

CRE action at national level

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Overview

CRE's mission is to work towards smooth and efficient operation of electricity and gas markets to benefit consumers.

CRE strives to consolidate all the technical and legal aspects of energy supply so that consumers are free to choose their energy provider based on an informed decision. On 1 July 2007, the French electricity and gas markets were opened to competition for all consumers. In collaboration with the French National Energy Mediator, CRE has set up an information system designed for household customers.

To encourage system operators to offer consumers maximum service at the best price, CRE initiated changes in system regulations by introducing incentive mechanisms.

CRE exercises the extended authority granted by the Law of 7 December 2006 by approving the investment programmes submitted by gas transmission system operators and by monitoring electricity and gas wholesale markets.

Regulation of systems and infrastructures

CRE initiated the review of all tariffs applied to use of grids and networks

In the last year CRE initiated a review process covering all tariffs applied to the use of electricity grids and gas networks, aiming to complete this process by the end of 2008. The new tariffs must guarantee non-discriminatory third party access to systems and reflect the costs actually borne by system operators insofar as they result from good practices.

Within the context of this tariff review, mechanisms have been introduced to encourage system operators to improve efficiency. For this purpose, CRE has set performance objectives and a pluriannual tariff that is consistent with these objectives. If operators outperform their objectives, they recover part of the profits, the

remaining portion being used to reduce tariffs to the benefit of system users.

On 28 February 2008, CRE proposed a tariff for the use of GrDF (subsidiary of Gaz de France) public distribution systems to the ministers in charge of the economy and energy, which came into force on 1 July 2008. This new tariff has risen by 0.9% (in constant euros) compared with the previous tariff applied for two and a half years.

A new tariff for the use of gas transmission networks will come into force on 1 January 2009. This new pricing structure will take account of the simplification of gas transmission system organisation, resulting from a merger between the North, East and West balancing zones, as well as the joint marketing of transport capacity by GRTgaz (subsidiary of Gaz de France) and TIGF (subsidiary of Total) at the interface between their respective networks.

Due to the postponed startup of the Fos Cavaou terminal following a technical incident that occurred on 12 February 2008, CRE re-scheduled its proposal for a new tariff for the use of LNG terminals to the second half of 2008. The current tariff was designed to be applied until the Fos Cavaou terminal was opened.

CRE set up a working group to focus on the regulation of LNG terminals in France. Consisting of LNG market experts, the working group submitted a report in March 2008 with conclusions that will certainly provide food for thought in discussions between market players and CRE.

In the electricity sector, new tariffs for the use of public electricity grids (TURPE) will apply to electricity transmission and distribution. At the beginning of 2008, CRE engaged a public consultation to present its pricing orientations and gather reactions and suggestions from stakeholders. An incentive-based regulation scheme to be applied to system operators RTE (TSO) and ERDF (DSO) is being studied. This scheme will focus on both productivity gains and continuous improvement of the quality of service provided to

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consumers. After approval from the ministers in charge of economy and energy, the CRE tariff proposal should come into force on 1 January 2009.

CRE ensures that system investments are consistent with market demands and quality of service

CRE approved the annual investment programmes established by natural gas transmission system operators GRTgaz and TIGF. Investments planned for 2008 are significantly higher than those from previous years. The GRTgaz investment programme has been budgeted at €85 million, compared with €82 million in 2007. TIGF investments have been set to €91 million, compared with €60 million in 2007.

This rise in investment will pave the way to increasing gas input capacity in France and reducing internal congestion on the network. It will encourage competitiveness and improve security of supply.

CRE has also approved an RTE investment programme for 2008 that contains plans to invest some €52.6 million in 2008, a rise of 7% compared with 2007.

CRE requested that RTE continue its efforts to reduce congestion at interconnection points. Completing such investment schemes depends on the level of cooperation between the French transmission network operator and its counterparts in neighbouring countries. CRE is striving to ensure that the scheduled investments are used to connect future power plants in non-discriminatory conditions, within an acceptable timescale.

CRE ensures the independence of system operators

The procedures for ensuring independence are defined in the corresponding provisions of European directives and national legislation. They constitute a framework that allows system operators to coexist with the entities responsible for production and supply within the same integrated firm.

Independence is implemented by “unbundling” accounting and legal procedures. To date, the last step in this process, the legal unbundling of most of the distribution system operators (DSOs) serving more than 100,000 customers, was completed during the second half of 2007.

In its third annual report issued in December 2007 on the enforcement of codes of good conduct and the independence of system operators, CRE considered that although compliance with requirements imposed by European directives has been achieved in the broad sense, there is still room for improvement. More specifically, it underlined the ambiguity inherent to the names and visual identities adopted by ERDF, the distribution subsidiary of EDF, and by GrDF, the distribution subsidiary of Gaz de France, which make it difficult for consumers to clearly distinguish between the system operators’ activities conducted under regulated monopoly conditions and those activities open to market competition.

These choices raise a question of principle, since they allow energy providers EDF and Gaz de France to appropriate the positive image projected by public services to the detriment of alternative suppliers.

Opening markets to competition

Steady activity on the wholesale electricity market

Wholesale markets are designed to enable suppliers who do not have their own resources to procure supply at the best price, while giving reliable price signals to potential investors so that production capacity can develop as required to meet growth in demand for peak and semi-baseload supplies.

Wholesale markets include transactions carried out on organised markets, such as the electricity exchange Powernext, as well as transactions concluded through bilateral trade. Trade may result in the physical delivery of energy to the French system or may be purely financial.

The electricity wholesale market is essentially composed of bilateral trade. Liquidity on this market remains limited due to the dominant position and vertical integration of EDF. Activity on the wholesale electricity market has remained steady.

In its decision of 10 December 2007, the *Conseil de la concurrence* (the French competition authority) obliged EDF to keep its commitment to offer alternative suppliers 15-year wholesale electricity contracts so that they are able to compete with EDF on the market. However, this obligation does not eliminate the scissor effect between regulated retail tariffs and services proposed by alternative suppliers on the open market.

Rising activity on the wholesale gas market

Although gas market concentration remains strong, since almost all import capacity is owned by Gaz de France and Total, business conducted by alternative suppliers is nonetheless growing.

However, CRE does not have restrictive powers in this regard and regrets the refusal of Total and Gaz de France to extend the gas release programmes in the South and South-West zones. The Third Energy Package plans to endow regulators with the authority to impose this type of programme.

CRE supported the creation of a gas exchange that will be used to improve market transparency. This exchange should be operational by the end of 2008.

Monitoring wholesale markets to establish trust

Transparency on electricity and gas wholesale markets is inadequate: on one hand, bilateral transactions, which reveal very little pricing information, are dominant; on the other hand, only limited information is available on the physical determinants of the market.

French legislation has tasked CRE to monitor wholesale markets, keeping an eye out for any behaviour that may impede market competition. This implies making sure that operators with a dominant position do not use their power abusively and ensuring that any transactions conducted do not interfere with market pricing mechanisms.

CRE intends to use its monitoring authority to inspire trust in market operation. Monitoring encourages the entry of newcomers in the trading segment and increases the number of transactions. It contributes to security of supply on the French market by sending out reliable price signals to investors.

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As announced on 16 April 2008, CRE will first proceed with spot requests for information on transactions completed after 1 January 2007.

CRE conducted an investigation into electricity price peaks observed on the Pownext Day-ahead Action in October and December 2007. In its decision of 17 April 2008, CRE put forward several concrete recommendations for improvement, some of which have already been followed.

More active competition on gas retail market than on electricity retail market

Various surveys have revealed that only one third of French households are aware that they can switch suppliers if they wish, illustrating that the effort to inform the public on opening markets must be pursued.

The fact that regulated retail tariffs and open-market services continue to exist side-by-side may make it difficult to develop competition, particularly when prices do not cover costs. This coexistence was maintained by the Law of 21 January 2008, which allowed some consumers who had opted for market-based contracts to return to regulated retail tariffs under specific conditions until 1 July 2010.

Gas retail market fundamentals are good and continue to improve. The level of regulated retail tariffs has allowed alternative suppliers to hold a competitive position. Across all consumer segments, the number of sites and the volume of market-based contracts are rising steadily. Moreover, one fourth of all new connections are the result of a service contract signed with an alternative supplier.

For non-household customers, the gas market is not developing at the same rate throughout France and remains slow in southwest France. On 31 March 2008, around 26% of non-household sites had signed a market-based contract.

With regards to household customers, the emerging gas market is more dynamic than the electricity market, even though only three alternative suppliers are present on this segment. Supplier changes are progressing slowly, with sales supported mainly by dual fuel (gas and electricity) contracts. On 31 March 2008, about 2% of household sites had signed market-based contracts and about 1% had opted for an alternative supplier.

Competition stagnating on electricity retail market

Four years after the electricity retail market opened fully to non-household customers, competition is stagnating. This situation can be attributed to two factors: first, the scissor effect that impacts pricing for alternative suppliers trying to compete with regulated retail tariffs; and second, the option allowing new, non-household sites to subscribe to regulated retail tariffs when the service contract is for a power rating less than or equal to 36 kVA. Moreover, in contrast to the 2004-2006 period, EDF no longer actively proposes market-based contracts to customers that are still eligible for regulated-tariff contracts. On 31 March 2008, 802,000 non-household sites had subscribed to a market-based contract. 3,400 sites had subscribed to TaRTAM (the transitional regulated tariff for balancing markets), representing 64% of consumption from sites with market-based contracts.

On the household customer segment market competition is extremely weak. The impact of the Law of 21 January 2008, authorising the return to regulated tariffs for households who had opted for market-based contracts, is still difficult to measure. On 31 March 2008, 116,000 household sites had signed a market-based contract, representing a market share of 0.4%.

Consultation continues with market participants

The consultation process initiated by CRE ensured that the 1 July 2007 schedule was met without any difficulty. As of 1 July 2007, any customer wishing to change supplier was able to do so simply

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and free of charge, through the standardised and automatic procedures used by suppliers and system operators.

Nonetheless, further testing of procedures is required to determine whether they can withstand an increase in the volume of operations. Improvements could make data exchanges between system operators, suppliers and final customers smoother. This is why consultation is still underway, coordinated by CRE, who has formed the Consumer Working Group, Electricity Working Group and Gas Working Group.

The consultation process will define supplier needs that require upgrading DSO information systems. The consumer, electricity, and gas working groups are also discussing the contractual framework required between system operators and suppliers to provide additional guarantees to consumers. In another area, experiments initiated by ERDF on a smart metering system are being observed by the consumer working group.

In coordination with the French National Energy Mediator, CRE is pursuing action to provide information to consumers. A shared consumer information system has been set up that receives 30,000 telephone calls and 30,000 visitors to its web site every month.

CRE participates in measures to support electricity generation, vulnerable customers and TaRTAM

CRE contributes to policy measures aiming to diversify electrical power generation sources by taking part in the call-to-tender process organised by the Minister for Energy under the Plurianual Investment Programme. In 2007, it issued an opinion on a draft order modifying feed-in tariffs for electricity generated from biomass fuels, which has not yet been published. It launched the second call for tender organised by the Ministry for Energy concerning this same sector.

Every year CRE assesses the Contribution to the Public Electricity Service (CSPE) for the following year, which is used to finance the cost of the public electricity service, as well as the budget of the French National Energy Mediator (since 2007), and part of the costs incurred by application of the transitional regulated tariff for balancing markets (TaRTAM). Public electricity service costs consist of surplus costs imposed on incumbent suppliers to generate electricity in insular regions; support measures to promote renewable energy sources and cogeneration; and social hardship measures.

In October 2007, CRE presented the Minister for Energy with its proposal setting the amount of the public electricity service cost and the unit contribution used to finance this amount in 2008 (i.e. €9/MW). However, in the absence of a decree from the Minister for Energy setting the amount for 2008, it was automatically renewed to the amount applied in 2007 (€5/MWh). For the first time, costs related to insular regions represent more than half the total of public service costs.

CRE assessed the costs related to the application of TaRTAM in 2008, together with the contribution owed by EDF and CNR to finance the share of these costs that is not compensated by the CSPE contribution. Working with the *Caisse des Dépôts et des Consignations* (CDC), CRE carried out the necessary procedures to compensate costs estimated for each quarter in 2007 by suppliers applying the TaRTAM tariff. Lastly, it defined the appropriate accounting rules that these suppliers must follow in declaring the costs incurred during the year.

At the end of each quarter, CRE gave its opinion on changes in gas regulated retail tariffs. It also issued an opinion on the increase in electricity regulated retail tariffs applied on 16 August 2007.

I. Regulation of systems and infrastructures

1. General information

1.1. Codes of good conduct and independence of system operators

1.1.1. Adherence to codes of good conduct

In compliance with Articles 6 and 15 of the Law of 9 August 2004 and amendments, CRE published its third annual report in December 2007 on the independence of electricity and natural gas system operators and their adherence to codes of good conduct.

The codes of good conduct include the measures taken to guarantee that all discriminatory practices are excluded. They have been implemented by transmission system operators and distribution system operators serving more than 100,000 connected customers.

CRE monitors the application of these codes along with the audits carried out by operators. CRE also performs its own audits and has found that provisions are in fact implemented, and that employees are aware of the measures taken. None of the checks revealed any deliberate discriminatory practices with regard to suppliers or the disclosure of commercially sensitive information.

Nonetheless, CRE has identified certain problems. A “mystery customer” audit commissioned by CRE revealed that information given to the customer by one of the system operators sometimes had the effect of orienting the customer towards the incumbent suppliers. The audit also highlighted the difficulty of finding the contact details for the operator’s information centres. A new audit of this type was launched in the beginning of 2008 to assess progress made.

1.1.2. Independence of system operators

For distribution system operators supplying more than 100,000 connected customers, 2007 was devoted to preparations for the legal unbundling set forth in the Directives of June 2003. Because this provision was not transposed into French law until December 2006, companies could not start the legal proceedings needed to complete unbundling by the stipulated date of 1 July 2007. Consequently, the EDF and Gaz de France distribution subsidiaries were not created until 1 January 2008. Legal unbundling of Gaz de Bordeaux and Gaz de Strasbourg, through the creation of a subsidiary for supply activities, was still not effective as of 30 May 2008.

Figure 10: Examples of confusion caused by similar logos



For EDF and Gaz de France as well as certain local distribution companies (LDCs), legal unbundling has led to the creation of a subsidiary in charge of all grid or network activities.

In contrast, the strategy adopted by Gaz de Strasbourg and Électricité de Strasbourg calls for creating a subsidiary in charge of supply while maintaining the system operator within the parent company. This is consistent with the Law of 9 August 2004, but it does not comply with the Directives of 26 June 2003, given that the system operator is an integral part of the parent company, which controls the supply subsidiary. At the request of CRE, the two LDCs have agreed to lay out how they will guarantee real independence for the system operator.

The independence of system operators must be analysed in terms of the independence accorded by their parent companies, in compliance with EU and national requirements. The first signals given by EDF and Gaz de France raise questions about their real commitment to implementing the necessary conditions for subsidiary independence. For example, EDF and Gaz de France imposed names and graphic identities on their distribution subsidiaries, ERDF and GrDF, which are too similar to the incumbent trade names [see Figure 10].

Likewise, the decision in February 2008 to name a member of EDF's executive committee as chairperson of RTE's supervisory board does not guarantee real independence with regard to EDF.

In contrast, Gaz de Bordeaux and Usine d'électricité de Metz gave their system operators differentiated names, respectively Régaz and URM, thereby avoiding any confusion [see Figure 11].

The independence of system operators must also be analysed in terms of organisation and decision-making. In this regard, electricity and natural gas transmission system operators have demonstrated real independence. Users of transmission systems have confirmed this in various surveys.

However, while RTE has decided against using EDF's internal departments for cash management, human resources and accounting, TIGF and GRTgaz have made the opposite choice.

Following the 2007 audit of transmission system operators, CRE expressed criticism in two areas. First of all, TSOs need to communicate a clearer message to explain their mission, while emphasising their independence from integrated companies. Secondly, it is critical to ensure greater independence in the area of procurement policies and human resource management.

1.2. Account unbundling

1.2.1. The account unbundling context

One of the first requirements that vertically integrated electricity and gas companies had to meet to comply with the 1996 and 1998 Directives and the transposed Laws of 10 February 2000 and 3 January 2003 was to unbundle their accounting between regulated and competitive activities. As set forth in the 1996 and 1998 Directives, accounting must be separated as if "the activities in question were carried out by separate companies, with a view to avoiding discrimination, cross-subsidisation and distortion of competition".

In the natural gas sector, account unbundling today involves distribution (for the LDCs concerned), storage, and operation of liquefied natural gas facilities. As appropriate, it may also involve a separate account for electricity trading and another account for all other activities outside the natural gas sector. In the electricity sector, account unbundling involves generation and distribution (for the LDCs concerned), and may also involve a separate account for natural gas trading and another account for all other activities. For both the natural gas and electricity sectors, separate accounts must also be kept for supply activities, between customers who have exercised their eligibility and those who have not. CRE's regulatory authority has been extended to include the definition of account unbundling rules applied to operators.

Figure 11: Examples of differentiated logos



Account unbundling is a means of ensuring correct cost allocation between regulated and competitive activities. More generally, it is a way of structuring the financial relations between these activities. Account unbundling is one of the main tools used to guarantee the independence of system operators within vertically integrated companies. It is part of a process that began gradually and was subsequently reinforced by the legal unbundling requirement for networks and grids set forth in the Directives of 26 June 2003. It was implemented in France with the Law of 9 August 2004, for the legal unbundling of transmission systems, and with the Law of 7 December 2006, for the legal unbundling of distribution systems.

The subsidiaries that operate the electricity transmission and distribution grids (RTE and ERDF) and the gas transmission and distribution networks (GRTgaz and GrDF) keep separate accounts. But they maintain financial relations with their parent companies and can also share costs with other entities within the vertically integrated companies. Prior to creation of the subsidiaries, these financial relations were governed by internal protocols. They are now stipulated by contracts or are part of the general protocol between parent company and subsidiary, regarding upward flow of dividends for example. Nonetheless, ensuring the independence of system operators and avoiding cross-subsidies remains a significant challenge. From this standpoint, CRE will continue to monitor adherence to these principles, particularly through regular audits of the system operators' books.

1.2.2. Legal unbundling of distribution activities

In application of Article 13 onwards of the Law of 9 August 2004 concerning public electricity and gas service and electricity and gas companies, amended by the Law of 7 December 2006, legal unbundling of distribution system operators serving more than 100,000 customers within metropolitan France was to take effect by 1 July 2007 at the latest. This requirement applies to EDF, Électricité de Strasbourg, Usine d'Électricité de Metz, Sorégies and Régie du

Sieds in the electricity sector, and to Gaz de France, Gaz de Strasbourg and Régaz in the natural gas sector.

The distribution subsidiaries of EDF and Gaz de France, ERDF and GrDF, were created on 1 January 2008. In the case of ERDF, subsidiary formation was retroactive, the new accounting going into effect on 1 January 2007.

Contrary to what was specified for electricity and gas transmission system operators in the Law of 9 August 2004, the Law of 7 December 2006 specified neither the financial conditions for forming the distribution subsidiaries, nor the conditions for creating their opening balance sheets.

EDF chose to create its distribution subsidiary by means of an asset contribution. The subsidiary's opening balance sheet on 1 January 2007 was based on the unbundled accounts on 31 December 2006, after various revisions that EDF submitted to CRE. The main revisions involved distribution in areas supplied by France's island power system (SEI), adjusting accounts receivable and advances for the end customers of EDF Commerce, and adjusting shareholders' equity to meet the subsidiary's needs.

The SEI revision is related to the fact that the legal unbundling requirement is limited to metropolitan (continental) France. Therefore, only distribution in continental areas has been contributed to the distribution subsidiary. Distribution in the areas covered by the island power system is grouped with supply activities at the regulated retail tariff, given that for practical reasons, final consumers in these areas do not have access to suppliers other than the incumbent.

Accounts receivable and advances for final customers of EDF Commerce were adjusted because the distributor is not legally responsible for these items. It was not possible to include them in the contributed assets and liabilities. In the subsidiary's accounting, these items now reflect the relations between the distributor and the supplier. These relations are formalised, with regard to the billing of electricity transit, by the DSO-supplier contract.

However, the information systems do not at present allow the distributor to bill EDF, the supplier, with the regularity specified in the DSO-supplier contract.

The result is an additional need for working capital, estimated at around 700-800 million euros. EDF has notified CRE of its commitment to compensate the distributor at the market rate, pending information system upgrades, for the cost of bearing this additional need for working capital.

EDF set shareholders' equity at 2.7 billion euros for ERDF. Although exceeding the amount initially forecast by EDF to meet the needs of its subsidiary, this sum is still less than that reported in the most recent unbundled accounts.

The distribution of ERDF dividends to EDF must not prevent ERDF from maintaining a balanced financial situation and must keep capital at a level that is compatible with ERDF's independence. It will also be crucial for ERDF to rapidly correct the distortion, caused by the delayed information system upgrades, between EDF and the other suppliers in implementing the DSO-supplier contract.

Gaz de France created its distribution subsidiary through a transfer; financial valuation of the distribution business was based on the regulated assets base. As a result of this choice, the subsidiary's balance sheet includes intangible assets estimated at 11.4 billion euros. Part of this sum, representing the value in use of ongoing contracts, is depreciable; another part, representing the value of the concession holder's expertise, is not depreciable but is subject to impairment tests. Depreciation of these assets represents a cost affecting GrDF's profit and loss statement. GrDF's liabilities are growing in proportion to its intangible assets, which reflects the fact that Gaz de France financed this operation by increasing the subsidiary's capital and creating a debt owed to the shareholder under market conditions. Overall, GrDF's profitability has been weakened by the choice of a transfer strategy.

As highlighted in its annual report on the adherence to codes of good conduct and the independence of electricity and natural

gas system operators, CRE has expressed its reservations to Gaz de France concerning the legal unbundling approach adopted. Given the significant, long-term financial flows from GrDF to Gaz de France, CRE will pay particular attention to the balance of GrDF's financial structure going forward and any consequences on the subsidiary's independence. It is especially important that GrDF independently refinance part of the debt contracted with Gaz de France, in order to demonstrate autonomy in managing its cash resources.

1.2.3. Unbundling supply

The Law of 9 August 2004 required operators to keep separate accounts, as of 1 July 2004, for the supply of eligible customers and the supply of non-eligible customers. The Law of 7 December 2006 introduced changes to this unbundling requirement. As of 1 July 2007, operators must unbundle their supply accounts between customers who have exercised their eligibility and those who have not. This change eliminates the heterogeneity in the scope of the previous supply unbundling operation, which did not distinguish those eligible customers who had exercised their eligibility from those who had not.

The operators affected by this new scope are EDF, Gaz de France, and electricity and natural gas LDCs.

Unbundled supply accounting principles used within this scope will be transmitted to CRE. They will be analysed and submitted to the *Conseil de la concurrence* (French competition authority) before approval by CRE.

CRE will examine the unbundled supply accounting principles submitted by those companies affected by the modified scope, taking into account its previous observations with regard to unbundling between eligible and non-eligible customers.

In its decision of 14 June 2006, CRE approved the unbundled accounting principles proposed by EDF for the supply of eligible customers and non-eligible customers, provided that the valuation of the electricity transfer price takes generation costs into account. Evaluating the price of

energy and measuring generation costs will be central to approving the new unbundling principles. EDF has transmitted to CRE the method used to estimate its generation costs in metropolitan France, referred to as C3P (total cost of generation as shown in accounting records). This cost is based on elements of EDF's accounting (operating costs, fixed assets) and includes, beyond the generating cost on the books, non-accounted elements and assumptions about generating facility renewal. During the first half of 2008, CRE began analysing this method.

With regard to unbundled accounting for gas supply, on 20 July 2006 CRE approved the principles proposed by Gaz de France for unbundled supply accounting for eligible customers and non-eligible customers, subject to certain conditions. CRE recommended that the "other activities" scope be split into three: eligible customers, non-eligible customers and operations not related to supplying final customers. CRE also recommended that the delivered gas cost be allocated based on production cost as shown in accounting records, amending remarks it made in a document released 28 February 2006 on the procurement cost audit of Gaz de France.

1.3. Towards incentive-based regulation that encourages network and infrastructure operators to improve their productivity and quality of service

CRE's activities include defining tariffs for the use of public transmission and distribution networks for electricity and natural gas, and of LNG terminals. It then submits these tariffs for approval by the French ministers for the economy and for energy. Aimed at guaranteeing transparent, non-discriminatory access to networks and infrastructures, these tariffs must reflect the costs actually incurred, insofar as these costs are representative of an efficient operator.

To meet this efficiency objective, CRE has examined how to implement a regulatory approach that gives operators incentive to improve their efficiency both in terms of cost control and user quality of service (see Inset 12).

Incentive-based regulation flows from a simple observation: improving productivity takes effort, and operators of networks and infrastructures will move in this direction only if they are given financial incentive to do so.

When the period of validity (or "regulatory period") for these tariffs is relatively short, operators have no incentive to minimise their operating expenses, since the tariffs are regularly readjusted based on observed costs, cancelling out the benefits of any efforts operators may make.

To resolve this problem, several European regulators have adopted an incentive strategy which consists in defining a tariff adjustment scheme over a longer regulatory period, which takes into account the productivity objectives set by the regulator. The result is that during this period, the tariffs are no longer strictly linked to system operator costs (see Figure 12).

Consequently, if operators exceed the productivity objectives set for them, they can keep part of the difference between their costs and the tariff revenues; the other part is redistributed to users through a tariff reduction. The added gain for operators is what drives the incentive. This gain is potentially as high as the regulatory period is long.

Implementing this type of tariff strategy also offers better visibility to operators and their customers, to the extent that tariffs remain unchanged over a longer period.

It goes without saying that efforts to improve productivity by network and infrastructure operators must be accompanied by maintained or even improved user quality of service. To this end, the productivity incentives for operators must be accompanied by several types of mechanisms:

- quality indicators are tracked and published, creating incentive to do better by making the results public;
- quality commitments are set up, whereby the operator financially compensates users if it does not stand by its commitments;
- a bonus/penalty system is set up, with the

impact on operator revenue depending on whether quality objectives pre-determined by the regulator are reached.

Setting up a tariff adjustment scheme based on operator costs and regulator-specified productivity objectives requires defining the cost basis on which the productivity gains will be made. The regulatory authority must have knowledge of the productivity gains that operators could potentially make within a timeframe compatible with the regulatory period.

In particular, these two conditions require operators to have stabilised the scope of their costs, which in France was only achieved recently, once legal unbundling of the distribution system operators was complete.

In the initial implementation, productivity objectives generally involve controllable operating costs, as investments are most often completely covered by the tariffs. Imposing a productivity objective specific to investments would require identifying the controllable portion of capital costs, a more complex task than it is for operating costs.

In order to stimulate discussion on all these subjects, indicate possible ways forward and gather opinions from those involved, CRE conducted a public consultation in October 2007 on pricing principles for the use of natural gas distribution networks. Nearly 30 stakeholders participated. Most were in favour of extending the tariff period and setting up an incentive-based mechanism to encourage productivity. Many also wanted to see an incentive mechanism set up for quality of service.

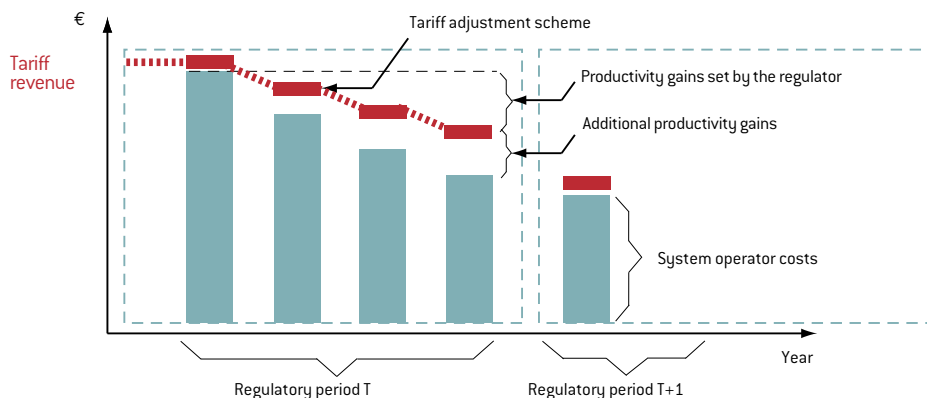
Inset 12: Incentive-based regulation by other European countries

The first European regulator to set up incentive mechanisms, in the early 1990s, was the English regulator Ofgem. Other regulators who set up incentive mechanisms did so in the

early 2000s. They include regulators in Scandinavian countries (NVE in Norway, SEA in Sweden and EMV in Finland), Austria (E-Control), the Netherlands (DTe), Italy (AEEG), Spain

(CNE) and Portugal (ERSE). The German regulator BNetzA plans to implement this type of mechanism in 2009.

Figure 12: Incentive regulation strategy to promote productivity



2. Electricity grids

2.1. Preparing the next tariff for use of electricity systems

From 12 February to 12 March 2008, CRE conducted a public consultation in view of defining the third tariffs for public electricity grids (TURPE 3).

The public consultation laid out potential pricing strategies and gathered contributions from the various stakeholders.

The new tariffs will enter into force on 1 January 2009.

2.1.1. Main changes to the regulatory framework presented in the consultation document

The new strategy under consideration by CRE primarily involves a change in the regulatory approach. The new approach would aim to give system operators incentives to improve their efficiency, in accordance with Article 4 of European Regulation 1228/2003 of 26 June 2003. However, the tariff structure defined for TURPE 2 would remain largely unchanged.

System operators would be incentivised to provide users with the best service at the lowest cost. The incentives would be based on two main efficiency criteria for system operators: productivity gains made on controllable operating expenses and quality improvements offered to consumers on the electricity grids.

The new tariffs would apply over a period of three or four years. A shorter period would limit the incentive impact of this regulatory design, since system operators could only keep the productivity gains beyond the regulator-defined objective for a very limited period. On the other hand, a period lasting more than four years would require an accurate forecast with respect to changes in controllable and uncontrollable costs.

A productivity objective is only being considered for controllable operating costs. This objective will be based on accounting audits performed by CRE and will take into account the operating context.

A productivity objective specific to investments would require a clear perception of changes in capital costs over the previous years, in order to forecast a realistic progression. A clear view requires breaking down investments into a volume factor and a unit-cost factor. For this purpose, CRE asked RTE to conduct a study to identify expenses related to the environmental, societal or technical integration of the works. The results show that expenses incurred to improve works integration do not entirely explain the changes in unit investment costs. Once revised for the integration costs, the “pared down” investment costs rise faster than inflation, and are ultimately borne by users. With a view to preparing TURPE 4, this analysis constitutes a first step towards an incentive-based regulatory framework that also includes RTE investments and aims to manage cost increases while maintaining works acceptability.

To avoid encouraging productivity gains at the expense of quality, cost incentive schemes would be accompanied by incentives to maintain the continuity of electrical power supply, a key aspect of user quality of service. Historical data on operator performance exist, making it possible to set up incentive-based regulation in this area.

The incentive scheme would be symmetric and global: system operators would face negative financial consequences for decreases in quality level, but would enjoy positive financial consequences if they improved quality. The financial incentives would be significant, in order to influence operator decisions (see Figure 13, p. 66).

The incentive scheme would initially apply only to RTE and ERDF.

2.1.2. Other subjects presented in the consultation document

Stakeholders were consulted on potential changes to the mechanism for mitigating the uncertainty of cost items that system operators consider uncontrollable and difficult to predict. This mechanism, called the Expense and Revenue Clawback Account, was implemented as part of TURPE 2.

Expenses and revenues currently eligible for the clawback account are:

- expenses related to compensation for losses on public electricity grids;
- revenues related to managing congestion at transmission grid interconnections with neighbouring countries;
- revenues from additional services;
- capital costs (depreciation and return on the regulated assets base).

The scope of this mechanism could be modified to take into account differences between the revenues actually earned and those forecast when the tariff proposal is drawn up. For system operators, this would mitigate the risk related to withdrawal revenues.

According to RTE, uncertainty relative to withdrawal forecasts has increased. This uncertainty is related to the challenge of accurately assessing how changes in certain industrial sectors will impact withdrawals, and to the rapidly increasing number of generators connected to the distribution grids (mainly wind turbines). An increase in distribution grid injections automatically reduces transmission grid withdrawals. In contrast, the connection of these new generating facilities does not alter withdrawal on the distribution grids.

Uncertainty relative to distribution grid withdrawal forecasts is far more limited, as is mainly determined by weather.

If the withdrawal risk is mitigated, the rate of return on assets defined for the next tariff proposal must take into account the reduced risk level for system operators.

2.2. Approval of the RTE investment programme

In accordance with Article 14 of Law 2000-108 of 10 February 2000 and amendments, the RTE investment programme is subject to approval by CRE, which ensures that the necessary investments are made to develop grids and provide transparent, non-discriminatory access to them. Article 14 goes on to state that CRE may only reject the annual investment programme as justified by the missions assigned to the Commission by law (see Table 2).

By virtue of Article 28 of Law 2000-108 of 10 February 2000, the CRE specifically ensures that the conditions for access to electricity and natural gas transmission and distribution systems do not hinder competitive development.

As a result, CRE takes into account the following in its approval decision:

- Long-term grid viability

The power system's performance depends on efficient management of RTE's indus-

trial assets. Due to extensive development of the electricity transmission grid in the 1970s and 80s, RTE will have to replace a significant proportion of the grid infrastructure in a relatively short period of time. At the request of CRE, RTE conducted a study on this subject which confirms the acceleration in renewal needs starting in 2020. For this reason, the RTE investment programme for 2008, approved by CRE on 20 December 2007, increases the renewal investment budget to 215 million euros, as opposed to 167 million euros for expenditures in 2006.

- Development of cross-border links, through projects included in the programme or by coordinated studies with neighbouring TSOs. For many years, CRE has highlighted the inadequacy of existing interconnection infrastructures. At the request of CRE, RTE presented investment projects in 2007 aimed at reducing congestion at interconnections in the medium and long term. Completion of these projects will ultimately depend on the level of cooperation between the French transmission system operator and its foreign counterparts, as well as

the works acceptability requirements. It is nonetheless crucial that these efforts be pursued (see Inset 13).

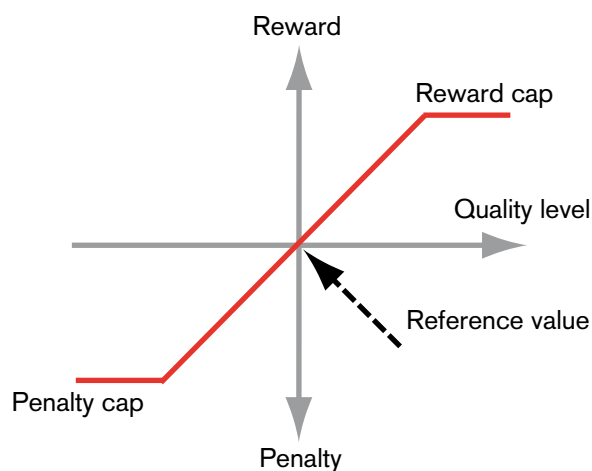
- RTE's transparent and non-discriminatory treatment of market players, particularly electricity generators. RTE's future investments must make it possible to connect future power plants under non-discriminatory conditions.

2.3. Monitoring quality of service

2.3.1. Decrease in quality of supply on public distribution grids

Since 2003, the EDF distributor (ERD then ERDF) has been submitting an annual activity report to CRE which addresses the quality of public distribution grids at the concession scale. At this small scale, performance can be analysed in detail and "trouble spots" detected. Results of the 2006 analysis are illustrated in Figures 15 and 16, and in Tables 3 and 4.

Figure 13: Incentive regulation strategy to promote quality



For the public transmission grid, the indicator most often used to measure the quality level is the annual quantity of undistributed energy.

For public distribution grids, the indicator most often used is the average annual length of power outages.

Since ERDF has not yet submitted its 2007 activity report, which CRE is to receive once the present report has been written, only 2006 data have been analysed. The figures below only show concessions operated by ERDF.

Figure 15 illustrates the average annual number of long power outages per low-voltage user in municipalities with more than 20,000 inhabitants.

Of all 94 municipalities studied, only 30 experienced an improvement in the average annual number of outages between 2005 and 2006, while 61 saw a deterioration (between 2004 and 2005, the figures were 40 and 55 municipalities respectively). Performance was identical for three of the municipalities between 2005 and 2006 (and for two municipalities between 2004 and 2005).

On average for 2005 and 2006, the worst performance was observed in Meaux and in a significant number of municipalities in the PACA region, with an average frequency exceeding two long outages per user. The municipalities of Saumur, Saint-Martin-d'Hères, Echirolles, Valence, Perpignan, Villeneuve-sur-Lot, Niort and Draguignan saw a significant increase in the average annual number of long outages per user between 2005 and 2006. In contrast, Thonon-les-Bains, Hyères, Carpentras, Sens, Lyon and Montluçon experienced a significant drop in the average annual number of long outages per user.

Figure 16 illustrates the average annual number of long power outages per low-voltage user and per syndicate, or more generally, per public inter-municipal cooperation entity in charge of electricity systems. The municipalities in Figure 15 are independ-

ent concession-granting authorities and are therefore not part of the syndicates in Figure 16. The areas with poor continuity of supply in Figure 15 are different from those shown in Figure 16.

Of all 86 syndicates studied, 70 saw an increase in the average annual number of outages between 2005 and 2006 (36 between 2004 and 2005), and only 10 syndicates saw a drop (51 between 2004 and 2005). Six syndicates reported identical performance between 2005 and 2006.

Table 2: 2008 RTE investment programme, approved by CRE

Source: CRE

Major transmission and interconnections	€236.0 million
Regional grids – Development	€240.1 million
Regional grids – Renewal	€215.2 million
Power system tools	€91.9 million
Management and market tools	€36.2 million
Logistics	€33.1 million
Total	€852.6 million

Inset 13: Importance of interconnection infrastructures

Electricity interconnections between France and neighbouring countries constitute a critical link in the European power system. They serve two purposes.

First of all, they make it possible for transmission system operators to rely on each other during system failures by providing immediate access to electricity resources in neighbouring countries. The primary purpose of interconnections is thus to improve electricity transmission grid dependability. Secondly, this infrastructure enhances

market operation by facilitating international exchanges. Thanks to interconnections:
 – customers can buy electricity from suppliers in other EU countries,
 – in the same way, suppliers can sell electricity to customers in other countries.

These exchanges take advantage of the synergy achievable by drawing on the diversity of different generating facilities. As a result, during peak periods customers can buy electricity generated by a hydroelectric plant in a neighbouring

country, instead of electricity generated by a combustion turbine on the French grid. The transactions help optimise production (nuclear, hydroelectric, gas, coal, wind, etc.) at the European level, which in turn helps:
 – minimise production costs,
 – reduce CO2 emissions.

Table 3: Change in the average annual number of long power outages for the 10 worst-performing municipalities with than 20,000 inhabitants

Source: ERDF – Analysis: CRE

Municipalities	2006	2005	2004	2004-2006 average
Draguignan	3.46	2.21	0.56	2.07
Saint-Martin-d'Hères	2.99	0.89	1.10	1.66
Cannes	2.97	1.83	1.26	2.02
Saumur	2.93	0.51	0.68	1.37
La Garde	2.60	2.09	1.85	2.18
Saint-Raphaël	2.60	1.88	1.55	2.01
Perpignan	2.46	0.98	1.36	1.60
Fréjus	2.26	2.52	1.36	2.04
Valence	2.13	0.60	–	1.37
Le Mans	1.93	1.13	0.89	1.32

Figure 15: Average annual number of long power outages in French cities (> 20,000 inhabitants) per low-voltage user, for all outage causes – 2006 results

Source: ERDF – Analysis: CRE

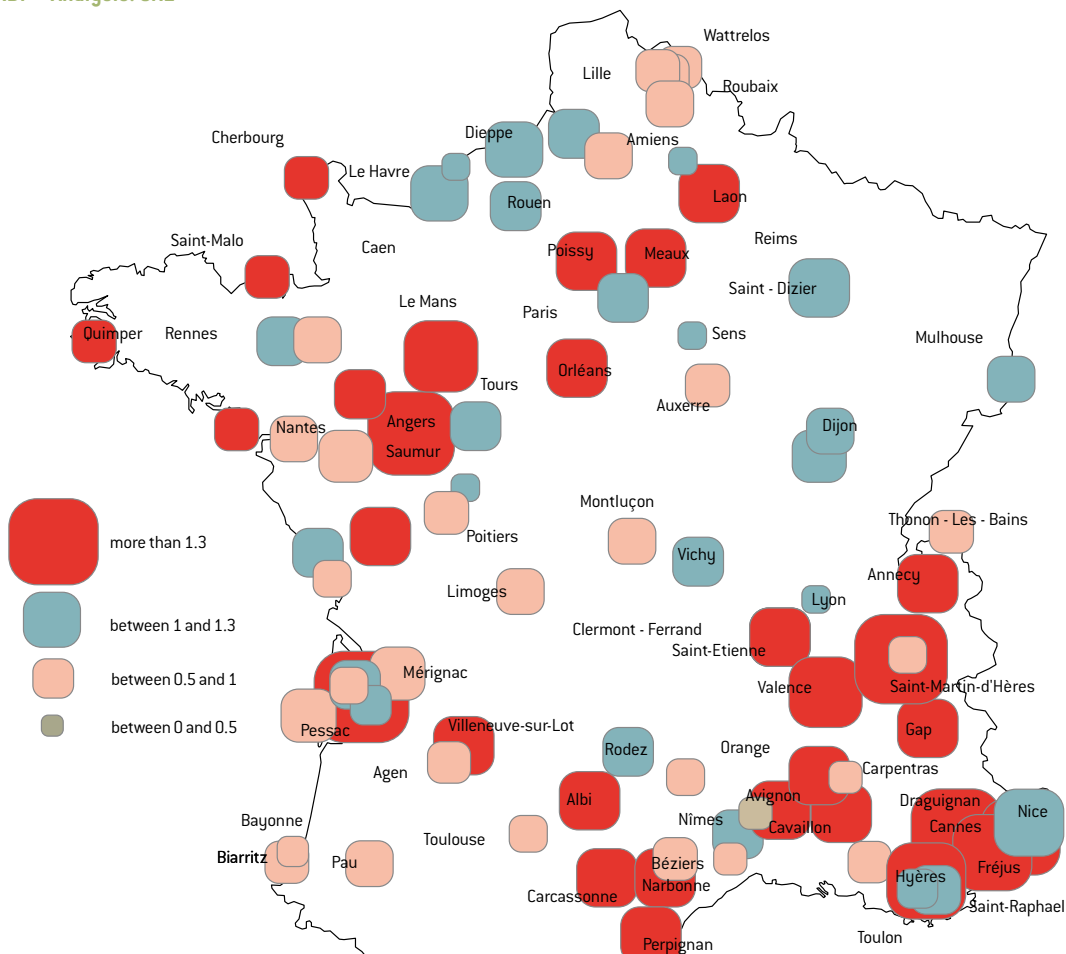


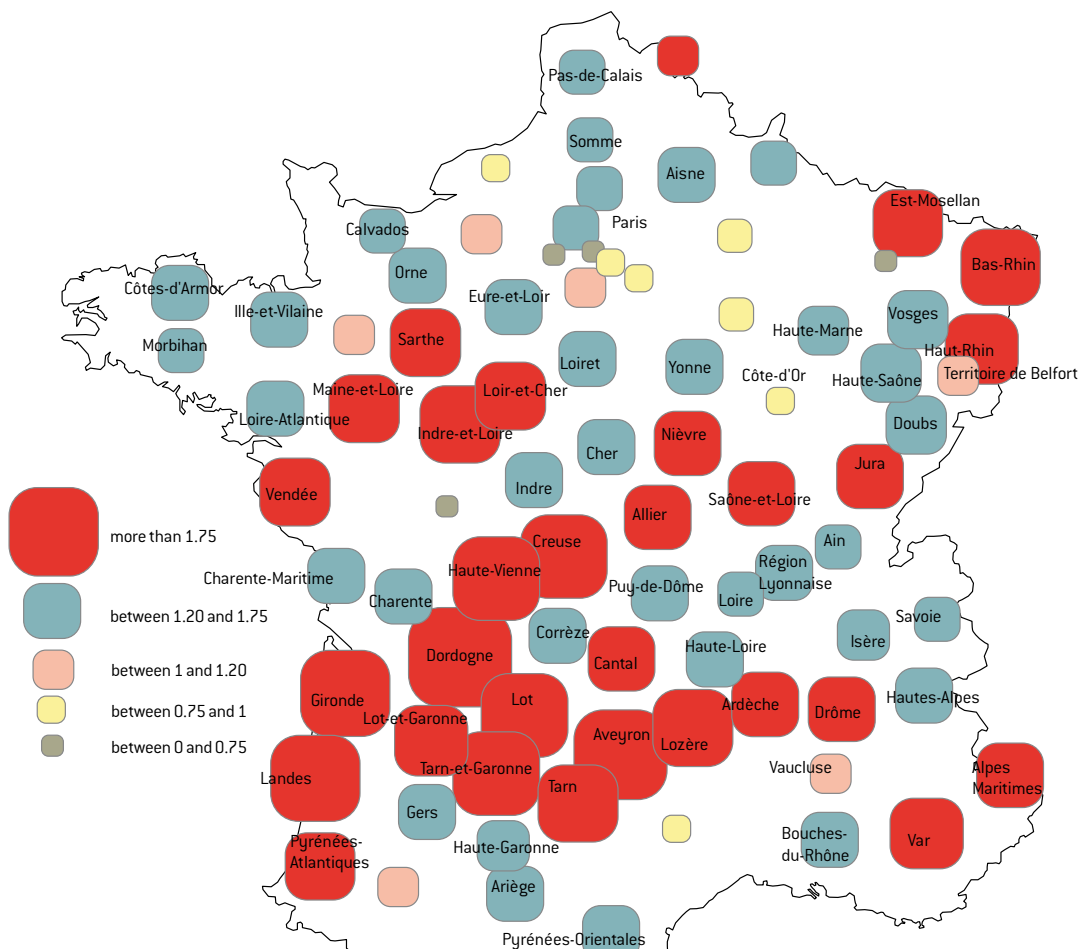
Table 4: Change in the average annual number of long power outages for the 10 syndicates with the worst-performing grids

Source: ERDF – Analysis: CRE

Syndicat	2006	2005	2004	2004-2006 average
Dordogne	2.95	1.43	1.44	1.94
Aveyron	2.73	1.37	1.53	1.88
Tarn-et-Garonne	2.62	1.51	1.49	1.87
Lot	2.58	1.72	2.68	2.33
Haute-Vienne	2.56	1.46	1.34	1.79
Landes	2.49	1.35	1.66	1.83
Gironde	2.43	1.32	1.03	1.60
Creuse	2.34	1.86	2.26	2.15
Tarn	2.33	1.31	1.89	1.84
Lozere	2.26	1.30	1.56	1.71

Figure 16: Average annual number of long power outages per low-voltage user for the main syndicates, for all outage causes – 2006 results

Source: ERDF – Analysis: CRE



On average for 2005 and 2006, the worst grid performance levels were observed in the *départements* of Dordogne, Aveyron, Tarn-et-Garonne, Lot and Haute-Vienne, with an average annual number of long outages exceeding 2.5 per user and a deterioration in performance between 2005 and 2006. On the contrary, grids in Drôme, Bouches-du-Rhône and Saint-Quentin-en-Yvelines saw significant improvement in the average annual number of long outages per user.

The Dordogne syndicate's grid performed poorly in 2004 and 2005 (1.44 and 1.43 long outages), with even worse results in 2006 (2.95 long outages).

At the national level, the average annual length of long outages increased to 94.4 minutes in 2006, versus 64.0 minutes in 2005 and 63.7 minutes in 2004.

CRE will place special focus on operator investments in distribution grids, as well as repair and maintenance, in order to improve the quality of electricity supply in France.

2.3.2. Quality of supply on the public transmission grid

Performance data collected by CRE on the public electricity transmission grid can be grouped according to the following themes:

- description of the customer base;
- continuity of supply and quality of the voltage wave;
- the operator's quality of service, including how quality-related complaints and commitments are handled;
- monitoring users' obligation to exercise caution and the number of disruptive users.

This information is transmitted quarterly or annually by RTE, according to each mesh in the seven regions that make up the nationwide organisation. These regions are illustrated in Figure 18.

Table 5 (see p. 72) indicates, for each RTE region, the equivalent power outage time observed on average from 2002 to 2006, for all outages causes (All) and excluding exceptional events (EEE).

On average over five years, the West, South-west, South-east and North-east regions ex-

perienced the poorest quality of supply on the public transmission grid. For the two regions in southern France, this confirms the analysis conducted on the public distribution grids.

2.3.3. CRE objectives when monitoring public electricity grid quality

Operator activity reports give CRE access to reliable, comparable, year-on-year information regarding the performance of public electricity grids, as illustrated in Figures 17 and 18.

Using this information, CRE:

- monitors changes in indicators for each concession, and can therefore anticipate any local deterioration in quality year after year;
- determines incentive-based regulatory parameters for system operators with regard to quality;
- assesses the quality objectives of regulations when they are submitted to CRE for an opinion;
- integrates the results of international comparisons conducted by the Council of European Energy Regulators (CEER). The 4th *Benchmarking Report on Quality of Electricity Supply* is scheduled for publication at the end of 2008 and will include 2006 performance data. This report follows on from the first three reports, published in 2001, 2003 and 2005.

2.3.4. Quality levels and quality-related technical requirements for public electricity grids

On 11 October 2007, CRE issued two unfavourable opinions on the draft decree and the draft implementing order relative to quality levels and quality-related technical requirements for public electricity distribution and transmission grids.

While these draft provisions are intended to give incentive for improving the quality of public electricity grids, they could lead to deterioration in the current quality level. A turn of events in this direction would compromise business competitiveness, the level of comfort in homes and the degree of confidence in open markets.

For example, the maximum number of long

and short power outages used for the general assessment of electricity supply continuity is excessive and does not reflect the quality levels observed in French *départements*.

Similarly, 15 long outages per year, for a given location and excluding exceptional circumstances, does not correspond to reality and does not provide distribution grid users with adequate protection.

The performance levels observed for all outage causes on EDF's public distribution grids during 2004, 2005 and 2006 show that no *département* had an average annual number of long outages per low-voltage user greater than three (see Table 6, p. 73). On average over these three years, the average annual number of long outages per user was 1.20, and only 0.5% of low-voltage users experienced more than 30 short outages per year.

The figures stipulated by the Order of 24 December 2007 are therefore much less stringent than performance levels currently observed on public distribution grids for electricity in France.

Furthermore, the cumulative outage time per year was initially not used, due to a lack of consensus within the *Comité technique de l'électricité* (technical electricity committee overseen by the French Ministry for Energy). An agreement was nonetheless reached and the minister in charge of energy adopted this criterion, which was added to the quality assessment methods. However, the threshold value will only be set following a two-year trial period.

Figure 17: Regional comparison of the average annual length of long power outages on public distribution grids operated by ERDF (low-voltage users, for all outage causes) – 2003-2006 results

Source: ERDF – Analysis: CRE

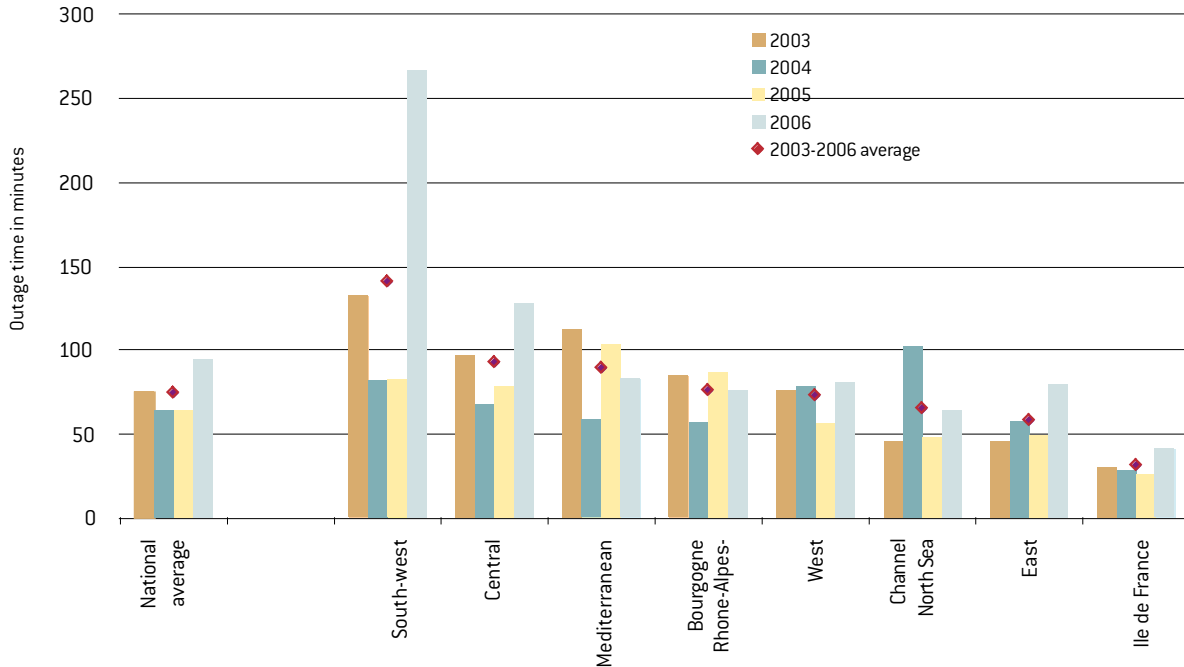
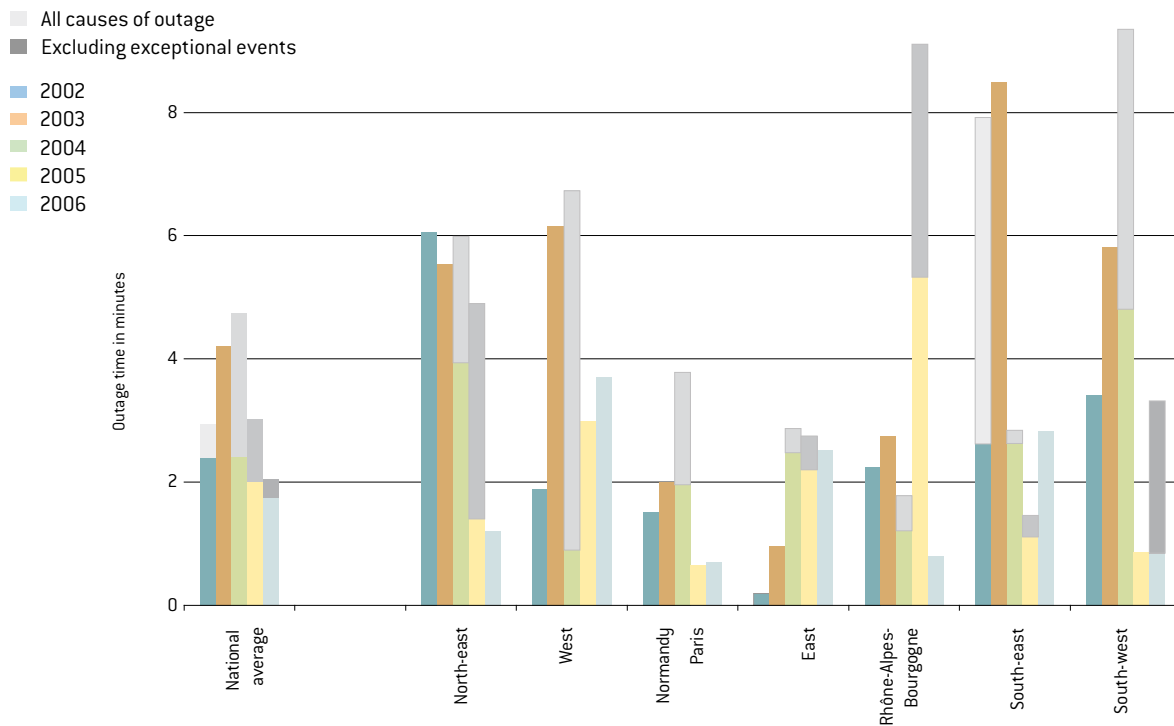


Figure 18: Changes in equivalent power outage time per region on the RTE public transmission grid – 2002-2006 results

Source: RTE – Analysis: CRE



The two-year probationary period will be subject to a joint assessment by FNCCR (national federation of concession-granting and state-run authorities) and the distribution system operators. If the voltage stability threshold of 5% initially set by the Order of 24 December 2007 proves unsuitable, a lower threshold could be adopted following this period. The same applies to the maximum numbers of outages affecting users.

The decree should have taken into account users connected to the public transmission grid, notably injecting users (generators and substations).

This question should be resolved rapidly for all users, given the absence of any commitment by the public transmission system operator, with regard to injecting users, in the transmission grid access contracts.

2.4. Connection to electricity grids

2.4.1. Towards new general technical requirements for connection to public electricity grids

By a decision on 28 February 2008, CRE issued its opinion on a draft decree and two draft implementing orders relative to new conditions for the connection of generating facilities to public electricity grids (see Figure 19, p. 74). The draft provisions are in application of Articles 14 and 18 of the Law of 10 February 2000. They are intended to replace all or part of the published provisions on the same subject (Decrees of 13 March 2003 and 27 June 2003 and Orders of 19 March 2003 and 4 July 2003).

The draft provisions aim to adapt measures currently in force to take into account feedback received since they entered into effect, in particular with regards to dispute settlement decisions. They also aim to apply insight gained from the power outage on 4 November 2006, by improving power system back-up through decentralised power generation.

On 28 February 2008, CRE issued its opinion on these draft provisions. It believes that the new provisions, like the provisions they replace, will facilitate transparent, non-

discriminatory relations between public electricity system operators and users, with regard to the connection of power generating facilities.

However, CRE notes that certain technical requirements will apply to any generating facility in its entirety, if this facility undergoes substantial modifications. The Commission considers it excessive to retroactively impose all new requirements in the draft provisions to an entire generating facility that has already been licensed or certified.

The new provisions will require generating facilities to participate in controlling frequency and voltage at the request of the public transmission system operator, and will therefore restrict the generator's freedom to negotiate the supply price of ancillary services with RTE. CRE proposed amendments to the draft order that would require each electricity generating site to be associated with a contractual document, involving the generator and the provision of ancillary services, regardless of the site's level of participation, even if it is nil.

Table 5: Power outage time per RTE region

Source: RTE – Analysis: CRE

RTE region	2002-2006 average		2006	
	All (min)	EEE (min)	All (min)	EEE (min)
Normandy Paris	1.73	1.37	0.70	0.70
East	1.86	1.67	2.52	2.52
Rhône Alpes Bourgogne	3.34	2.47	0.80	0.80
West	4.29	3.13	3.70	3.70
South-west	4.55	3.15	3.32	0.85
South-east	4.71	3.54	2.83	2.83
North-east	4.74	3.63	1.21	1.21
National average	3.39	2.56	2.06	1.75

In addition, the safety of certain industrial facilities may require islanding measures as needed to ensure the continuity of their electrical supply. This type of operation is legitimate in the case of facilities classified for environmental protection, as defined in Article L. 512-1 of the French Environmental Code (e.g. Seveso facilities). CRE believes that generating facilities must be allowed to intentionally island around industrial sites in a preventive manner, under exceptional frequency and voltage circumstances affecting public electricity grids.

The draft provisions also contain connection procedure measures, which define the framework for connection and operating agreements. In application of Article 23 of the 26 June 2003 Directive, it is CRE's role to approve the rules determined by the public electricity system operators or to establish any rules that are lacking. Moreover, this is confirmed by Article 13 of the standard concessionary specifications for the public transmission grid, appended to the Decree of 23 December 2006; Article

13 specifies that procedures for processing connection requests must be submitted for approval to CRE.

2.4.2. Procedural changes for connection to the public distribution grids

Article 13 of the standard concessionary specifications for the public electricity transmission grid, approved by the Decree of 23 December 2006, tasks CRE with approving the processing procedures for public transmission grid connection requests from user facilities and from public distribution grids. The new procedures will replace existing provisions which only concern generators.

To facilitate this new provision, CRE considers it necessary to specify the approval conditions for the proposals it will review. By this initiative, CRE aims to guide the development of processing procedures for public transmission grid connection requests, and the monitoring of their implementation.

From 27 September to 12 November 2007, CRE conducted a public consultation on the principles it intended to develop in the draft document. In their responses, the stakeholders expressed high expectations for improvement of the existing procedure. They also proposed a few modifications to the principles presented to them.

CRE will only issue a decision once the concession contract for the public electricity transmission grid has been signed by the parties involved.

Table 6: Performance observed on mesh for each département, for all outage causes, on public electricity distribution grids operated by ERDF – low-voltage users

Source: ERDF – Analysis: CRE (2008)

Year		Average annual number of long outages per user	Percentage of users subject to more than 6 long outages during the year	Percentage of users subject to more than 30 short outages during the year	Percentage of users subject to more than 20 short outages during the year
2004	Max	2.68	4.16 %	8.22 %	15.16 %
	Avg	1.11	0.48 %	0.53 %	1.68 %
	Min	0.27	0 % [14 dépt.]	0 % [35 dépt.]	0 % [19 dépt.]
2005	Max	2.43	5.30 %	5.50 %	11.13 %
	Avg	1.09	0.42 %	0.32 %	1.09 %
	Min	0.28	0 % [24 dépt.]	0 % [44 dépt.]	0 % [33 dépt.]
2006	Max	2.95	6.25 %	9.42 %	23.50 %
	Avg	1.39	0.93 %	0.64 %	2.05 %
	Min	0.56	0 % [7 dépt.]	0 % [44 dépt.]	0 % [21 dépt.]
Average		1.20	0.61 %	0.50 %	1.61 %

2.4.3. Procedural changes for connection to public distribution grids

To allow the most advanced projects involving decentralised generating facilities to benefit from available capacity as quickly as possible, by 2001 CRE had already asked the public system operators most concerned to set up a transparent procedure for processing connection requests. In 2002, CRE wanted to see this procedure improved and extended to all generators.

Based on the real situations CRE had to examine during dispute settlements, the Commission realised the inadequacy of the procedures which distributors had applied up to that point, exclusively to generators, to ensure transparent, objective and non-discriminatory treatment of third-party access to public electricity distribution grids, and to enable facilities to be connected in a timely manner and under reasonable conditions.

Furthermore, the specifications under which EDF was granted the general electri-

cal power supply grid concession have been replaced by the standard specifications for the public electricity transmission grid concession. This has called into question provisions relative to HVA circuits in the standard specifications governing the public service electrical power distribution concession. It has also introduced a distinction regarding connection conditions for high-voltage users, depending on whether they are supplied by a public distribution grid or the public transmission grid.

In this context, CRE is considering taking a regulatory decision, in application of Article 37 of the Law of 10 February 2000, to define the rules that public distribution system operators must follow when establishing procedures to process connection requests for user facilities and for other public distribution grids.

From 27 September to 12 November 2007, CRE conducted a public consultation on its draft decision concerning the rules for establishing public electricity distribution

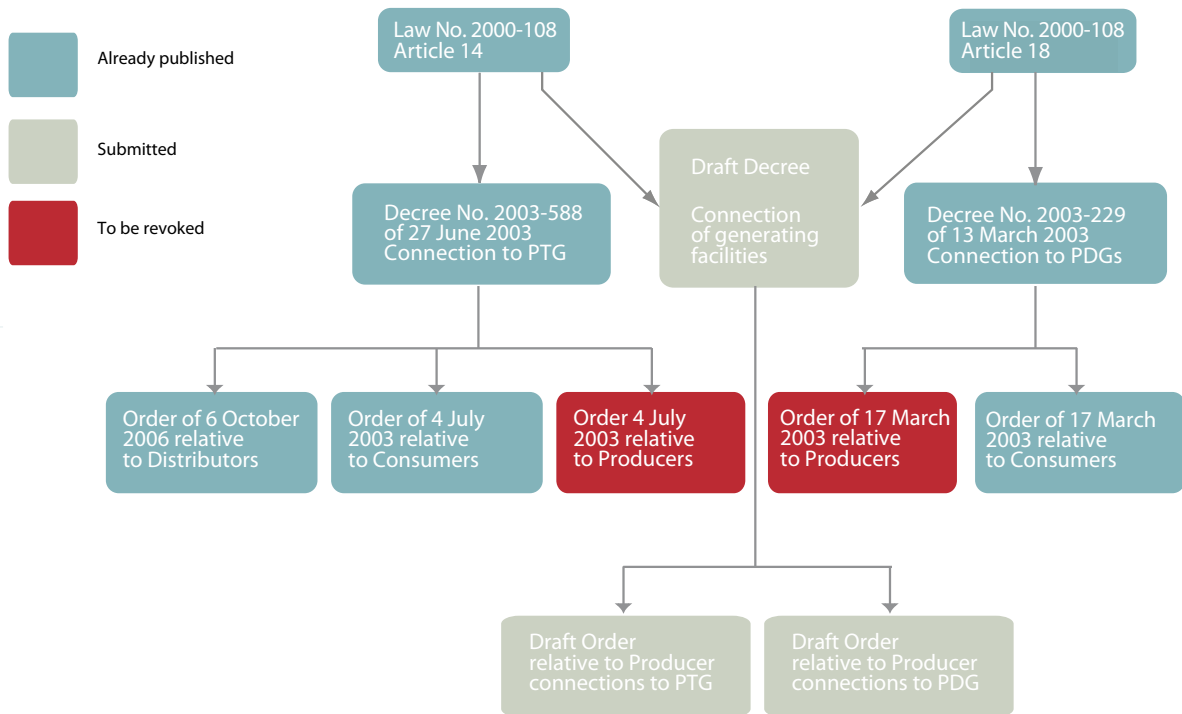
grid connection procedures and following up their implementation. As in the transmission sector, the stakeholders expressed high expectations regarding the improvement of existing procedures. They also proposed several modifications to the submitted project.

CRE plans to deliberate on this matter while it continues public discussions on establishing processing procedures for public electricity transmission grid connection requests.

2.4.4. Connecting wind power facilities situated in a wind development zone

For interconnected zones linked to the continental grid, the Law of 13 July 2005 restricts the benefit of the purchase obligation exclusively to wind power installations located in a wind development zone.

Figure 19: New provisions within the regulatory framework Source: CRE (2008)



On 11 June 2007, the EDF distributor (ERD) called CRE's attention to the need to define specific rules for processing connection requests and for billing in wind development zones, given that application of the existing rules could interfere with development in these areas.

ERD proposed the following principles as a basis for these rules:

- from the moment a wind development zone is created, it is considered by the distribution system operator as a connection request package;
- the public system operators immediately undertake a study on the wind development zone service area based on the characteristics set by the Prefect's authorisation order;
- all wind power facilities belonging to this connection package are required to pay a contribution towards planned or completed work on the public electricity grids to service to the wind development zone.

From 3 October to 19 November 2007, CRE conducted a public consultation on a draft version of specific rules for connecting wind power installations to public electricity distribution grids, incorporating the principles proposed by ERD. In their responses, generators in the wind sector agreed with ERD on the need for specific rules and were favourable to the draft version, subject to a few changes. In contrast, non-nationalised distributors challenged the necessity and legal basis of this initiative, which in their view would have significant financial consequences.

In a document released 21 February 2008, CRE presented the following conclusions:

- CRE cannot use the extension of its regulatory powers to establish rules specific to processing connection requests and billing for wind development zones;
- operators cannot, on their own initiative, adopt billing rules incompatible with the statutes and regulations in force.

Under these conditions:

- as soon as a wind development zone has been created, in accordance with applicable regulations, public electricity system operators must undertake a study of any work required to service to these areas;

- CRE calls attention to the fact that in application of Article 7 of the Order of 28 August 2007, wind power generators can pool their connection requests to facilitate the rational development of public electricity grids;
- it is the government's responsibility to take the necessary initiatives to change the existing rules relative to processing connection requests and billing.

2.4.5. New billing system for connections to public distribution grids

The billing system for public distribution grid connections changed with the application of the Urban Planning and Housing Law of 2 July 2003, in order to comply with the Solidarity and Urban Renewal Law of 13 December 2000.

Two implementing texts, dated 28 August 2007, established new principles for billing connections:

- a decree concerning the nature of low-voltage connection works and extension works for linking to public electricity grids, which specifies the scope of connection billing;
- an order that sets billing principles for connections carried out in situations where distribution system operators are the contracting authority. First of all, this order stipulates that each distribution system operator must establish a tariff scale that sets connection costs. Secondly, it defines how costs are to be shared between applicants, which local authorities are in charge of urban planning, and the tariffs for use of public electricity grids. The distribution system operator (through the public electricity grid tariffs) shares the cost of connection with the applicant in the proportion set by the tariff reduction rate for connections, and shares extension costs with the local urban planning authority or the applicant (if a generator) in the proportion set by the tariff reduction rate for extensions.

Both provisions, dated 28 August 2007, were submitted to CRE for approval before publication. The government did not take into account any of the observations made by CRE in the two opinions issued 23 May 2007.

CRE had stressed that the manner in which the provisions defined an extension was liable to raise connection costs by expanding the scope of billing. It had also criticised the absence of transitional measures and the imprecise technical vocabulary, a compromising factor for legal security.

Moreover, the government did not respond to CRE's request that it be allowed to set the value of the tariff reduction. CRE considered that the final decision-making scheme adopted reduced its authority in proposing public electricity grid tariffs, whereas Article 23 of the 26 June 2003 Directive states that 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 [...]", and that the "regulatory authorities shall submit to the relevant body in the Member State, for formal decision, the tariffs or at least the methodologies referred to [in Section 2] [...]. The competent body shall, in this case, have the power to either approve or reject the draft decision submitted by the regulatory authority [...]".

These texts assign several missions to CRE:

- connection tariff scales drawn up by operators whose distribution grid serves more than 100,000 users must be submitted to CRE for approval;
- if it sees fit, CRE may oppose the entry into force of connection tariff scales drawn up by operators whose distribution grid serves less than 100,000 users;
- finally, tariff reduction rates are submitted to CRE for an opinion before adoption.

The tariff reduction rate remains to be set. A value of around 40%, applied to both low-voltage connection works and extension works, mentioned during preliminary discussions, would result in a limited increase in the tariff for use of public electricity grids.

2.4.6 New tariff scales used by public distribution system operators to bill connections

The main public distribution system operators began notifying CRE in January 2008 of their first connection tariff scales in application of the Order of 28 August 2007.

Given the exhaustive nature of the scales received by CRE, in accordance with the above-mentioned order, and in view of the cost information provided by the DSOs and the number of connections to their grids, CRE approved the connection tariff scales of the following distribution system operators (supplying more than 100,000 users):

- Électricité Réseau de Distribution France (ERDF) ;
- URM ;
- Sorégies Réseaux de Distribution (SRD) ;
- Sorégies Deux-Sèvres ;
- Électricité de Strasbourg (ES).

Several distribution system operators, including Électricité de France Systèmes Énergétiques Insulaires (EDF SEI), have not yet notified CRE of their draft tariff scale.

The files CRE has received from distribution system operators serving less than 100,000 customers are, in most cases, incomplete. Missing information includes the cost data needed to justify the prices in the tariff scales and the volume of each type of connection operation, whereas the Order of 28 August 2007 stipulates that this information must be submitted to CRE at the same time as the tariff scales.

Moreover, several distribution system operators have informed CRE of their intention to use another DSO's tariff scale, even though the Order of 28 August 2007 does not allow this possibility.

CRE therefore recommends that, in accordance with Article 6 of the Order of 28 August 2007, distribution system operators at least apply simplified cost formulas to connections less than 100 m long with a power rating of 36 kVA or less. This scope should apply regardless of the type of connection (definitive or provisional, for a consuming, injecting or alternately injecting and consuming installation). Small non-

nationalised distributors, while capable of complying with these requirements, do not necessarily have the means to broaden the scope of this provision to include facilities operating at power ratings higher than 36 kVA.

CRE asks distribution system operators to submit at least the following:

- a description of the methodology used to determine the simplified cost formula coefficients;
- a few examples with supporting figures to illustrate the methodology.

CRE notes that, by virtue of the 28 August 2007 Order:

- distribution system operators can collaborate to develop a joint tariff scale. During round tables organised by CRE, stakeholders were strongly in favour of any measures intended to harmonise the structure of the tariff scale, allowing them to exchange information;
- introducing cost indexing in calculating tariff scales, which certain distribution system operators plan to do, is not authorised.

2.5. Grid access contracts

2.5.1. CRE approves standard contracts for user access to public transmission grids

The new standard concession specifications for the public transmission grid (PTG) stipulate that standard PTG access contracts will henceforth be approved by CRE. These standard contracts must be included in the reference technical documentation and published by RTE.

It is important that consumer and generator needs, when justified, be taken into account in the standard contracts proposed by RTE. CRE will encourage RTE to incorporate quality efforts into a continuous improvement strategy.

Contracts between RTE and DSOs are not subject to approval by CRE. However, they must be included in the reference technical documentation and therefore undergo a preliminary review by CRE.

2.5.2. Eliminating any differential treatment between holders of distribution grid access contracts and single contract holders

To guarantee non-discriminatory access to public electricity grids, DSOs must harmonise their standard contracts for public distribution grid access with the recent version of the standard DSO-supplier contract. The type of contract selected must not lead DSOs to treat consumers differently, unless there are objective differences inherent to the type of contract selected: single contract or distribution grid access contract.

Furthermore, the DSOs should continue to improve other documents within the contractual scope of grid access (connection agreements and operating agreements), by simplifying them and making sure they are consistent with access contracts.

As it did for the initial versions of the standard distribution grid access contracts, CRE will work with DSOs to harmonise and improve grid access contracts.

2.6. Concession specifications

2.6.1. Enforcing concession specifications for the public electricity transmission grid

Provided for by Article 12-II of the Law of 10 February 2000, the new standard concession specifications for the public electricity transmission grid were adopted by the Decree of 23 December 2006, following the CRE opinion issued 2 March 2006, and published in the Official Journal of the French Republic on 30 December 2006.

The standard specifications set out new obligations for the public electricity transmission system operator, RTE, and new rights for consumers, generators and distribution system operators, as well as the following new regulatory powers for CRE:

- CRE has been endowed with the authority to approve the following:
 - procedures for processing PTG connection requests submitted by user facilities and public distribution grids;
 - standard grid access contracts. The standard RTE-DSO contract is not subject to this approval, but it must be included in the reference technical documentation;
 - rules for calculating total transfer capacity and reliability margins, as well as capacity allocation rules.
- It has also been endowed with decision-making authority relative to:
 - conditions for the exchange of metering information in the event of a disagreement between public distribution system operators and the concession holder.
- The TSO is now obliged to exchange information with CRE.

The TSO must submit the following to CRE:

- the annual report on the application of connection procedures,
- its policy on renewing metering facilities,
- reference technical documentation and the conclusions of consultations held with representatives of various types of user.

The TSO must make available to CRE:

- detailed summary reports that provide an inventory of PTG works,
- maintenance and renewal policies, as well

as the report on their implementation.

It is imperative that a new concession agreement (or an amendment to the existing agreement) be signed as soon as possible; failing this, the rights and obligations set out in the standard specifications will not be effective.

2.6.2. Collaboration with FNCCR in reviewing the standard concession specifications for public distribution grids

Following an initial update in 2007 to the standard specifications for electricity distribution concessions, the FNCCR (national federation of elected officials in charge of operating local public services) and EDF initiated an in-depth review of this document.

This specification affects the activities of DSOs in their capacity as concession holders (relations with grid users, connection procedures, quality of service, etc.). CRE proposed initiating discussions with FNCCR as early as possible in the process so that they could exchange their views on requirements applicable to concession holders. This would involve issues related to public electricity grid access tariffs, connection procedures, quality, and grid access contracts.

2.7. Scheduling and the balancing mechanism

2.7.1. Towards increased flexibility for market players

Power system dependability is defined by two criteria:

- constantly ensuring the balance between injections and withdrawals to maintain the nominal operating frequency for facilities and electrical equipment connected to the grid (50 Hz in France);
- keeping flow through grid circuits within acceptable limits to avoid any overload that would lead to the loss of these circuits.

By virtue of Article 15-II of the Law of 10 February 2000, ensuring dependability is the responsibility of the public transmission system operator who “ensures a constant, balanced flow of electricity on the network, as well as network safety, dependability and efficiency, taking into account network technical limitations”.

Market players must comply with certain requirements so that RTE, through the balancing mechanism, can take the necessary corrective actions to maintain system dependability (see Inset 14 and Figure 20, p. 78).

These requirements involve generation scheduling and cross-border exchanges, for which CRE approves the rules. As stipulated in Article 15-II of the Law of 10 February 2000, CRE approves the rules for presenting generation programmes prior to their implementation. They are described in the Rules Governing Programming, the Balancing Mechanism and the Balance Responsible Entity system.

CRE decisions have increased flexibility for market players, without jeopardising the dependability of the power system.

The maximum time required for a French generator to modify the generation schedule for its power plants was around 7 hours in 2003, when the balancing mechanism was implemented. It is now three hours, or even two hours when a problem has occurred on a generating unit, since notice to deliver was reduced to one hour on 31

March 2008, following the CRE decision issued 18 July 2007.

The one-hour neutralisation period should be widely implemented by 2010, at which time power plant generation schedules will no longer be transmitted by RTE, but rather by the generators themselves, in application of the CRE decision issued 22 March 2006. This transfer of responsibility will put an end to practices whereby RTE issues orders that, in effect, control power plant operation. This will also lighten RTE's load when redeclaring generation schedules, making it possible to reduce the notice to deliver to one hour.

Scheduling flexibility for commercial trade along borders has improved on certain interconnections:

- at the border with Belgium, a pro-rata

mechanism for allocating intraday capacity with six gate closures was set up in May 2007, followed by an increase to 12 gate closures in February 2008;

- on the German border, coordination between system operators was improved to facilitate access to interconnection capacity on an intraday basis: intraday export capacity is now allocated by RTE using a pro-rata mechanism, while intraday import capacity is allocated by the German system operator RWE on a "first come first served" basis.

There are still strong impediments to flexibility at other borders. Nonetheless, a consensus is developing in Europe in favour of a continuous trading platform for managing intraday cross-border trade [see p. 37].

This platform would enable the following:

- implicit allocation of interconnection capacity (market players acquire interconnec-

- tion capacity and energy simultaneously);
- transactions made at any time, within a time delay close to real time;
- bid offers to buy and sell from several countries that do not necessarily share borders.

Inset 14: Changes in generation scheduling requirements

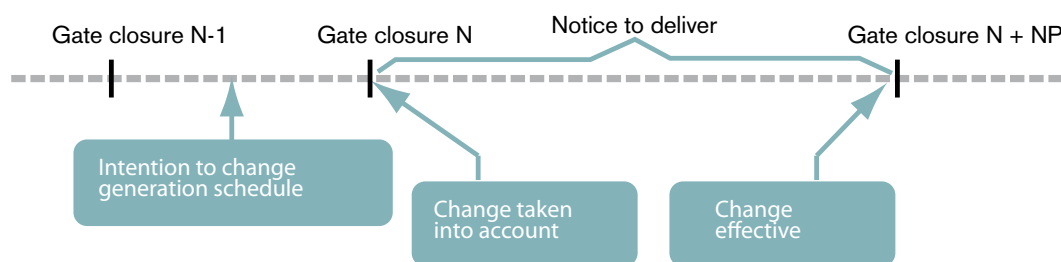
Two constraints apply to generation scheduling:

- "gate closures", the time up to which generators can submit a change to their generation programme,
- "notice to deliver", i.e. the time required after gate closure to

adjust actual generating conditions.

Changes to the generation schedule only take effect after the notice to deliver period.

Figure 20: Gate closure and notice to deliver for generation scheduling



Changes in the number of intraday gate closures and the notice to deliver

	Number of intraday gate closures	Notice to deliver
April 2003	6	3 hours
July 2004	7	3 hours
April 2005	12	2 hours
March 2007	24	2 hours
March 2008	24	2 hours / 1 hour in case of generation problems

2.7.2. Stimulating competition in the balancing mechanism

CRE is committed to increasing competition in the balancing mechanism. It has asked that balancing trade be developed with neighbouring countries. In 2007, despite highly variable outcomes depending on the border, EDF's main competitors were foreign market players (see Inset 15 and Figure 21).

Market shares were as follows:

- EDF: around 84% of activated volumes;
- Foreign market players: around 12% of activated volumes;
- French generators other than EDF: around 4% of activated volumes.

Although English market players have been

able to participate in the French balancing mechanism since October 2004, the volumes traded have always been low and no offer coming from England has been activated since early 2006. This is explained by a lack of flexibility in the current system. Work based on this observation was conducted in 2007 as part of the regional initiative between France, the UK and Ireland. This led to a proposal to develop balancing exchanges between France and England, which should lead to mutually beneficial trade programme between the two countries.

The past year was also marked by efforts to develop consumer participation in the balancing mechanism. On 5 December 2007, CRE approved short-term rules for implementing balancing actions resulting from the aggregate effect of several small

adjustments in consumption at sites connected to the public distribution grids. There are many potential benefits: reinforced security of supply, enhanced competition and economic efficiency, and reduced energy demand.

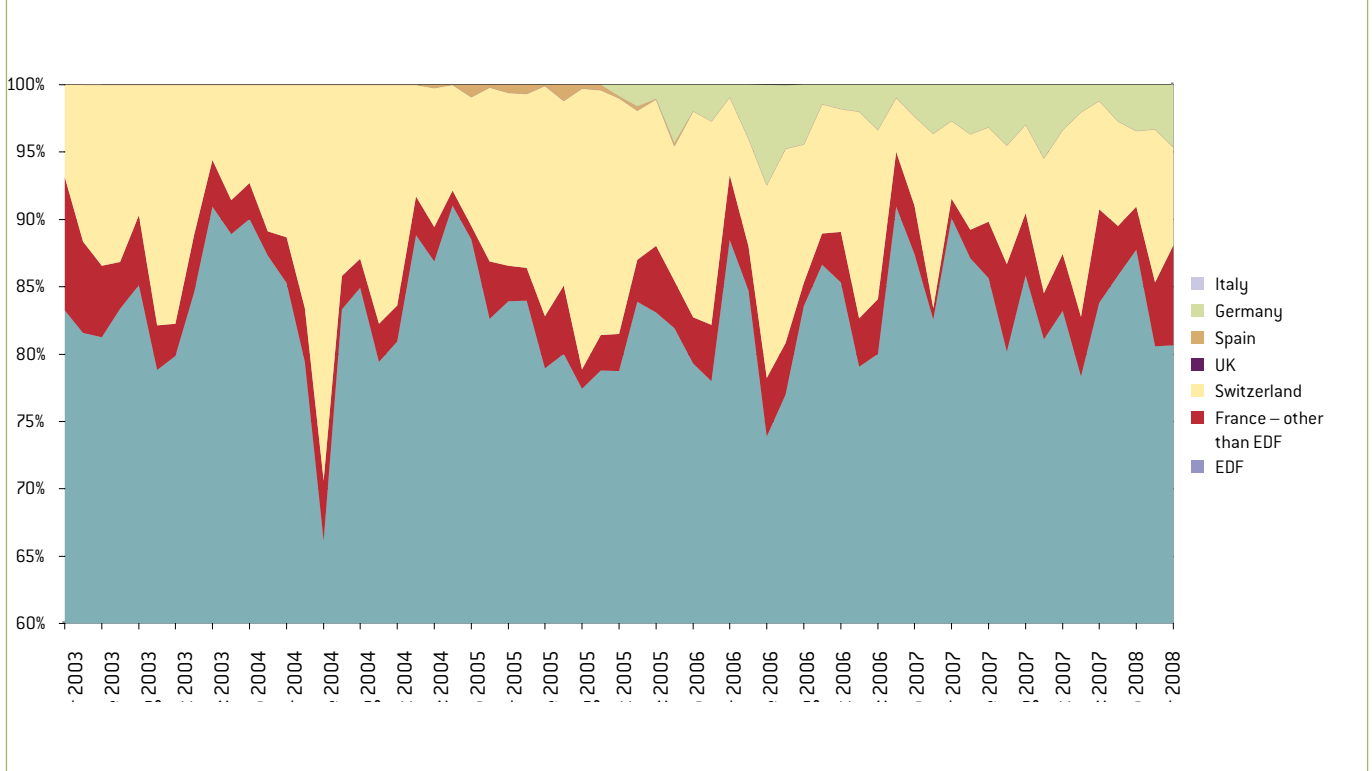
Finally, on 2 April 2008 CRE approved a provision waiving Section I of the Rules on Programming, the Balancing Mechanism and the Balance Responsible Entity System. It provides that a contractual reservation can be made for load reduction by consumers connected to the public transmission grid, who will receive compensation from RTE for this service. The costs will be distributed amongst the balancing responsible entities. The experimental call for tenders by RTE, planned for a term of one year, will make it possible to verify whether there is potential

Inset 15: Brief history of opening the balancing mechanism to foreign stakeholders

The Swiss were the first to participate in the French balancing mechanism, starting from 1 April 2003. Foreign participation was

extended to England and Spain in October 2004, to Germany in October 2005, and to Italy in April 2006.

Figure 21: Participants in the balancing mechanism



for this type of demand-side management, its relevance for system dependability and its economic efficiency.

3. Natural gas networks and other infrastructures

There are four types of gas infrastructures:

• Transmission networks

France is served by two transmission system operators (TSOs):

- GRTgaz, a Gaz de France subsidiary, operates a network with around 32,000 km of pipelines, divided into four balancing zones (to be merged into two zones as of 1 January 2009);
- TIGF, a Total subsidiary, operates a network with around 6000 km of pipelines in south-west France, forming a single balancing zone.

• Distribution networks

There are 23 distribution system operators (DSOs) in France. In 2007, Gaz Réseau Distribution France (GrDF) distributed 96% (around 330 TWh per year) of the total quantity of gas distributed. The other networks are granted as concessions or state-run by 22 local distribution companies (LDCs), which distribute about 14 TWh per year, with 10 TWh distributed by the two largest LDCs, Régaz (Bordeaux) and Gaz de Strasbourg.

A concession contract was signed on 10 March 2007 by Antargaz, the 24th largest natural gas DSO, in order to serve the municipality of Schweighouse in the *département* of Haut-Rhin. Prior to that, Antargaz operated only propane networks.

This is the first network for which the DSO is not linked to a supplier and where the regulated retail tariffs do not apply.

• LNG terminals

Two LNG terminals will become operational in 2008: Fos Tonkin and Montoir-de-Bretagne. Both belong to Gaz de France and are managed by the company's major infrastructure department (DGI).

Fos Tonkin, commissioned in 1972, can unload ships of up to 74,000 m³ and offers regasification capacity of 7 bcm per year (to be reduced to 5.5 bcm/year as of July 2009 following the decommissioning of a regasification unit).

In service since 1980, the Montoir terminal offers regasification capacity of 10 bcm per year and can unload ships of up to 200,000 m³.

A third LNG terminal is under construction at Fos Cavaou. Initially planned for 1 April 2008, commissioning has been postponed to the first half of 2009 due to worksite delays. This terminal belongs to Société du Terminal Méthanier de Fos Cavaou (STMFC), whose shareholders are Gaz de France (69.7%) and Total (30.3%). It will receive ships of up to 210,000 m³ and will offer regasification capacity of 8.25 bcm per year,

10% of which is reserved for short-term contracts with third-party shippers.

• Underground storage facilities

France has two underground storage operators:

- Gaz de France operates 12 storage sites divided into six groups. These sites are located in the balancing zones of GRTgaz and represent a capacity of 109 TWh, equivalent to 79% of the storage capacity in France.
- TIGF operates two storage sites in south-west France, with a storage capacity of 28 TWh, equivalent to 21% of national storage capacity.

3.1. Assessment of infrastructure use

The use of gas infrastructures during the past year highlights the following changes:

Table 7: Users of natural gas infrastructures

Source: CRE

	Transmission		Storage		Terminals		Distribution	
	GRTgaz	TIGF	Gaz de France	TIGF	Gaz de France	Gaz de France	GrDF	ELD
					Fos	Montoir		
01/04/2008	44	13	22 ⁽¹⁾	8	3	5	13	26 ⁽²⁾
01/04/2007	30	10	22 ⁽¹⁾	8	3	5	13	26 ⁽²⁾

(1) including GRTgaz (2) including 22 LDCs

3.1.1. A well-established gas market

The gas use area within France has continued to expand. During 2007, a distribution network was created in 116 new municipalities (versus 122 in 2006). Since the municipalities not yet served are small, it is becoming increasingly difficult to connect them while maintaining sufficient profitability. This appears to be a long-term phenomenon. At the end of April 2008, 25.9% of French municipalities (9471) and 76% of the population had service.

There is greater competition in new geographical areas. At the end of March 2008, shippers were active on 91% of the transmission-distribution interface points (PITD), as compared to only 82% in 2006. However, this geographical diversification mainly took place on the GrDF network rather than the LDC networks.

The number of shippers on transmission networks and storage infrastructures also saw continued growth (see Table 7).

Use of marketable capacity at interconnections remained very high. Firm entry capacities have been entirely subscribed, except at the Taisnières H entry point, for the six-month period from June to November 2008.

Capacity reservations at Taisnières H went from 85% reserved capacity for the period of June to November 2007 to 95% for the same period in 2008. The number of shippers increased from 6 to 12 as a result of the new products marketed upstream by Fluxys (Belgian transmission system operator). The credit for this improvement

lies with the regional initiative in Northern Europe (see page 31, see Figure 22).

3.1.2. Reduced LNG consumption

Lower consumption due to the moderate weather in 2007 and high gas stocks led to lower spot prices in Europe as compared to other marketplaces for almost all of 2007. Since LNG is to some extent a balancing element in the supply chain, arbitrage was favourable to Asian and North American markets.

Consequently, the quantities unloaded in 2007 were down compared to 2006. Fos Tonkin only received 60.4 TWh in 2007 (down almost 3% compared to the previous year) and Montoir only received 84.3 TWh (down by 14%).

The rate of use for regasification capacity fell to 72% for Fos Tonkin (75% in 2006) and 68% for Montoir (82% in 2006). However, these rates remain the highest in Europe, the average being around 50%.

This situation led to a slight increase in the number of subscribers. At the end of 2007, seven companies had signed LNG terminal access contracts – two more than the previous year. Three vessels belonging to shippers on a uniform service contract were unloaded at the two French terminals in 2007, versus five vessels in 2006.

3.1.3. Stability of storage facility use compared to 2006

As of 1 April 2008, the total number of users of Gaz de France storage facilities had remained at 22 (including GRTgaz). The

number of TIGF subscribers remained at 8 (see Figure 23).

As in 2006, the suppliers had filled their storage capacities by the beginning of October 2007.

3.2. Approval of GRTGaz and TIGF investment programmes

Since the Law of 7 December 2006 went into force, CRE has had the power to approve the investment programmes of the two gas TSOs, GRTgaz and TIGF.

3.2.1. CRE approval of TSO annual investment programmes

By a decision on 12 December 2007, CRE approved the annual investment programmes of the gas TSOs GRTgaz and TIGF for the first time (see Figure 24, p. 82).

The gas TSOs are planning to make investments in 2008 which are significantly higher than for previous years. The GRTgaz investment programme totals 585 million euros (382 million euros in 2007), while that of TIGF is at 191 million euros (160 million euros in 2007).

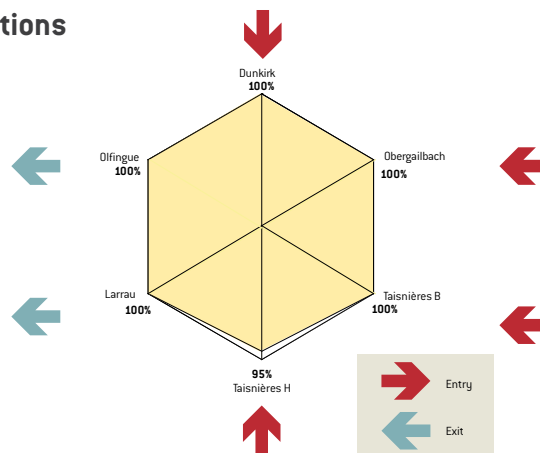
The increased investment is mainly related to transmission network development, which will boost gas entry capacity in France and reduce internal congestion within each network.

Implementing CRE-approved programmes should enhance competition:

- Starting in 2009, the merging of three

Figure 22: Entry capacity reservations on natural gas networks

Source: CRE



GRTgaz balancing zones – East, West and North – will create a market zone with annual consumption of 350 TWh, facilitating competition between natural gas suppliers from Northern Europe and Russia as well as LNG regasified at Montoir.

- The next step would be to reinforce entry capacity (land interconnections, LNG terminals) and commission several gas-fired power plants, thereby giving newcomers the opportunity to take a strong position on the French market.

The most important projects the TSOs plan to undertake in 2008 are as follows:

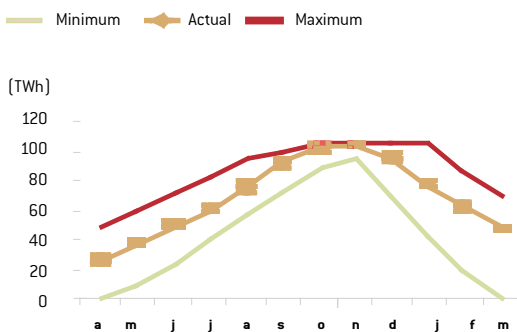
- connection of the Fos Cavaou terminal to the main transmission network, with commissioning planned for the first half of 2009;
- increased entry capacity at Obergailbach, with commissioning planned in two phases: November 2008 and November 2009;
- merging of the North, East and West balancing zones of the GRTgaz network, starting 1 January 2009;
- increased transportation capacity between the GRTgaz South zone and the TIGF zone (*Artère de Guyenne* pipeline, phase I), to go into effect at the beginning of 2009;
- first phase of the project to develop inter-connection capacity with Spain at Larrau,

with commissioning planned for winter 2009-2010;

- deodorisation at Taisnières, so that the gas meets Belgian specifications and can be physically sent to Belgium, with commissioning planned for November 2010.

Figure 23: Gaz de France DGI storage facilities

Source: CRE



TIGF storage facilities

2007- 2008

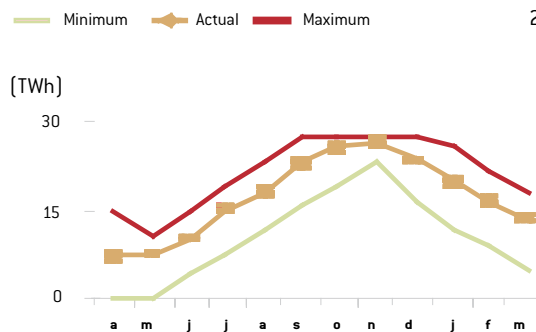
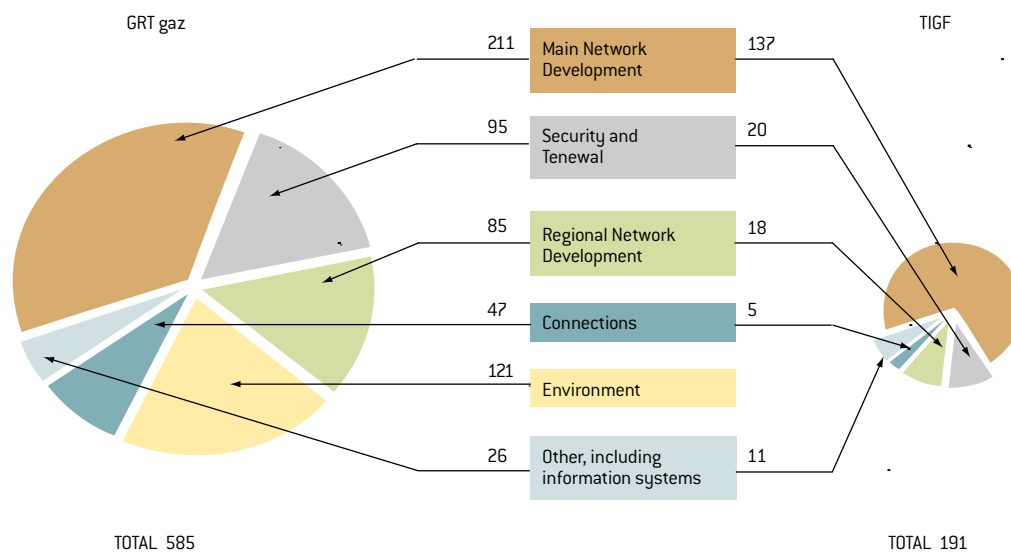


Figure 24: GRTgaz and TIGF investment programmes for 2008 (in millions of euros)

Source: CRE



3.2.2. Ten-year TSO investment plans

The increased investment by GRTgaz and TIGF for 2008, compared to previous years, is part of a long-term trend illustrated by the TSOs' 10-year investment plans. For this period, these plans call for around 5 billion euros of investment for GRTgaz, and 1 billion euros for TIGF (see Figure 25).

The main projects in the TSOs' pluriannual investment programmes are as follows:

For GRTgaz:

- increased entry capacity at Taisnières, planned for 2012;
- increased entry capacity at Dunkirk, Antifer and Montoir, related to projects to create or extend LNG terminals at these sites;
- increased transportation capacity between the GRTgaz North and South zones;

- increased transportation capacity between the GRTgaz South zone and the TIGF zone (*Artère de Guyenne* pipeline, phase III), planned for 2011.

For TIGF:

- second phase of the project to develop interconnection capacity with Spain at the Larrau point, planned for 2011;
- increased transportation capacity between the GRTgaz South zone and the TIGF zone (*Artère de Guyenne* pipeline, phase III), planned for 2010 and 2011.

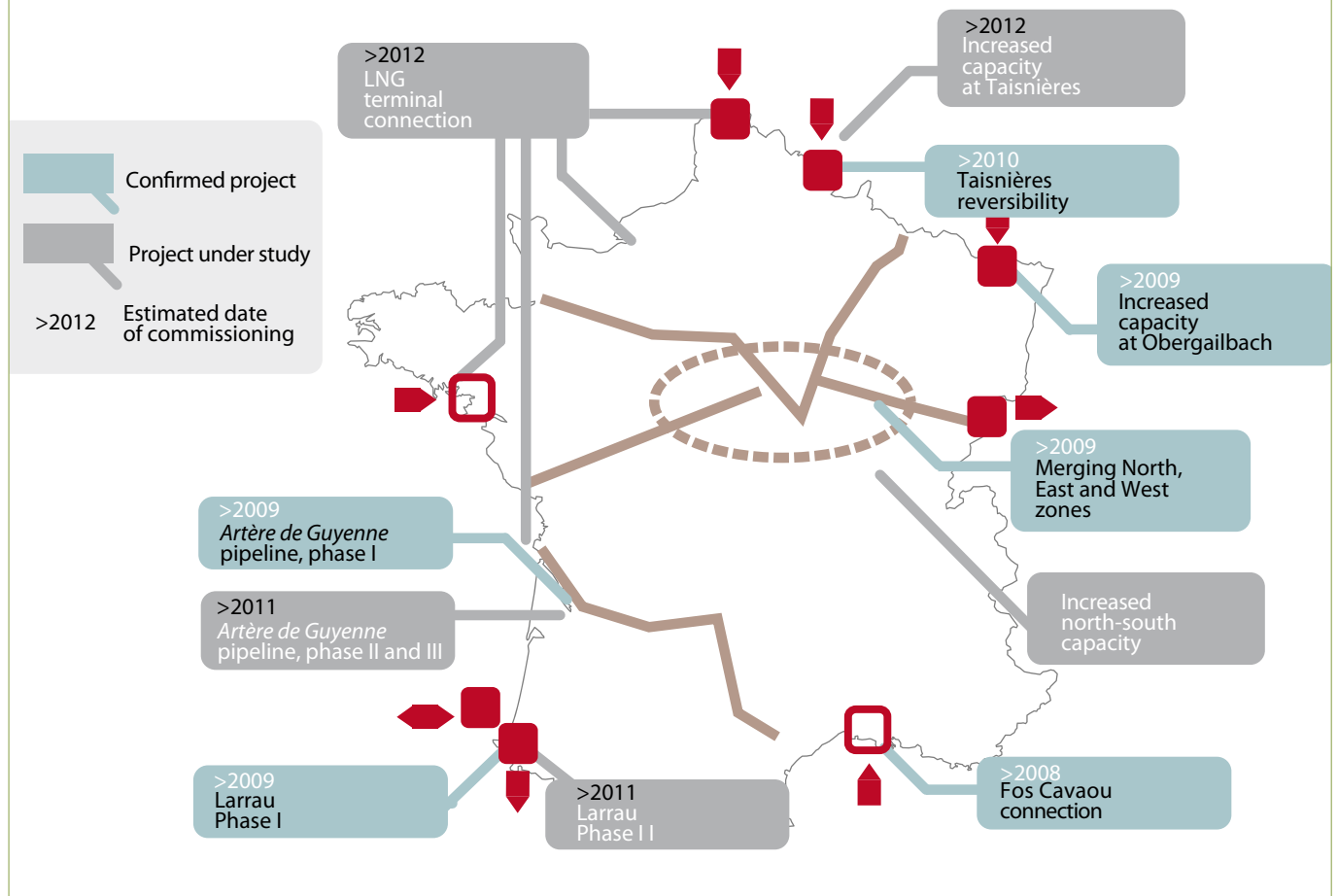
Studies for these projects are already included in the 2008 investment programmes of GRTgaz and TIGF.

3.2.3. Developing the Guyenne-Spain interconnection: a higher rate of return

In the current gas transmission network tariffs, the following bonus system applies to rates of return on gas transmission network investments: all new investment projects brought into service since 2004 benefit from a premium of 125 base points. CRE can also decide to allocate an additional premium of 300 base points for certain investments likely to contribute significantly to improved market operation.

Figure 25: Main projects included in GRTGaz and TIGF investment programmes

Source: CRE



CRE re-examines this rate-of-return and premium system for each new tariff proposal.

At the end of 2007, GRTgaz and TIGF presented CRE with coordinated projects for developing the Guyenne-Spain interconnection and requested that the corresponding investments, totalling 98 million euros for GRTgaz and 335 million euros for TIGF, benefit from a rate of return increased by 300 base points for 10 years.

This project has two parts:

- Phase III of the *Artère de Guyenne* pipeline reinforcement project conducted by TIGF and GRTgaz;
- the Lussagnet-Lacq pipeline development project conducted by TIGF.

This project is critical for developing interconnections between France and Spain. It is amongst the European priorities defined as part of the ERGEG regional initiative for southern Europe (see p. 33).

On 14 February 2008, CRE decided this project would fall within the scope of the investment incentive programme that will come into force with the next transmission network tariff that CRE plans to propose (see Inset 16).

Developing interconnections with Spain is one of the key conditions for fostering competition in southern France, by enabling the entry of additional quantities of gas from Spain. This project will offer shippers new options in their choice of supply source, thereby giving final consumers the benefit of the most competitive sources in a given context. It will also improve market

liquidity, currently inadequate in southern France.

TIGF has also requested a review of the base points used to calculate the investment bonus for the *Artère de Guyenne* pipeline reinforcement project currently underway (Phase I and in preparation of Phase II), to take into account higher costs and the creation of additional capacity.

On 14 February 2008, CRE decided not to grant a premium for the portion related to rising costs for works reported by TIGF for Phase I of the *Artère de Guyenne* pipeline project. In contrast, the investments for Phase II of the Guyenne project, corresponding to the creation of 50 GWh/d of additional marketable capacity and totalling 35 million euros for TIGF, will benefit from a rate of return incorporating a 300 base-point premium for 10 years.

3.3. Development of entry points

The French market is currently supplied by four gas pipeline entry points (Obergailbach, Taisnières, Dunkirk and Biriadou) and two LNG terminal entry points (Montoir-de-Bretagne and Fos-sur-Mer).

Security of supply and smooth market operation require greater capacity on infrastructures. CRE ensures that capacity development meets the needs of shippers and is allocated according to non-discriminatory practices.

3.3.1. Gas interconnections

Three entry points are to benefit from development programmes.

- Obergailbach

Obergailbach is the interconnection point with Germany, and therefore constitutes the main entry point to the French market for Russian gas. The firm entry capacity at Obergailbach is currently 430 GWh/d. The upstream pipeline (MEGAL), in Germany, is jointly operated by Gaz de France Deutschland Transport and E.ON Ruhrgas Gas-transport.

GRTgaz is developing entry capacity at Obergailbach in two stages:

- the first stage will increase firm annual capacity to 550 GWh/d in December 2008;
- the second stage will increase firm annual capacity to 620 GWh/d in December 2009, to which 30 GWh/d of interruptible annual capacity will also be added.

This project follows upstream reinforcement of the network and the launch of an open season by GRTgaz, which took place from May to September 2005 to determine the need for additional entry capacity on the French side. This will allow France to adjust its entry capacity to match exit capacity developed on the German side.

Inset 16: Investment incentive programme for gas transmission networks

Midway through 2008, CRE will propose new transmission tariffs, to enter into force on 1 January 2009. On this occasion, it plans to propose a change in the investment incentive programme for gas transmission networks.

The changes under consideration are as follows:

- cancellation of the automatic 125 base point premium which is currently allocated to all new investments in the transmission network;
- allocation of a 300 base point premium, for 10 years, for all investments that create additional capacity on the main network or reduce the number of balancing zones, instead of the case-by-case decisions under the current programme.

Past decisions relating to premiums would not be affected.

These changes would lead to more effectively targeted investment incentives, while offering transmission system operators better visibility. They will be submitted to public consultation before the next transmission tariff is drawn up.

Beyond 2010, capacity development at Obergaibach will depend on shipper demand.

- Taisnières

Taisnières is the interconnection point with Belgium and is used to import H gas from Norway and the Netherlands.

On 26 April 2007, GRTgaz and the Belgian TSO Fluxys launched an open season to meet the demand for new natural gas transmission capacities for north-south transit in Belgium and for the interconnection point between Belgium and France, as of 1 November 2011. These consultations were supervised by the energy regulators in these two countries, CREG in Belgium and CRE in France.

The first phase, involving non-binding requests, was particularly successful: around 40 shippers expressed their interest in developing entry capacity in France from Belgium.

The second phase, involving submittal of binding requests to GRTgaz and Fluxys and initially planned for the end of 2007, was postponed due to a dispute between CREG and Fluxys on gas transit tariffs in Belgium.

- Larrau and Biriadou

The joint report published on 6 February 2007 by the Spanish TSO Enagas, TIGF and GRTgaz, as part of ERGEG's regional initiative for southern Europe, identified the technical options for capacity development to import gas from Spain to southern France in the amount of 5 bcm per year in both directions in 2012.

This project, which requires completion of Phase III of the *Artère de Guyenne* pipeline reinforcement project, will improve competition in southern France by allowing significant quantities of gas to enter from Spain. The proposed schedule calls for coordinated development of import capacity from Spain and transmission capacity in southern France.

Enagas and TIGF plan to launch an open

subscription period in October 2008 in order to market capacity for which investment decisions have already been made. The capacity will be marketed over a four-year period starting 1 November 2009.

The TSOs and regulators involved are working out the allocation procedures for this new capacity. An open season organised by Enagas and TIGF is planned for the third quarter of 2008 to define the demand for capacity between France and Spain. Based on the results, these TSOs will be able to establish a definitive investment plan.

3.3.2. New LNG terminal projects

Over the next decade, liquefied natural gas will constitute the means of responding to the strong gas consumption growth expected in gas importing countries.

By diversifying the sources of supply, LNG will strengthen security of supply.

Consequently, investments in regasification infrastructures are planned in several countries, particularly in Europe.

Due to its extensive coastline, France has several potential sites for this type of infrastructure (see Figure 26, p. 86). It currently has four new LNG terminal projects.

The first three projects were the subject of a public debate, conducted locally between September and December 2007.

The special public debate commissions published their reports in February 2008; as for the national public debate commission, it submitted its summary report on the three projects on 18 April 2008.

These debates brought to light:

- a certain scepticism on the part of the population as to the benefits of opening the energy market to competition;
- strong concern on the part of the population as to the impact of LNG terminals on local residents and industries, with certain associations considering LNG to be potentially dangerous;
- a desire for the contracting authority to be sensitive to the visual impact of LNG storage tanks by opting for a partially buried configuration;
- the necessity to submit projects for connecting LNG terminals to the gas transmission network to public debate or consultation.

Pursuant to the Law of 3 January 2003, LNG terminals are open to third parties and have regulated access conditions. The tariffs for using these terminals are set by the French ministries for the economy and for energy, based on CRE proposals.

By virtue of the same law, major new gas infrastructures (interconnections between Member States, LNG or storage facilities) may, in application of Article 22 of European Directive 2003/55/EC, benefit from an exemption to third-party access. The owners of new LNG terminal projects can request exemption from regulated TPA. Five criteria must be met for the exemption to be granted:

- the investment must enhance competition in the area of gas supply and improve security of supply;
- the risk level must be such that the investment would not be made if the exemption was not granted;
- the infrastructures must belong to an individual or legal entity which is distinct, at least in legal form, from the operators of the systems in which the infrastructures will be built;
- fees must be collected from infrastructure users;
- the exemption must not adversely affect competition on or operation of the domestic gas market, nor the operational efficiency of the regulated network to which the infrastructure is connected.

The exemption may apply to third-party access or the tariff, in whole or in part.

At the European level, new regasification capacity should be commissioned in the UK in 2008, as a result of:

- Extension of the Isle of Grain LNG terminal, which will go from 4.6 bcm/year to 13.7 bcm/year; the incumbent shippers are BP and Sonatrach. The shippers contracted for

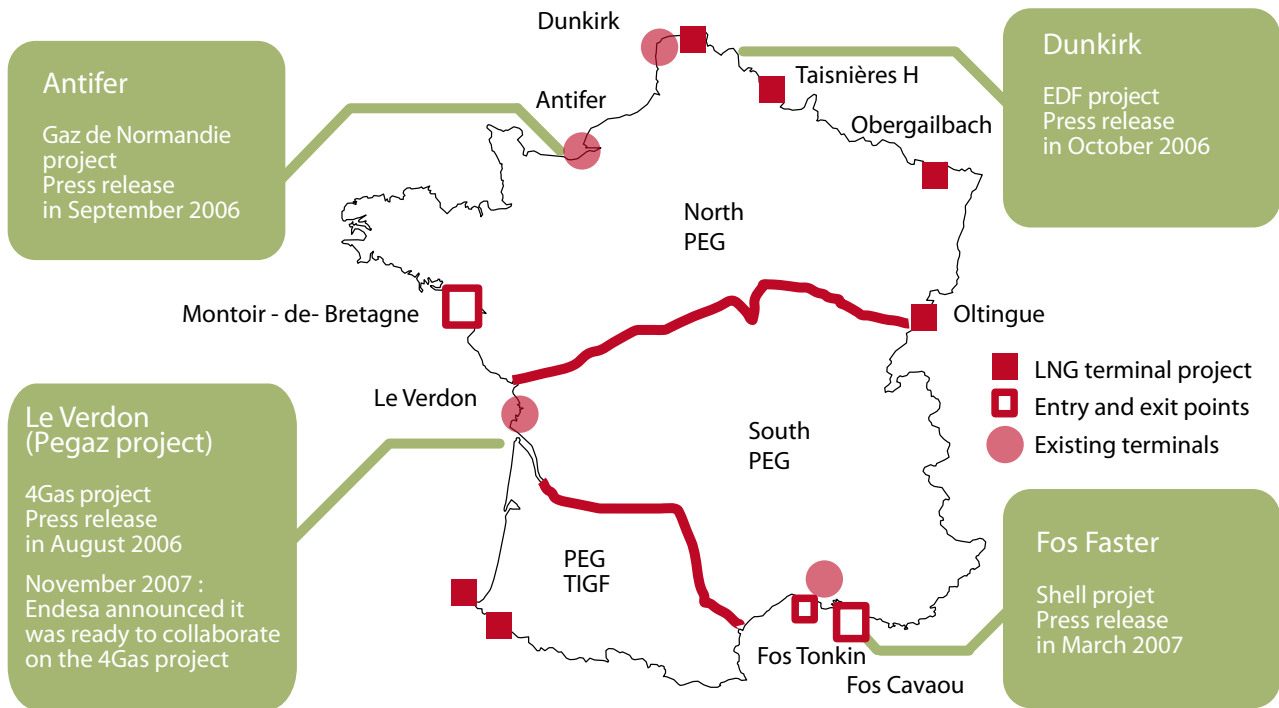
the extension are Centrica, Gaz de France and Sonatrach.

- Commissioning of the Dragon LNG terminal in Milford Haven, with capacity of 6 bcm/year and investment by British Gas, 4Gas and Petronas.
- Commissioning of the South Hook terminal in Milford Haven, with capacity of 10.5 bcm/year and investment by ExxonMobil and Qatargas.

- Commissioning of the Adriatic LNG terminal in Rovigo (Italy), with capacity of 8 bcm/year and investment by ExxonMobil (45%), Qatar Terminals Ltd. (45%) and Edison Spa (10%).

Figure 26: New LNG terminal projects in France

Source: CRE



Project	Contracting Authority	Shareholders	Planned capacity	Commissioning planned for
Dunkirk	Dunkirk LNG	Subsidiary wholly owned by EDF	6 to 12 bcm/year	2012
Antifer	Gaz de Normandie	Poweo 34%, E.ON Ruhrgas 24.5%, Verbund 24.5% and CIM 17%	9 bcm/year	2012
Le Verdon	4Gas	Carlyle and Riverstone	6 to 9 bcm/year	2013
Fos Faster	Shell		8 bcm/year	2015

3.4. Transmission reorganised as of 1 January 2009

3.4.1. Improved transmission in southern France

In its decision of 21 March 2007, CRE asked GRTgaz and TIGF to organise, in view of the next transmission tariffs planned for 1 January 2009, a working group to develop an action plan for facilitating gas transportation in southern France.

Under-developed competition in this region is mainly due to inadequate sources of supply and the difficulties encountered (lack of available capacity and disparate products) in transporting gas to customers in the South GRTgaz zone and the TIGF zone.

To improve competition in this part of France, three objectives have been defined:

- develop entry capacity in this zone;
- facilitate access to transmission services at the interface between the GRTgaz and TIGF networks;
- increase market liquidity.

In response to a request by CRE, GRTgaz and TIGF proposed a joint action plan on 31 May 2007 to facilitate gas transportation and exchange in southern France.

This plan includes measures to improve capacity availability and streamline gas exchanges in this region. The measures include:

- simplifying the pricing structure by setting up three balancing zones connected in series: the future Great North zone, the South zone and the TIGF zone;
- designing a single product for interface capacity between the South GRTgaz zone and the TIGF zone, thereby simplifying the offer and optimising available capacity;
- coordinated marketing and allocation of capacity according to a timetable that guarantees predictability and regularity of capacity services;
- creating a gas trading platform for the South GRTgaz zone and the TIGF zone and implementing a coupling mechanism that brings them closer together by optimising

their interface capacity.

These proposals were submitted for public consultation organised by CRE.

With regard to supply in southern France, the commissioning of the Fos Cavaou terminal in 2009, the *Artère de Guyenne* pipeline and the interconnections with Spain by around 2010 will increase capacity in this part of France, balancing gas flow across the country.

Through coordinated infrastructure development, the two TSOs will increase their entry capacity by 50% in southern France and round out their range of services.

3.4.2. Public consultation on the future gas transmission tariff

From 12 July to 4 September 2007, CRE conducted a public consultation of market players on the changes described above. This consultation also addressed the main tariff changes participants hoped to see for gas transmission and the mechanisms for allocating available capacity, starting in January 2009: link capacity within the GRTgaz network and interface capacity between GRTgaz and TIGF networks.

Thirty-two contributions were received. Overall there was general agreement on the main changes to the proposed pricing structure, namely:

- merging of the North, East and West zones into a single zone (Great North zone);
- marketing of a single product at the interface between the South GRTgaz zone and the TIGF zone.

In addition, a large majority of the participants were in favour of creating a gas trading platform in France, but were against coupling the South GRTgaz zone and the TIGF zone.

3.4.3. Towards a new organisation of transmission zones

On 25 October 2007, CRE issued a decision on the organisation of transmission zones and the rules for allocating link capacity between the balancing zones of the GRTgaz network, as well as the rules for allocating interface capacity between the GRTgaz and TIGF networks, to take effect 1 January 2009.

To provide a clearer view of market conditions, CRE published estimates of the future tariff charges applicable to marketable capacity. It also defined a proposed timetable for marketing capacity between the three future balancing zones (Great North zone, South zone and TIGF zone).

Two types of product have been defined:

- pluriannual and multi-season capacity – referred to as “long-notice” capacity (greater than six months) – which represent at least 50% of capacity and are marketed for a period of two to four years, based on an open subscription period;
- yearly and seasonal capacity – referred to as “short-notice” capacity (less than six months) – which represent around 20% of capacity.

If demand exceeds supply, pluriannual and multi-season capacity will be allocated proportionally to shipper demand; yearly and seasonal capacity can be allocated through a system that takes into account the needs of each shipper’s portfolio.

Limiting the marketing period to four years and the proportion of short-notice capacity to around 20% will guarantee regular redistribution of capacity.

Figure 27: Changes in transmission zones as of 1 January 2009

Source: CRE

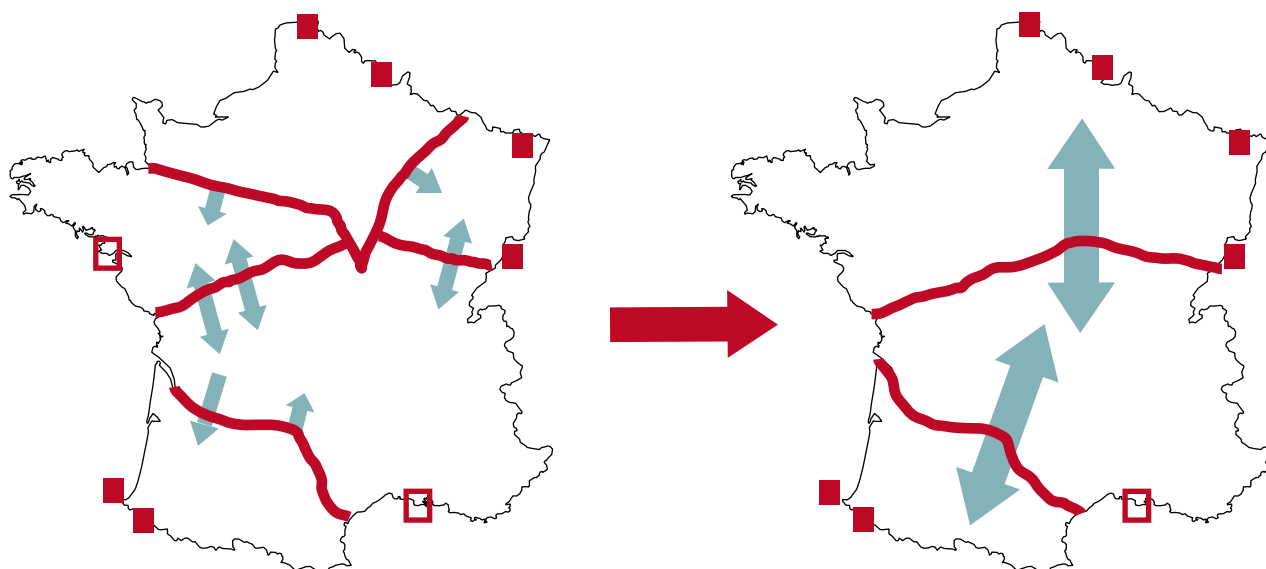


Table 8: Link between the Great North zone and the South zone and between the two networks

In GWh/d	Great North zone toward South	Great North zone toward South	South towards Great North zone	South towards Great North zone
	Firm	Interruptible	Interruptible	Interruptible
Total capacity	230	220	120	130
Marketable capacity on 01/04/2009	143	171	120	125
Capacity reserved for short-notice subscription	46	44	24	26
Maximum pluriannual capacity	96.5	127	96	99

In GWh/d	GRTgaz towards TIGF	GRTgaz towards TIGF	GRTgaz towards TIGF	GRTgaz towards TIGF	TIGF towards GRTgaz	TIGF towards GRTgaz	TIGF towards GRTgaz	TIGF towards GRTgaz
	Firm	Firm	Interruptible	Interruptible	Firm	Firm	Interruptible	Interruptible
	Summer	Winter	Summer	Winter	Summer	Winter	Market scheduled to open in 2008	
Technical capacity	355	325	15	5	30	30		
Marketable capacity on 01/04/2009	105	180	15	5 000	25	25		
Capacity reserved for short-notice requirement	31	54	4.5	1.5	6	6		
Maximum pluriannual capacity		73		3		19		
Maximum multi-season capacity	0	52	7 000	0	0	0		

3.4.4. Allocating North-South and South-TIGF capacity

As part of the planned merger of the East, West and North balancing zones into a single zone, GRTgaz and TIGF set up rules for allocating link capacity within the GRTgaz network, and for allocating interface capacity between the GRTgaz and TIGF networks (see Figure 27 and Table 8).

The open subscription period for long-notice capacity on the North-South link and the South-TIGF interface was held between mid-December 2007 and mid-January 2008, to give each shipper around one year to adapt its procurement policy.

To market capacity on the link between its North and South zones, GRTgaz opened up the sale of capacity to all shippers starting in 2009, for a period of two, three or four years. All capacities made available in the North-South direction were subscribed. Twenty-one shippers obtained capacity, doubling the number of stakeholders likely to access the South GRTgaz zone from northern France.

To market capacity at the South GRTgaz-TIGF interface, the two TSOs jointly marketed a single product including entry and exit capacities at the interface.

The sale involved uniform capacity products starting 1 April 2009, for a duration of two, three or four years. The volumes offered totalled more than 73 GWh/d from South GRTgaz towards TIGF, and 19 GWh/d in the opposite direction.

With all the requests received, nearly all the pluriannual capacity on offer was allocated.

For short-notice subscriptions, the sale of available capacity between 1 January 2009 and 31 March 2009, and the sale of seasonal capacity for the 2009 summer period (April to October) and the 2009-2010 winter period (November 2009 to March 2010) is planned for the summer of 2008. The first quarter of 2009 will be marketed at the same time as the capacity for short-notice subscriptions.

3.5. Preparing the next transmission tariffs

3.5.1. Timetable

The current natural gas transmission network tariffs, in force since 1 January 2007, were intended to remain in force until 31 December 2008. CRE plans to propose new tariffs to be applied starting 1 January 2009. This is the fourth tariff proposal by CRE, following the tariffs it proposed in:

- July 2003, which introduced “entry-exit” pricing on the main network and reduced TSO tariffs by 7% on average;
- October 2004, characterised by stability in TSO prices and the end of CFM, following agreements signed between Gaz de France and Total on 17 October 2004, which decided the outcome of their joint stakes in GSO and CFM;
- January 2007, characterised by an overall drop in prices by 1% throughout France. These tariffs were accompanied by an expense and revenue clawback account, to partially or fully compensate for any surplus earnings and shortfalls in costs and revenues recorded for the operators. As of 1 January 2008, tariffs have included a single main network exit price, regardless of the exit zone on the regional network.

After a second consultation with market players in May 2008, CRE will propose new tariffs to the French ministers for the economy and for energy, during the summer of 2008.

3.5.2. Merging the North, East and West balancing zones

Since 1 January 2005, the natural gas transmission networks in France have had five balancing zones: four on the GRTgaz network (North, East, West and South zones) and one on the TIGF network (TIGF zone).

Starting on 1 January 2009, the North, East and West GRTgaz zones will merge to form a single zone (Great North zone). From that point on, the price structure will only have three balancing zones.

Setting up the Great North zone will mean the loss of GRTgaz revenues generated by the sale of link capacities between both the North and East and the North and West zones. Raising entry and exit tariffs for the main GRTgaz network is being considered to make up for this loss of revenue.

Combining the East, North and West balancing zones, while maintaining firm entry capacity into France (Dunkirk, Taisnières, Obergailbach and Montoir), will improve market operation.

Merging the zones will facilitate balancing for shippers by making it possible to group balancing portfolios and by improving the quality of daily allocations of gas quantities. The risks of exceeding tolerances and the associated penalties will in turn be reduced.

In addition, shippers will have new options in their choice of supply source, thereby giving final consumers the benefit of the most competitive sources in a given context. The merger will also encourage competition. At present, shippers with only one gas source may have difficulty supplying final customers in a balancing zone different from the one that supplied the gas. Once the zones have merged, any shipper with access to gas at one of the merged zone's entry points will be able to supply any customer situated in this zone without any restrictions.

Finally, merging will group the North, East and West gas exchange points into a single gas exchange point. This will create a marketplace in France with enough liquidity to attract newcomers to the French gas market.

3.5.3. Moving up to the gas exchange point

In January 2008, GRTgaz submitted a request to CRE on an experimental project aimed at facilitating access to the wholesale natural gas market for consumers connected directly to the transmission network.

The principle of the proposed scheme is as follows:

- An industrial customer becomes a shipper by signing a transportation contract with GRTgaz. This gives the customer access to the gas exchange point to meet its own gas procurement needs and allows him to book downstream transmission capacity directly from the TSO.

The industrial customer delegates management of its balancing obligations to a third party known as a “balancing shipper”, who assigns to the shipper the aggregate volume of gas purchased at the gas exchange point, the downstream transmission capacity and the balancing tolerance associated with the assigned delivery capacity.

In its decision of 7 February 2008, CRE approved testing the GRTgaz strategy in 2008 with interested participants from industry. This scheme meets the expectations expressed by industrial customers. It contributes to stronger competition and more liquidity in the wholesale market by attracting newcomers at gas exchange points. After a few months of testing this strategy, CRE will submit it to public consultation before developing the next tariffs for transmission networks.

3.5.4. Changing the “A” Factor

The current tariffs for natural gas transmission networks, in force as of 1 January 2007, call for a system of “standardised” subscriptions of delivery capacity at transmission/distribution interface points. This guarantees that shippers subscribe the transmission capacity necessary to supply the distribution networks for a cold peak with a risk of 2% – i.e. enough to meet the maximum daily gas consumption level recorded in the last 50 years.

In this system, delivery capacity at the transmission/distribution interface points is automatically allocated to each shipper by the transmission system operators

(TSO), based on the customer portfolio the shipper supplies downstream from each transmission/distribution interface point.

The balancing “A” factor is defined in the tariffs for each balancing zone and each distribution system operator (DSO). It is used to calculate the “standardised” firm annual delivery capacity allocated to each shipper by the transmission system operators.

To take into account the updated reference annual consumption of “non-subscription” delivery points, planned for 1 April 2008, the new balancing “A” factors were published on 12 March 2008 by ministerial order.

3.6. Balancing on the transmission networks

3.6.1. Consultation on changes to the balancing system

Smooth operation of the market and security of supply to final customers requires physically balancing each transmission network.

For this purpose, each shipper has an obligation to balance its gas injections on the networks (imports, production, gas exchange point purchases, withdrawals from storage facilities) with its withdrawals (consumption by its customer portfolio, exports, gas exchange point sales, injections into storage facilities).

Until 2006, the two TSOs relied exclusively on underground storage facilities (as part of a service contract between the TSO and storage operators). They billed shipper imbalances based on a price at the Zeebrugge Hub for gas transported through the zone in question.

In its decision of 21 June 2006, CRE asked the TSOs to initiate consultation with the various stakeholders in order to study the opportunities for a gradual switch to a market-based system. The decision also stipulated that changes in the balancing rules would be decided by CRE, upon proposal by the TSOs.

There are two main reasons for changing the system:

- billing imbalances based on a market price sends a relevant economic signal, giving the real balancing cost of the network;

- by depending on the market to cover its balancing needs, GRTgaz contributes to the liquidity of the French wholesale market.

3.6.2. New balancing system on the GRTgaz network

In its decision of 7 December 2006, CRE approved the new rules proposed by GRTgaz. While organising monthly meetings with the various stakeholders (shippers, final customers, regulator), GRTgaz gradually set up the new system:

- Since 12 April 2007, GRTgaz has been using the market to cover part of its balancing needs (around 20%). An exchange platform (Balancing GRTgaz) operated by Powernext has been set up. Depending on whether the transmission network has a gas deficit or surplus, GRTgaz buys/sells gas from/to shippers in the North and South zones at two timescales: within-day or day-ahead.

- On 1 July 2007, the old daily balancing service was replaced by an optional tolerance offer proposed by GRTgaz.

- Since 1 September 2007, the average transaction price on the Powernext platform has been used to bill shippers for part of their imbalances.

- Finally, to ensure that balancing is financially neutral, GRTgaz has a specific profit and loss account for the costs and revenues related to this mechanism. In 2007, this account showed a profit. The profit was distributed amongst the shippers in proportion to their delivery capacities in April 2008.

In June 2008, 12 companies registered on the Balancing GRTgaz platform. The depth of the balancing market has clearly progressed. In practice, the balancing price remains close to the Zeebrugge day-ahead price index. Consequently, the advantage of the new system is that it gives shippers information on the cost of their imbalances based on economic data rather than a standardised reference (see Figure 28).

However, the GRTgaz balancing system does not yet contribute to the liquidity of the French wholesale market, given that the corresponding transactions are carried out on a specific platform. The emergence of a gas trading platform, which could be merged with the Balancing GRTgaz platform, would add liquidity to the wholesale market.

The GRTgaz balancing mechanism is still evolving:

By a decision on 24 April 2008, CRE approved a change in the balancing rules proposed by GRTgaz, aimed at increasing the portion of imbalances billed to shippers at market price for the summer of 2008.

Discussions with the shippers continue and several subjects will be addressed during the second half of 2008 to define orientations for 2009: increasing the portion of shipper imbalances billed at market price in winter, distributing the balancing tolerance between shippers differently and improving the quality of allocations sent to shippers.

3.6.3. Maintaining the balancing system on the TIGF network

During discussions organised by TIGF at the beginning of 2007, shippers requested that TIGF maintain its balancing system, which allows them to correct their imbalances on the transmission network with their own gas, by correcting their injection and withdrawal nominations “after the fact”. TIGF has committed to improving the management of allocation imbalances – once the complete overhaul of its gas accounting system has ended – by transferring them to an imbalance account whose management conditions will be defined in collaboration with the shippers.

3.7. The next distribution tariffs

To take account of regulatory changes and GrDF's request, CRE has drawn up a new transportation tariff for distribution networks.

3.7.1. GrDF tariff

On 1 July 2008, the third tariff for use of the GrDF public distribution networks (ATRD3) entered into force. It results from a CRE proposal made to the French ministers for the economy and for energy in a decision on 28 February 2008.

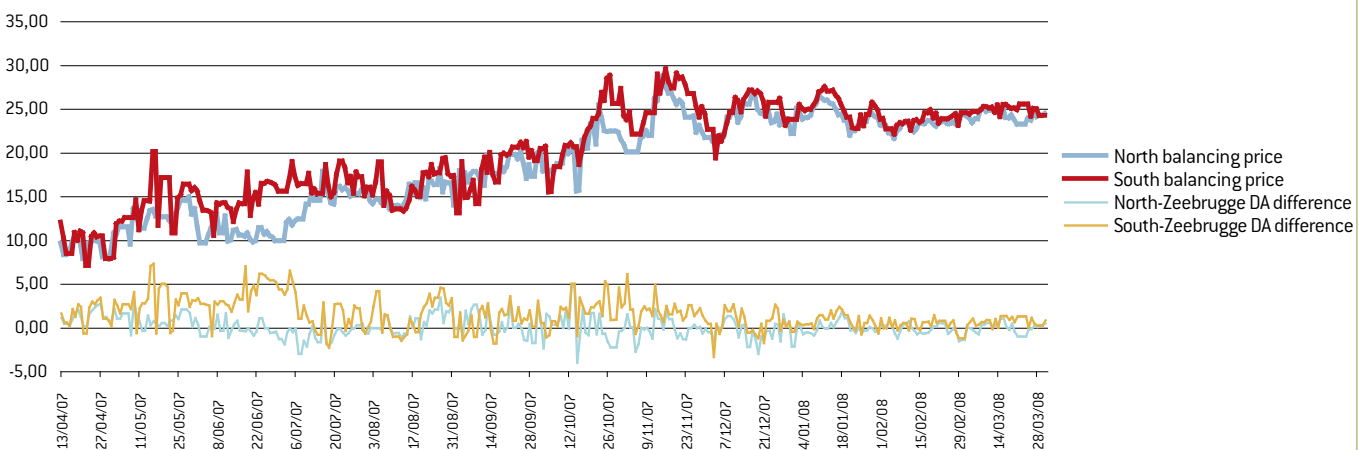
This tariff offers a new regulatory framework aimed at giving market players a clearer view of market conditions, reducing the risk borne by GrDF and inciting the operator to improve efficiency, both in terms of cost management and quality of service.

Specifically, these objectives involve the following new measures:

- a pluriannual tariff over four years, from 1 July 2008 to 30 June 2012, modified according to an annual review scheme;
- an incentive mechanism for cost management;
- an incentive mechanism for improving quality of service;
- an expense and revenue clawback account used to correct, for certain items previously identified, the difference between real costs and revenues, and the projected costs and revenues used to draw up the tariff (see Inset 17, p. 92).

Figure 28: Changes in balancing prices for 2007-2008

Source: CRE



The GrDF tariff has been increased by 5.6% relative to the previous tariff, applied for two and half years. This represents an increase of 0.9% in constant euros based on inflation estimated between 1 January 2006 and 1 July 2008.

The increase is due to the following main factors:

- increase in renewal investments with the accelerated programme to eliminate grey iron pipelines, which sped up investments in 2006 and 2007;
- additional expenses for information systems and reorganisation, related to complete opening of the market and legal unbundling of GrDF;
- low growth in the volume of gas distributed and the number of customers connected, which does not compensate for the cost increases described above.

A pluriannual tariff: clear market conditions and an incentive for cost management

For a clear perspective on market conditions and to encourage cost control at GrDF, the GrDF ATRD3 tariff curve has been set for all four years of the tariff period.

The tariff is reviewed annually by applying the following to the GrDF tariff scale, on 1 July of each year, starting 1 July 2010:

- an average annual variation, reported for the previous calendar year, in the consumer price index (excluding tobacco products), as calculated by INSEE (national institute of economic and statistical information) for all households throughout France;
- a reduction of 1.3%, corresponding to an annual productivity objective. The 1.3% decrease implies an annual reduction of 2.7%, not allowing for inflation, of the controllable operating cost base, applied to the 2008 reference.

GrDF may keep 40% of any additional productivity gains achieved on these controllable operating costs. The remaining 60% will be used to reduce costs to be recovered in the following tariff period. To define this tariff curve, CRE analysed the projections provided by GrDF. It took into account all GrDF's requests concerning personnel costs, security expenses, and investments, but it made adjustments on certain other items (centrally managed costs, information system costs, etc.).

Incentive-based regulation of quality of service

To ensure improvement in the quality of service offered by GrDF, the tariff implements incentive-based regulation in the following areas:

- environment,
- quality of service operations,

- quality of relations with customers and suppliers,
- quality of allocations and meter readings.

Security is not included in this mechanism, since it involves regulatory obligations for GrDF and oversight ensured by other public authorities.

The regulatory mechanism for quality of service consists of two types of indicators:

- indicators monitored by CRE, with publication of results;
- indicators that are not only monitored by CRE, with publication of results, but that also involve financial incentives if previously defined objectives are exceeded or not reached.

If CRE considers it necessary, it will propose changes to the quality of service regulatory system to the French ministers for the economy and for energy, based on enough experience feedback to make the following adjustments:

- set up new indicators or abandon current indicators;
- define the purpose of indicators that are not associated with specific objectives, based on sufficient historical data;
- set up incentives (rewards and/or penalties) for indicators that do not have any, and reassess existing financial incentives.

Encadré 17 : GrDF ATRD3 tariff: Expense and Revenue Clawback Account

The Expense and Revenue Clawback Account is a fiduciary account that does not appear in regular accounts and is provisioned at regular intervals by all or part of the deviations in cost or revenue reported for previously defined items. The cost and revenue items subject to this mechanism are:

- revenues collected by GrDF through tariffs that are proportional to the amount of gas transported on the distribution network;
- capital costs borne by GrDF;
- costs of buying gas to cover gas losses and various differences and supplier

imbalance accounts;

- penalties paid to GrDF by customers benefiting from options T4 and TP when they exceed subscribed capacity; The entire amount of these penalties is paid into the expense and revenue clawback account, to ensure that the penalty system is financially neutral for GrDF;
- financial rewards resulting from the incentive-based quality-of-service regulation mechanism, for all indicators except the one on keeping customer appointments.

The clawback account balance is reconciled

annually starting 1 July 2010 by increasing or decreasing the tariff scale, up to the limit of 2%. The remaining clawback account balance, unreconciled for year Y, is carried over to the clawback account balance for year Y+1. An interest rate is applied to this balance to make sure the mechanism is financially neutral.

3.7.2. Tariff rules for new natural gas concessions

Under paragraph III of Article 7 of the Law of 3 January 2003, amended by Article 29 of the Law of 7 December 2006, tariffs for the use of public distribution networks for natural gas other than those granted as concessions in application of Article 25-1 of the 2003 law, are equalised within the zone served by each operator.

This article reaffirms that for concessions predating the modification introduced by the Law of 7 December 2006, DSOs must equalise the tariffs for use of public distribution networks for natural gas. However, it excludes from this equalisation new concessions resulting from competitive bidding [legal framework of Article 25-1 of the 2003 law]. In addition, any operator of a new concession who is not directly connected to the transmission network is considered a Class 2 DSO, even if the upstream distribution network is managed by the same operator.

The tariff rules call for a reference pricing structure, applicable to all new concessions and identical to that of the equalised tariffs, to facilitate access to natural gas distribution networks and the flow of data between these networks and suppliers. This single structure will also help local authorities analyse proposals from candidate DSOs responding to calls for tender. For each DSO, the reference pricing structure is that of the GrDF tariff proposed by CRE, with the DSO defining the projected pricing level in its tender proposal for the new concession, by applying a multiplication factor to the GrDF tariff scale.

In application of Article 7 of the Law of 3 January 2003, CRE will examine each new request and check compliance of the DSO's projected tariff with the reference pricing structure. On this basis, it will then submit this tariff to the French ministers for the economy and for energy.

3.7.3. LDC tariffs

With regard to local distribution companies [LDCs], CRE is currently analysing the consequences of opening the market, of legal unbundling for certain LDCs and of reforms

affecting the status of the electricity and gas industries.

Only after this analysis will CRE be able to propose new tariffs for LDCs, with a target date for entry into force of 1 July 2009.

3.7.4. Financing and development of natural gas service

A draft decree on the economic conditions for developing gas service and on financing extensions of public distribution networks for natural gas was submitted to CRE, which issued its opinion on 24 January 2008. The provisions primarily aim to provide a regulatory foundation for existing practices in the area of calculating investment profitability and calculating third party participation in investments to obtain minimal profitability.

3.8. LNG terminal regulatory context

3.8.1. Working group on the regulation of French LNG terminals

In November 2007, CRE tasked an independent working group, composed of LNG market experts, to conduct a workshop on the role of LNG terminals in French gas infrastructures, and the corresponding regulatory framework. The group was made up of nine members from industry, academia and regulatory bodies.

Non-members were able to contribute through a dedicated website (<http://gttm.cre.fr/>).

The group concluded that conditions favouring investment need to be created, to ensure sufficient regasification capacity and guarantee greater security of supply in France and Europe.

In the context of a European market open to competition, developing regasification capacity will reinforce the attractiveness of the French market compared to American and Asian markets.

To cope with its growing gas demand and decreased production, Europe will have to increase its gas imports to 80% by 2030, compared to around 50% in 2007. In this context, liquefied natural gas [LNG] will become essential to security of supply,

increasing access to global gas resources and diversifying sources of supply. The proportion of LNG, today representing 30% of the gas consumed in France, is thus likely to grow significantly.

With regard to regulated LNG terminals, the main recommendations made by the group aim to:

- encourage extensions of regulated terminals by establishing stable conditions and a clear view of the regulatory context,
- create a climate favouring the development of new LNG terminals, through the granting of third-party access exemptions if necessary (see page 52 for reference),
- ensure that rules applicable to regulated terminals and exempted terminals are consistent.

For regulated terminals, most of the group members proposed defining a tariff methodology, with a duration of 15 to 20 years, specifying how risks would be shared between the operator and the subscribers. To take into account any economic changes and information that becomes available at a later time (such as subscription levels), it is recommended that clause calling for a tariff review every four to five years be introduced, focused on previously defined items.

Given the significant financial risks inherent in building new LNG terminals, the group felt that the third-party access exemption was particularly appropriate. Subject to a specific case-by-case analysis, and to encourage investment, the group recommended that the obligation to reserve dedicated capacity for short-term contracts not be applied systematically and that the scope of the exemption [total or partial, involving third-party access and/or the tariff] not be limited.

In all cases, security of supply and market fluidity must be encouraged by making information more freely available. This means that the transparency rules for publications and the UIOLI mechanisms must apply in the same way to all terminals, controlled after the fact by the regulator.

The group's report is available at the dedicated website.

3.8.2. Fos Cavaou LNG terminal: commissioning and short-term capacity allocation

Fos Cavaou, the French LNG terminal operated by Société du Terminal Méthanier de Fos Cavaou (STMFC) and owned by Gaz de France (69.7%) and Total (30.3%), will have an annual capacity of 8.25 bcm. Commissioning was initially planned for April 2008.

In September 2007, STMFC announced that due to a significant worksite delay, it was postponing the terminal's commissioning until around 15 September 2008.

On 12 February 2008, an accident occurred during preliminary tests on a pipe component designed to collect gas leaving the regasification facilities, postponing the terminal's projected commissioning date. Commissioning is now planned for the first half of 2009.

Once Fos Cavaou is in service, the three shippers that have subscribed all its capacity will be able to unload a total of around 100 LNG ships per year.

Capacity was allocated between these three shippers in two steps, based on the decision of 15 December 2003.

In this decision, CRE recommended that as long as the competitive offer was insufficiently developed, at least 10% of the new terminal's capacity should be reserved for short-term contracts open to all suppliers, under non-discriminatory conditions.

Fos Cavaou's capacities have been reserved for a period of 20 years by the two shareholders, with 62.7% for Gaz de France and 27.3% for Total.

The remaining 10%, or 0.825 bcm/year, was allocated on 27 June 2007 for a period of three years. Sale conditions were set by the CRE decision of 16 May 2007.

The operation was open to all shippers. Six companies submitted requests representing a total of nearly five times the capacity offered.

Once the requests were analysed, according to the allocation rules four companies were tied at the top of the list: Essent, Distrigaz, ENI and EDF.

In accordance with the allocation rules, they

decided to cooperate, appointing EDF as the recipient of all the capacity offered.

3.8.3. Montoir LNG terminal: the open season and its outcomes

In December 2006, Gaz de France announced an extension project for the Montoir LNG terminal, in accordance with commitments made to the European Commission as part of the Suez-Gaz de France merger project.

Three scenarios were considered:

- maintaining the terminal's current capacity (10 bcm/year) beyond 2021;
- commissioning new regasification facilities, which would increase the terminal's capacity from 10 bcm/year to 12.5 bcm/year, in 2011;
- building a fourth tank, which would bring the terminal's capacity to 16.5 bcm/year, in 2014.

The scenario was to be decided based on market response, following the open season, for which Gaz de France initiated a call for subscriptions on 27 December 2006.

The potential subscribers had until the end of September 2007 to submit their binding requests, remaining valid until 31 December 2007, the deadline for signing the regasification contracts.

In December 2007, after analysing the binding requests from potential subscribers, Gaz de France decided that the regulatory framework did not provide it with satisfactory financial visibility and that it was thus unable to analyse the investment's profitability.

Gaz de France is analysing the firm proposals submitted by the subscribers and, as of the printing of this report, has not yet given notice of its investment decision.

3.8.4. Tariff for the use of regasification capacity

The tariff in force as of 1 January 2006 offers two send-out services:

- continuous service for shippers unloading more than one cargo per month;
- uniform service for shippers unloading at

most one cargo per month.

In addition, a specific spot tariff for shippers subscribing at the last minute (starting the 25th of month *m* for unloading during month *m+1*) was introduced.

A new tariff for the Fos Tonkin and Montoir terminals is still planned for the commercial start-up of Fos Cavaou. The applicable tariff at Fos Cavaou will be consistent with tariffs at the existing terminals.

CRE plans to simplify the structure of these future tariffs and improve the Use-It-Or-Lose-It (UIOLI) rules. It will be examining a pluriannual incentive-based tariff.

3.9. Access to underground storage facilities

3.9.1. Capacity allocation

The Ministerial Order of 8 February 2008 defines the profiles and unitary rights with regard to storage for customers connected to the natural gas transmission and distribution networks for the period from 1 April 2008 to 31 March 2009. These rights represent a total volume of 120.66 TWh and a total withdrawal rate of 2,480 GWh/d.

To take into account the geographical distribution of storage needs and capacities in France, TIGF contributes 9.2 TWh in volume and 63.8 GWh/d in withdrawal rate to satisfy the storage capacity needs defined for the GRTgaz balancing zones.

Even before the Order was issued, the Ministry for Energy set up a committee to monitor third-party access to storage facilities, consisting of members representing operators, storage facility users and CRE. The committee is tasked with:

- monitoring the implementation of the regulatory framework, to ensure that it properly meets the security of supply objectives set by law;
- checking that storage facility regulations are suited to transportation and supply practices in use on the French network;
- maintaining a flexible regulatory framework and the optimisation needed to develop the French natural gas market.

The committee held its first meeting on 25 May 2007. The projects underway involve:

- proposing a new method for calculating storage rights;
- studying the technical feasibility of updating storage rights more frequently, based on changes in the customer portfolio. Currently, these rights are updated once during the gas year, on 1 November of each year.

On 1 April 2008, Gaz de France allocated 101.7 TWh of capacity for the exercise of storage rights.

In addition, DGI held two auctions:

- sale of firm capacity beyond storage rights: around 6 TWh (sale held 6 March);
- sale of releasable capacity, representing capacity to which suppliers did not exercise their rights: around 1 TWh (sale held 13 March).

In addition, Gaz de France offered additional capacity on the Salins Sud storage group at the ATS tariff: 59 GWh over two years (2008/2009 and 2009/2010). This is capacity that was not sold on 6 March 2008. It was put up for sale starting 10 April on a “first come first served” basis. All the capacity was sold.

As for TIGF, it allocated all its storage capacity, or 27.8 TWh: 24.2 TWh were allocated to comply with the rights defined in the Order and 3.6 TWh were allocated in proportion to the requests.

3.9.2. Tariff

The European Directive of 26 June 2003 left Member States the choice between regulated access and negotiated access for underground storage facilities. French

legislators, by the Law of 9 August 2004, opted for negotiated access.

TIGF and Gaz de France, the underground storage operators for natural gas, published their storage services for the 2008/2009 gas year on their websites in February 2007.

These services were unchanged compared to the previous year. Gaz de France maintained the flexibility it offers users to momentarily and without penalty leave the “tunnel” (the minimum and maximum stored gas levels, based on the physical breathing characteristics, form a tunnel) on day d , provided they return to the tunnel on day $d+1$. TIGF offers users the possibility of reserving pluriannual capacity, on the condition that the subscriptions are compatible with the terms of the order relative to storage. This order, reviewed annually, sets the storage rights envelope based on the profile of the portfolio's customers.

With regards to prices in force, they have increased quite substantially: TIGF prices went up 6% in April 2008, after a 6% increase in April 2007 and a 10% increase in April 2006; Gaz de France prices went up 3% (after increases of 9% in April 2007 and 6% in April 2006).

Despite these successive increases, all the underground gas storage capacity was allocated.

There is a lack of transparency in the calculation of these prices, and future changes are difficult to forecast.

Gaz de France is working with GRTgaz to define a storage service compatible with the future transmission service to enter into force on 1 January 2009.

Inset 18: Changes in metering systems

ELECTRICITY METERING

According to Article 19-III of the Law of 10 February 2000, each public distribution system operator must perform the metering necessary to carry out its activities. These activities mainly involve billing for transportation, on one hand, and monitoring the balance of flows to ensure the operating safety, dependability and efficiency of the power system, on the other.

To serve this purpose, electricity meters measure energy flows at the interface between private facilities and the public grid. Metering must also provide information about the flows circulating on the public grid and, consequently, on any differences between supply and demand programmes and between generation and consumption programmes. These same metering data are used for grid access pricing and for imbalance settlement. Finally, suppliers use metering data to bill final customers.

At present, projects to deploy smart metering systems (automated meter management – AMM) are multiplying throughout the world, notably in Europe. Using two-way communication between the meter and the automated management system, AMM complements the basic functionalities of current meters: it enables automatic remote meter reading and other remote services which today require on-site visits, such as putting equipment into service or changing the subscribed power, and encourages customers to control their energy consumption. Moreover, the AMM system gives all suppliers the possibility to propose diversified electricity services, based, for example, on the days or hours of use.

These services will encourage consumers to use less energy during peak hours and to reduce their reliance on coal- or fuel-based generation facilities, which emit CO₂. AMM is consistent with the environmental protection process launched by the French Environment Round Table in 2007. In addition, several statutes and regulations impose the development of smart metering systems.

In France, Item IV of Article 4 of the Law of 10 February 2000, pursuant to the Law of 13 July 2005 in which the energy policy orientations are laid out, stipulates that public electricity transmission and distribution system operators must implement systems that enable suppliers to offer their customers different prices according to the time of year or day of use and that encourage grid users to limit their consumption during peak periods. This legal provision can be materialised through the deployment of smart metering systems. However, the conditions of implementation must be specified in a decree based on a CRE proposal. In 2008, CRE will propose a text so that measures can be taken to meet the objectives set by law. Provisions of this text have already undergone public consultation involving all system operators.

In Europe, Article 13 of the 5 April 2006 Directive on energy efficiency stipulates that billing «on the basis of actual consumption shall be performed frequently enough to allow customers to regulate their own energy consumption». In addition, the latest proposals in the Third Energy Package call for informing consumers about their actual energy consumption more often than the current interval of every six months. The AMM system makes it possible to meet these obligations and to end billing based on estimated consumption, a source of complaints.

ERDF EXPERIMENTAL PROJECT: FOLLOW-UP AND NEW DEVELOPMENTS

In 2007, ERDF announced the launch of a «pilot project» aimed at replacing 300,000 meters with smart meters. This project aims to open the way for widespread deployment of smart metering systems in all ERDF service zones. According to the timetable presented by ERDF, the first experimental meters would be installed in 2010, to test the system in two geographical areas, one urban and the other rural. If the experiment is conclusive, widespread deployment will start in 2012, once feedback has been taken into account. This project does not prevent other electricity distribution system operators from launching their own initiatives.

To replace the 35 million meters installed in France, ERDF has estimated the investment will cost between 4 and 5 billion euros, with deployment taking around five years. However, the new smart meters would open the way to significant savings, for instance by eliminating most on-site visits (for readings, start-up, power or offer modification, etc.) and would significantly improve quality of service for consumers (less bother, shorter maintenance delays, detailed and frequent consumption information, bills no longer based on estimated consumption, new supply and service offers, etc.). In other words, ERDF's productivity gains should pay for a significant part of the investment.

In the follow-up to its decision of 29 January 2004, and after consulting market players, CRE laid out in its 6 June 2007 decision the orientations for upgrading the electricity metering system in the facilities of low-voltage users with power below or equal to 36 kVA, and defined the minimum functionalities for system operators to implement in order that the costs of deploying a widespread remote management system would be covered by the tariffs for use of electricity grids.

The decision also specifies that changes to the metering system are only justified if:

- they provide consumers with better information and help control electricity demand;
- they improve operation of the electricity market, by diversifying supply and services;
- they optimise procedures (reduced maintenance time, more precise billing data, fewer complaints, etc.);
- they enhance quality of service;
- they help system operators manage their costs, particularly by eliminating meter reading costs and on-site maintenance.

CRE also stressed that these new measures should improve the conditions in which system operators, in a monopoly position, perform their activities, and they should also facilitate a diversification of services offered and better control of demand.

Points were identified which require particular attention:

- «commercially sensitive information», defined by the Decree of 16 July 2001 and amendments, must be protected by the use of encryption systems, particularly during data transfer between the meter and ERDF's central system;
- consumers must be assured that the ability to monitor their consumption closely does not interfere with the required protection of privacy.

Finally, CRE reasserted in its decision that ERDF's «pilot project» could only be viewed as an experiment and had to incorporate input from suppliers, consumer associations and other electricity DSOs.

ERDF presented its project to the Consumer Working Group and gathered reactions from stakeholders. In particular, these exchanges revealed that suppliers require not only a remote information output, but also an electrical power supply for any additional equipment such as a standalone «energy box». Consultation also focused on analysing how widespread deployment

of smart meters would impact the market's current operation, in terms of information systems, processes, and services offered by DSOs, and also in terms of supplier prices. The conclusions of this work provide the information needed to define the scope of the technical study to be conducted by the Electricity Working Group task forces.

CRE set up a monitoring committee in charge of assessing how well ERDF's smart metering project follows the orientations defined in its decision of 6 June 2007. Following the experiment, CRE will specify the conditions for extending the use of smart meters throughout France.

ERDF also plans to test smart metering systems for low-voltage users with a power supply above 36 kVA and for high-voltage users. If extending the use of smart meters to these users proves relevant, CRE will define the necessary orientations, which should also concern LDCs.

GAS METERING: GrDF PROJECT

GrDF is currently testing a remote meter reading solution for the customer segment representing the industry and service sectors. The project has been submitted to the Gas Working Group. Given the specific properties of natural gas, it will only involve energy metering.

This experiment, which will be observed in cooperation with interested parties from the Consumer Working Group, could lead to widespread use of remote meter reading. For residential customers in collective residential buildings, GrDF is testing the conditions for widespread use of remote reporting, which could evolve into remote meter reading.

CRE will set the criteria to be met in smart gas metering so that they are consistent with the conditions defined for electricity metering.

Architecture of ERDF's smart metering system

