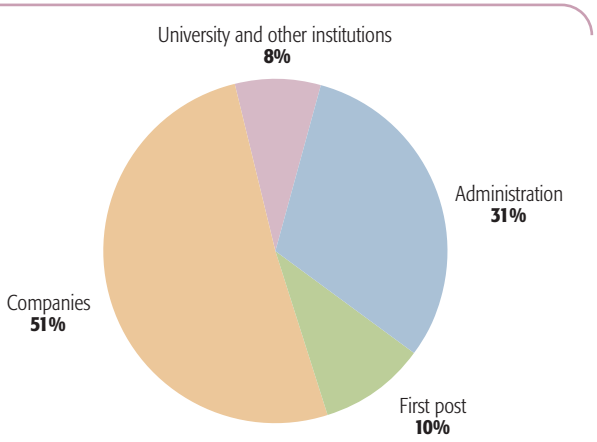
2_ Changes in departmental organisation

The organisation of CRE's departments has been adapted to the new issues involved in the monitoring of the gas and electricity markets prior to their complete opening on 1 July 2007.

As a result of these changes in place since 1 March 2006, all matters concerning the electricity and gas markets are handled by a single division, the Markets and Public Service Division (DMSP). The changes have thus resulted in a strengthened monitoring of these two energy markets.

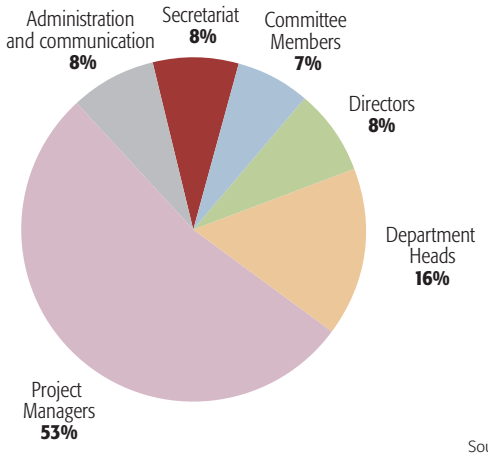
Organisation of gas sector monitoring has been modified accordingly. The division in charge of this sector (DIRGAZ) is competent in all matters concerning natural gas infrastructures and networks, similar to what exists for electricity, the Electricity Grid Access Division (DARE) (Figure 68).

› Figure 66: Professional backgrounds of CRE staff



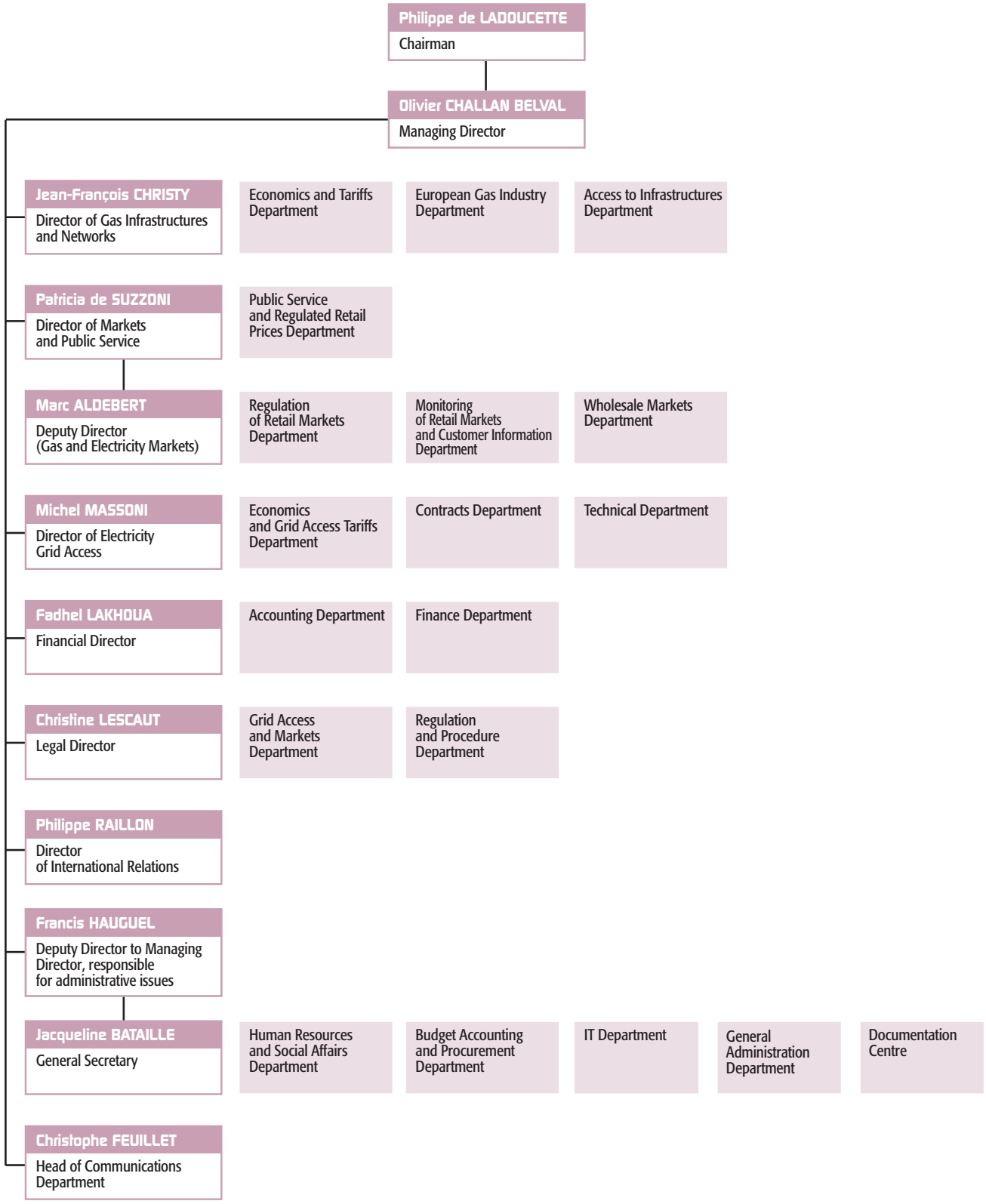
Source: CRE

› Figure 67: Breakdown of staff by function



Source: CRE

› **Figure 68: Organisation chart - Departments**



Source: CRE

III_ European and international activity

Adopting the same line of action as in previous years, CRE has maintained its dialogue with its contacts in the energy sector, mainly in Europe. It has focussed its efforts on relations with other regulators and EU institutions.

1_ Relations with other regulators

Contacts with other regulators are organised either punctually on a bilateral basis or on a more regular basis through CEER (Council of European Energy Regulators) and its official counterpart at the European Commission: ERGEG (European Regulators Group for Electricity and Gas), whose mission since the end of 2003 has been to "advise and assist the European Commission in its action towards consolidating the internal market".

CRE's participation in the work of CEER and ERGEG is described in detail in the chapters dealing with electricity and gas. However, certain fields in which CRE has been especially active are described below:

- drafting of the 2005 final report on Monitoring the Implementation of the Guidelines for Good TPA Practice for Storage System Operators or GGPSSO;
- indicators and definitions concerning consumers and their protection: CRE chairs the working group in charge of these subjects;
- drawing up of CEER's assessment and benchmarking documents;
- regulation of electricity and gas retail prices;
- preparatory work for regional initiatives in the fields of electricity and gas (Figures 69 and 70).

These initiatives follow on from the mini-fora proposed by the European Commission at the Florence Forum of September 2004, aiming to establish the conditions for expansion of regional markets in order to move towards a single market. At the beginning of 2005 they brought together all concerned players in the development of electricity markets in each of the regions identified by the European Commission. The decision to continue their work led the regulators to set up two public consultations, one in the summer of 2005 concerning electricity and the other at the end of the year concerning gas, and then, on the basis of these consultations, to begin a new cycle of meetings aiming to identify obstacles to the development of national markets and to propose solutions.

Outside this institutional framework, multilateral initiatives were embarked upon by several regulators in order to improve capacity management methods at cross-border electricity interconnections through public consultations.

With regard to the French borders, the common stances emerging from the contributions received from market players were drawn up in the form of a roadmap. This defines the improvements in congestion management methods required of grid operators at these interconnections (France and Germany – France and Italy and Austria and Italy – France, Belgium and the Netherlands).

2_ Relations with European Union institutions

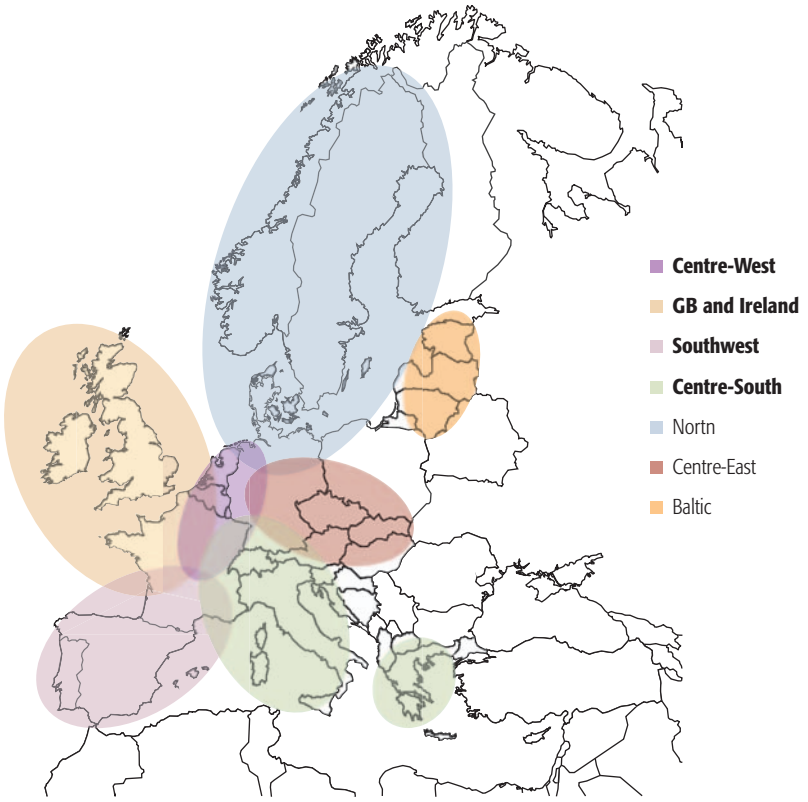
CRE maintains frequent contacts with the European Commission. Its contact points are the Directorate-General for Energy and Transport and the Directorate-General for Competition, which has an increasing presence in the electricity and gas sectors.

Other than the regular appointments in the EU calendar which constitute the major component of theses relations (Florence and Madrid Fora on electricity and gas respectively and European Commission obligations concerning reports), co-operation is strengthened through exchanges of information, consultations and comments on documents published by the Commission.

The 2003 gas and electricity directives require the European Commission to publish reports on the development of the internal energy market. Like other regulators, CRE provides some of the information required either through detailed replies to questionnaires or through its own publications. For example, the CRE report of November 2005 on the compliance with the codes of good conduct and independence of electricity and natural gas system operators, provided an additional input to the European Commission's report analysing progress made for the setting up of an internal market.

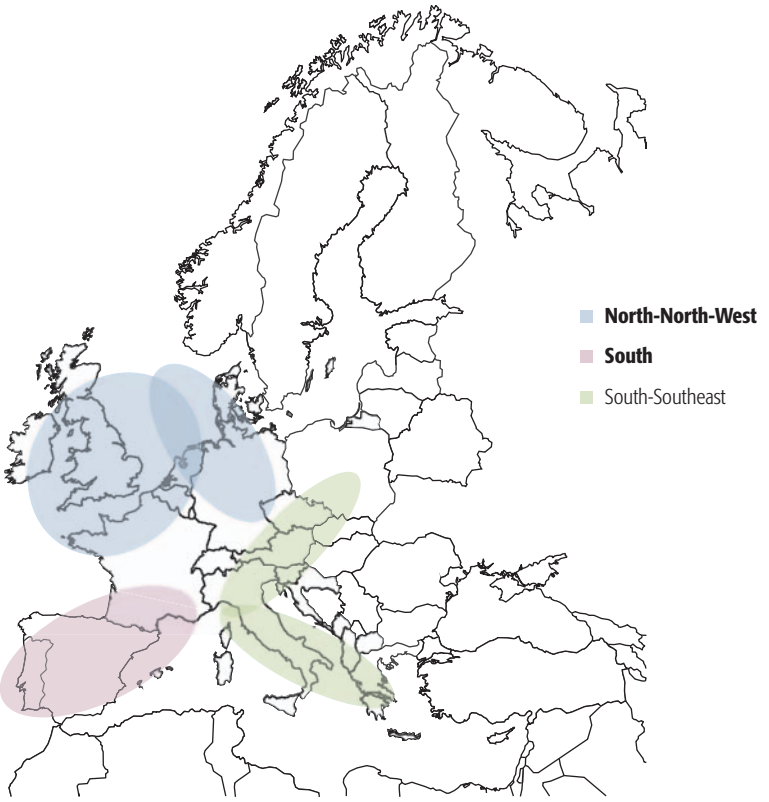
The DG Competition also consults CRE on merger operations having a potential impact in France. A recent example of this concerned the possible consequences for the French market of two mergers planned between the operators E.On/ENDESA and Suez/Gaz de France.

› **Figure 69: Regional electricity initiatives**



Source: CEER

› **Figure 70: Regional gas initiatives**



Source: CEER

Analysis of results from enquiries opened in spring 2005 by the DG Competition was another example of cooperation based on regulators' technical expertise. CRE participated by making a gas sector expert available to the DG Competition.

CRE replies, either directly or jointly with other regulators, to consultations launched by the European Commission. Two important documents were published at the beginning of 2006: from the DG "Competition", a preliminary report on its enquiries in the electricity and gas sectors, and from the DG "Energy and Transport", the Green Book "A European strategy for safe, competitive and sustainable energy". CRE participated with other regulators in writing comments. It also wrote additional comments on certain subjects more specific to the French market.

Some EU texts may have direct consequences on subjects coming within the regulators' competence. Whenever necessary, CRE participates in discussions organised in Paris by the General Secretariat of European Affairs (SGAE) in order to establish the French stance and also participates in meetings of the Council's Economic Questions Group on Energy alongside the permanent French representation in Brussels. CRE also has contacts with members of the European Parliament.

3_ Relations outside the EU

Bilateral contacts are organised at the request of non-EU countries. Various delegations (regulators, operators or administrations) wishing to know the French design of regulation are received in Paris (Table 18). These contacts may be followed up by discussions on technical subjects such as calculating network access tariffs.

CRE monitors the activities of multilateral institutions such as the OECD or its specialised energy body, the International Energy Agency (IEA), so that it can take any necessary action. It participated in the French reply to the International Energy Agency's 2006 questionnaire, which formed the basis to the publication of its annual review of its member countries' energy policies.

CRE maintains regular contacts with French diplomatic representations abroad, especially the economic missions. This cooperation provides CRE with useful information about its partners. It also assists dissemination of information providing a better understanding of the realities of the French market, which is sometimes wrongly perceived or misjudged. Contacts of a less regular nature are also established with foreign diplomatic representations in Paris.

Table 18: Delegations received by CRE between June 2005 and June

Date	Delegation received	Country
June 2005	Senior officials	ALGERIA
	State Electricity Regulation Commission (SERC) – Chinese regulator	CHINA
	Japan Electric Power Information Center (JEPIC)	JAPAN
	Ministry of Petroleum and Natural Gas	INDIA
Oct. 2005	Provincial Electricity Authority – Thai regulator	THAILAND
	Energy experts of economic missions based abroad	FRANCE
	Elektroistok – Grid operator	SERBIA
Nov. 2005	Elektroistok – Grid operator	SERBIA
	Directorate of commerce and economic enquiries (DGCEE)	TUNISIA
	Directorate general for competition of the European Commission (DG Competition)	European Commission
Dec. 2005	Member of the Senate	JAPAN
Jan. 2006	Japan Bank for International Co-operation (JBIC)	JAPAN
Feb. 2006	Croatian Energy Regulatory Agency (CERA) – Croatian regulator	CROATIA
May 2006	Directorate General for energy and transmission (DG Energy and Transmission)	European Commission
	Ministry of Energy – Consumer and regulation department	CANADA
	Norges vassdrags- og energidirektorat (NVE) – Norwegian regulator	NORWAY
June 2006	Ministry of the Economy and the Public Utilities Commission (PUC) (Latvian regulator)	LATVIA
	State Grid Corporation (SGC) – Electricity transmission system operator	CHINA

Source: CRE

Appendices

Appendices

> Glossary

- common definitions (electricity/gas)
- definitions specific to gas
- definitions specific to electricity

- **Access protocol:** internal agreement, equivalent to the grid access contract, governing the access, within EDF, to the EDF-Generation and EDF-Distribution transmission grid.

- **Account unbundling:** obligation requiring integrated undertakings to keep separate balance sheets and profit and loss statements for production (electricity), transmission, distribution (electricity and gas), storage (gas) and other activities. These accounts, as well as the principles governing their preparation (allocation rules, account boundaries, and financial relationship between activities) appear in the attachments to the operators' annual accounts.

- **Avoided costs:** when an operator is obliged to buy a quantity of electricity as part of purchase obligations imposed by the public authorities, this quantity takes the place of energy which it could have procured for itself (generation and purchase). The resulting savings constitute avoided costs.

- **Balancing mechanism:** mechanism enabling a transmission system operator to balance generation and consumption at any time owing to additional quantities of electricity which can be supplied by generators and reductions in consumption due to consumer saving.

- **Balancing Responsible Entity:** any operator who is committed to RTE, through a balancing contract, to settling the costs of imbalances observed a posteriori between electricity injected (by generators within the perimeter) and electricity consumed (by consumers within the perimeter).

- **Balancing zone:** geographical zone of the main transport network, on which the shipper must maintain the daily balance between gas supply and consumption.

- **Baseload:** Baseload is the constant part of grid load over a given period. A baseload product corresponds to the supply of a block of electricity throughout a period (for example: from 00:00 to 24:00 for a daily baseload product).

- **Capacity netting:** this action carried out by grid operators consists of incorporating firmly nominated commercial flows in each direction in order to free up additional capacity.

- **Cogeneration:** system of simultaneous generation of electricity and heat. The output from cogeneration plants is substantially better than it would be if they produced only electricity.

- **Combined cycles:** cf. Combined cycle power plant.

- **Combined cycle power plant:** thermal power plant, usually running on gas-fired turbines, where electricity is generated at two consecutive levels: firstly by gas combustion in the turbines, and secondly by using energy from the product of the gas combustion process in boilers, which supply heat to steam turbo-generators. This process provides high levels of thermal output (55 to 60%, compared with just 33 to 35% for conventional thermal power plants).

- **Compression station:** industrial facility where gas is compressed in preparation for transport via pipelines.

- **Congestion:** state of saturation of an electricity line or gas pipe which prevents operators from transporting or distributing all the quantities injected or withdrawn, given network characteristics and performance level of its equipment.

- **Connection:** action allowing a user to be physically connected to a network.

- **Connection facilities:** pipelines and installations connecting an end user or a distribution network to a gas transmission or distribution system. These connection facilities consist of one or more of the following elements: pipes, delivery station and distribution system extension.

- **Continental plate:** grouping of European electricity systems (Germany, Austria, Switzerland, the Benelux countries and France), where the degree of interconnection is sufficient to allow fluid physical exchanges.

- **Control area:** geographical area where the electricity transmission grid is managed by a single operator; there is a single control area in France, but other countries can have several.

- **Conversion:** Gaz de France's transmission network has two separate zones: the H zone supplied with gas with high calorific value (H gas) and the L zone, supplied with gas from Groningen with low calorific value (L gas).
The two gases are not interchangeable. Gaz de France therefore offers a conversion service allowing shippers to exchange resources they own in the H zone against L gas.

● **Conversion point:** virtual points attached to the North H and North L balancing zones respectively where the conversion service between these two zones is carried out.

● **Cross-subsidies:** use of the resources of an activity to benefit another activity under conditions that do not reflect the conditions that determine market relations between two separate undertakings.

● **Delivery contract:** contract signed between a distribution system operator and an end user or other distribution system operator, relating to:
- natural gas delivery conditions (pressure, rate, etc.);
- characteristics and ownership conditions of the delivery equipment (rental of the delivery station, etc.);
- conditions for determining the quantities of energy delivered.

● **Delivery point:** point on a transmission or distribution network where a transmission or distribution system operator makes gas available to a shipper, end user or other network operator.

● **Delivery station:** facility located downstream of a transmission or distribution network, providing one or more of the following functions: expansion, regulation or metering. A delivery station is used to deliver gas to a distribution network or end user.

● **Electricity block:** quantity of electricity power transiting via the grid at a constant level of power (for example: a 24-hour block corresponds to a baseload product).

● **Electricity supply:** in electricity demand, four types of consumption are distinguished:
- "baseload" electricity supply (or "ribbon"), which is produced or consumed permanently throughout the year;
- "semi-baseload" supply, with production and consumption concentrated over winter;
- "peakload" supply, with heavily loaded generation or consumption periods during the year;
- "lace" supply, which is supplementary to the "ribbon" supply.

● **Electricity transmission and distribution grid:** system designed for the transmission and transformation of electricity between power plants and consumption sites. It consists of electrical lines which provide connections at given voltage levels and substations which include voltage transformers, connection and cut-off devices, measuring instruments, instrumentation and control equipment and means of clearing reactive energy.
There are three system hierarchies:
- bulk transmission and interconnection grid which routes, as 400 kV or 225 kV, large quantities of energy over long distances, with a low level of losses;
- regional distribution systems which distribute energy on the regional level, supplying the public distribution grid and large-sized industrial customers with 225 kV, 90 kV and 63 kV;
- distribution grids for 20 kV and 400 V which supply end-consumers with medium voltage (SME-SMI), or low voltage (domestic customers, tertiary sector and small-sized industries).

● **Eligible customer:** electricity or gas consumer authorised for the purposes of supplying one of his sites or retailing energy, to turn to one or more electricity or gas suppliers of his choice.

● **Entry point:** point on a transmission or distribution network where a transmission or distribution shipper makes gas available to a transmission or distribution system operator under the terms of a transmission or distribution transportation contract signed with him.

● **Entry-exit tariffs:** tariff system applied on gas networks in many European countries (Great Britain, the Netherlands, Italy and France). It consists of splitting the capacity subscriptions at the entry and exit points on the main network and invoicing the two transmission components (entry and exit) separately.

● **Exit area:** geographical grouping of delivery points belonging to the same balancing zone and having the same exit tariff.

● **Exit point:** point on a natural gas transmission network used as an interface between a main transmission network and a regional transmission network.

● **Fixing:** system for quoting a product (for example, hourly block on Powernext) by crossing aggregate supply and demand curves in order to determine the price and balancing volume. Mechanism used, for example, for the negotiation of hourly products on Powernext.

● **Florence Forum (electricity) and Madrid Forum (gas):** periodic meetings, created at the initiative of the European Commission, bringing together for electricity and gas respectively, government representatives, regulators, TSOs, associations of producers, users and consumers under the aegis of the European Commission.

● **Gas exchange point – (French abbreviation "PEG"):** point on a transmission network where the transmission system operator manages exchanges of gas between shippers.

● **Gas quality:** all physical characteristics (pressure, temperature, gross and net calorific values, Wobbe index) and chemical characteristics (amount of methane, propanes, butanes, nitrogen and other inert gases) of a distributed natural gas.

● **Gas storage facility:** set of installations used to build up reserves of gas which is stored in gaseous form (in underground storage facilities) or LNG form (storage in tanks above ground).

● **HTA: High voltage A:** voltage level of between 1 and 40 kV.

● **HTB: High voltage B:** voltage level of between 40 and 130 kV.

● **IFA 2000:** France-England interconnection, with a maximum power rating of 2000 MW of direct current.

● **Imbalances:** within a given perimeter, difference between total quantities injected and total quantities withdrawn.

● **Integrated electricity undertaking:** vertically or horizontally integrated undertaking. A horizontally integrated undertaking is one carrying out at least one of the functions of generation, sale, transmission or distribution of electricity, as well as an activity outside the electricity sector; a vertically integrated undertaking is one carrying out at least two functions in the electricity sector: electricity generation, transmission and distribution.

● **Interconnection:** equipment used to connect two electrical grids or pipes connecting two gas transmission networks.

● **Interconnected system:** network or grid made up of several electricity or gas transmission and distribution networks connected together by one or more interconnections.

● **Liquefied natural gas (LNG):** natural gas transported in liquid state by cooling to minus 160°C, mainly in order to be able to transport it in LNG ships.

● **LNG ship:** ship transporting liquefied natural gas (LNG) in its tanks.

● **LNG terminal:** facility used to receive and store liquefied natural gas (LNG) and ship it to the main transmission network after regasification.

● **Load-balancing:** term referring to the difference between a customer's actual gas consumption pattern and the pattern corresponding to a regular withdrawal over the year of this customer's average daily consumption. Consumption variations (daily, weekly or seasonal) are generally covered by underground storage facilities, to which the customers and their suppliers can have access, either directly (in countries where regulated or negotiated third-party access to storage systems is possible) or in the form of a load-balancing service (as is the case in France).

● **Load-balancing service:** service offerred in addition to the transmission/transport contract in order to provide the best management of irregular consumption of gas by customers on a daily, monthly or seasonal basis. This service is provided at a virtual point, known as a load-balancing point, within each balancing zone of the transmission network.

● **Local distribution company LDC:** local distribution company (non-nationalised distributor) which distributes electricity and gas within a given zone. Some of them are also electricity generators.

● **Main gas transmission system, regional transmission network and gas distribution network:**
- the main transmission network is a set of large-diameter, high-pressure pipes linking interconnection points with neighbouring networks, underground storage facilities and LNG terminals, and to which the regional transmission networks, distribution networks and high-consumption industrial consumers are connected;
- the regional transmission network is a part of the transmission network used to transport natural gas to the distribution networks and high-consumption end users connected to it;
- the distribution network is a set of medium and low pressure transmission pipes used to transport gas to end consumers and possibly to other distribution networks.

● **Metering:** measurement of the various characteristics of electricity or gas in order to determine the amount of energy produced or consumed.

● **Metering or estimation point:** point on a transmission or distribution network where a quantity of energy is determined using meters or estimations.

● **Natural monopoly:** a term designating sectors of economic activity characterised by strictly increasing yields, i.e. the cost of the last unit produced is lower than that of all previous ones. Under these conditions, average production costs are strictly decreasing, i.e. average cost falls with the volume produced. This results in one sole operator being necessarily more efficient than several operators, if the former is prevented from abusing their situation of monopoly. The sectors concerned are usually those in which investment costs (fixed costs) are so high that their multiplication would not be justified for opening up to competition. The most commonly mentioned monopolies are those of infrastructure networks: railway networks, road and motorway networks, and water, gas and electricity distribution systems.

● **Negotiated Third Party Access to Networks:** the conditions governing access to the system are negotiated between the system operator and market players (eligible customers, producers, etc.) on a case-by-case basis.

● **Non-interconnected territories:** areas of the national territory which are not connected (by electrical lines) to the mainland continental system (Corsica, Martinique, Guadeloupe, Reunion, Guyana, Saint-Pierre and Miquelon and the islands of Molène and Ushant).

● **Non-nationalised distributors (NND):** cf. LDC.

● **Nordpool:** electricity exchange of northern European countries (Norway, Finland, Sweden and Denmark).

● **Offshore (wind power installations):** wind power generation capacity installed at sea.

● **Onshore (wind power installations):** wind power generation capacity installed on land.

● **Peakload product:** the peak is the maximum power drawn on a grid during a given period. A peakload product corresponds to the supply of constant electrical power during peak periods (for example: from 8 a.m. to 8 p.m. for a daily peakload product).

● **Pluri-annual investment program (PPI):** under French law, objectives set by the Minister for Energy for the distribution of electricity generation capacities by primary energy source and, if need be, by generation technique and geographical area.

● **Pool:** national electricity market where all transactions have to be carried out, and intended to streamline the demand on means of generation.

● **Postage stamp tariff:** pricing principle which provides access to an entire service area, in exchange for the payment of a single access fee, regardless of the distance transited by the electricity.
This tariff is divided into two parts:
- an injection stamp: payment by the generator to deliver their energy to a grid connection point;
- a withdrawal stamp: payment by the consumer to be supplied at a grid connection point.

● **Pressure:** depending on the type of network, three pressure levels are normally used in the gas industry:
- for major international transmission, the pressure level is between 60 and 100 bar;
- for the main and regional French transmission networks, between 40 and 80 bar;
- for distribution networks, there are two pressure levels: medium pressure (400 mbar to 4 bar) and low pressure, supplied directly to household customers (no greater than 50 bar).

● **Price cap:** tariff regulation mechanism by which the regulation authority sets the rate of price level change in advance for several years. This mechanism is generally considered to encourage improvements in productivity since the undertakings whose tariffs are regulated can benefit from all or part of the savings they make during the period for which the tariffs have been set.

● **Producer:** individual or corporation which produces natural gas and/or electricity. A producer is a supplier.

● **Purchase obligation:** legislative measure obliging EDF and non-nationalised distributors (NND) to purchase the electricity generated by certain sectors of generation under imposed conditions.

● **Pure transits:** flows crossing a control area without being injected or withdrawn (e.g. a flow moving from Belgium to Spain is a transit flow in France).

● **Regulated tariffs:** electricity or gas retail tariffs for non-eligible and eligible customers who have not exercised their eligibility.

● **Regulated Third Party Access to Networks:** in the case of regulated TPA, the tariffs for use of the network are proposed by the regulator. The access conditions are transparent and non-discriminatory for users.

● **Remote meter reading:** metering, at a distance, of the quantity of electricity injected into and withdrawn from the grid. In France, the equipment used for this remote meter reading complies with the applicable metrology rules, under the terms of article 13 of the decree of 23 December 1994 approving the specifications of the general supply grid (RAG).

● **Ribbon:** cf. electricity supply.

● **Spot market:** market on which exchange, purchase and sales transactions are carried out for quantities of electricity or volumes of gas deliverable the next day. To create reliable markets and credible price references for dealers, these markets must fulfil the two criteria of transparency (real-time publication of data) and liquidity (no dealer must have a dominant position enabling it to influence the market).

● **STS tariff:** the Seasonal Transmission Subscription tariff is the integrated regulated tariff applicable to sales of gas to industrial customers who have not exercised their eligibility, non-eligible customers and public distribution bodies.

● **Supplier:** corporate body, holding a permit for the gas sector, or registered with the public authorities for the electricity sector, supplying at least one end consumer with electricity or gas, either using energy he produces himself or energy that he has bought (trader).

● **Supply contract:** contract for the sale of electricity or natural gas by a supplier to an end user or trader.

● **Synchronous grid:** transmission grid with installations interconnected through AC connections and where frequency is therefore the same at any point. In Europe, the main synchronous networks are: UCTE, Nordel and the insular networks (Great Britain, Ireland, etc).

● **System services:** services required to transmit energy from generation units at load while ensuring operating safety of the electricity system.

● **Take-or-pay:** long-term contract under which the producer guarantees to supply gas to an operator and this operator guarantees payment whether he takes delivery of the gas or not.

● **Third Party Access to Networks (TPA):** recognised right of each user (eligible customer, distributor, and producer) to access transmission or distribution systems in exchange for payment of access rights.

● **Trader:** gas or electricity supplier purchasing energy from another supplier in order to sell it to end users or traders.

● **Transit pricing:** tariff for an electricity flow crossing a control area.

● **Transmission contract/distribution contract:** contract signed between a transmission or distribution system operator and a transmission or distribution shipper for the purposes of transporting quantities of energy between one or more entry points and one or more delivery points.

● **Transmission shipper or distribution shipper:** signatory of a transmission or distribution contract with a transmission or distribution system operator. A transmission or distribution shipper can be an eligible end user, supplier or their agent.

● **Transmission system operator (TSO) or distribution system operator (DSO):** body responsible for the design, construction, operation, maintenance and development of a public transmission or distribution system, fulfilling contracts relating to third-party access to these systems.

● **Transport-distribution interface point:** point where the gas transported by a transmission system operator is taken in charge by the distribution system operator.

● **Underground storage facility:** use of geological formations (aquifers or salt domes) for the storage of gaseous hydrocarbons.

● **Union for the Coordination of Transmission of Electricity (UCTE):** Association whose purpose is to define the operating rules for utilisation of interconnections between European countries. UCTE is one of the four founding members of ETSO. This organisation includes the following countries: Austria, Belgium, Bulgaria, Bosnia-Herzegovina, Croatia, Czech Republic, Western Denmark, France, Serbia and Montenegro, Macedonia, Germany, Greece, Hungary, Italy, Luxemburg, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain and Switzerland.

● **"Use-it-or-get-paid-for-it":** this rule provides holders of physical rights of interconnection capacity with the choice between:
- physically using their rights, by firmly nominating the corresponding energy to grid operators sufficiently in advance or,
- transforming their physical rights into financial rights. In this case, holders of the rights inform grid operators that they have decided to give up the physical exercise of their rights. Unused capacity is automatically reallocated to the market within the framework of the allocation mechanism below, in return for which the initial holder of the rights receives the reallocation profit.

● **"Use-it-or-lose-it":** this rule obliges holders of physical rights of interconnection capacity to firmly nominate the corresponding energy to grid operators sufficiently in advance. This firm nomination has the triple advantage of:
- limiting risks of malicious market players retaining capacity;
- enabling grid operators to reallocate assigned but unused capacity to the market;
- and lastly enabling grid operators to carry out capacity netting operations and therefore allocate supplementary capacity thus freed up to the market.

● **Virtual Power Plant:** fictional production capacity, non-designated, sold to an operator and used to withdraw on demand energy at a previously set price from a generator.

● **VPP:** cf. virtual power plant.

> Abbreviations

AEEG: Autorità per l'Energia Elettrica e il Gas (Italian Authority for Electrical Energy and Gas)
AIE: Agence Internationale de l'Energie (International Energy Agency)
APX: Amsterdam Power Exchange
CEDIGAZ: Centre d'Information et de Documentation sur le Gaz (French Centre for Information and Documentation on Gas)
CEER: Council of European Energy Regulators
CFM: Compagnie Française du Méthane
CNE: Comision Nacional de Energia (Spanish National Energy Commission)
CNR: Compagnie Nationale du Rhône
CRCP: Expenses and revenues clawback account
CREG: Commission de Régulation de l'Electricité et du Gaz (Belgian Commission for Regulation of Electricity and Gas)
CSI: Commercially sensitive information
CSPE: Contribution au Service Public de l'Electricité (Public Electricity Service Contribution)
DIDEME: Direction de la Demande et des Marchés Energétiques (Demand and Energy Markets Department, under the authority of the French Minister for Energy)
DSO: Distribution system operator
EEX: European Energy Exchange
EHV: Extra high voltage
ERD: EDF Réseau de Distribution
ERGEG: European Regulators Group for Electricity and Gas
ETSO: European Transmission System Operators
EUROGAS: European Gas Association
GSO: Gaz du Sud-Ouest
LDC: Local Distribution Companies
LNG: Liquefied natural gas
LPX: Leipzig Power Exchange
LV: Low Voltage
NBP: National Balancing Point
NGC: National Grid Company
OCM: On-the-day Commodity Market (NBP spot market)
OTC: Over-the-Counter
PPI: Pluri-annual Investment Programme
RE: Balancing responsible entity
RTE: Réseau de Transport d'Electricité
SNET: Société Nationale d'Electricité et de Thermique
SPEGNN: Syndicat Professionnel des Entreprises Locales Gazières (Professional Union of Local Gas Companies)
TSO: Transmission System Operator
TTF: Title Transfer Facility (Virtual gas hub in the Netherlands)
UCTE: Union for the Coordination of Transmission of Electricity
UNIDEN: Union des Industries Utilisatrices d'Energie (Union of Gas-using Industries)
VPP: Virtual Power Plant
ZNI: Zone Non Interconnectée (Non-interconnected territory)

> Units and conversions

Gas

Volumes

1 cubic metre (m^3) = 35.315 cubic feet
1 tonne of liquefied gas (t LNG) = 1350 m^3 of gas
1 m^3 of LNG = 593 m^3 of gas

Weight/volume-energy conversion

1000 m^3 of natural gas = 0.9 ton of equivalent oil (toe)
1 m^3 of natural gas = 10.8 kilowatt hours (kWh)
1 tonne of LNG = 1.3 toe

Weight/volume conversion in Btu (International Energy Agency conventions)

Equivalent to	LNG	Gas			
		Norway	Netherlands	Russia	Algeria
1 m^3	39,343	40,290	33,550	35,855	37,125
1 kg	51,300	49,870	42,830	51,675	47,920

Energy equivalence table

Equivalent to	GJ	kWh	MBtu	th	therm
1 gigajoule (GJ)	1	277.8	0.948	238.9	9.479
1 kWh	$3.6*10^{-3}$	1	$3.411*10^{-3}$	0.86	$3.411*10^{-2}$
1 million Mbtu	1.055	293.2	1	252	10
1 thermie (French unit)	$4.186*10^{-3}$	1.162	$3.968*10^{-3}$	1	$3.968*10^{-2}$
1 therm (GB unit)	0.1055	29.32	$1*10^{-1}$	25.2	1

1 barrel of oil (West Texas Intermediate-WTI) = 0.17 MBtu (conventions USDOE).

Electricity

The standard unit used to measure power, i.e. energy per unit of time is the watt (W). The watt represents the level of power corresponding to energy generation equivalent to one joule (J) per second.

The joule represents the work produced by one newton (N), whose point of application moves one metre in the direction of the force, given that a newton is the force which gives a mass of 1 kilogram an acceleration of 1 meter per second.

The kilowatt-hour (kWh) is the amount of energy consumed by a 1-kW appliance in one hour.

The volt (V) or kilovolt (kV) is a unit of voltage, expressing the difference in electrical potential between two points of a conductor through which a constant electric current of one ampere (unit measuring the intensity of electrical current) is passed, where the power lost between the two points is equal to one watt.

In the field of energy, coefficients used to multiply base units apply in the same way as for other units, i.e.:
As an example, overall electricity consumption (excluding losses) in France for the year 2005 amounted to 450 TWh, and the average annual consumption of a French household was 5,800 kWh.

The most recently built nuclear power plants have unit power of 1450 MW, whilst wind power plants can reach 3 MW, and the power of an iron is 1 kW.

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Insets

Tables

Figures

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