

## II. Electricity and natural gas markets

### 1. Changes in the regulatory and legislative context

#### 1.1. Legislative context: reversibility

The Law of 21 January 2008 modifies Article 66 in accordance with the Programme Law of 13 July 2005. It allows specific consumers, depending on their situation, to contract regulated tariffs for recently connected sites (before 1 July 2010), or to return to regulated retail tariffs until 30 June 2010. Despite its complexity (see Insets 19 and 20, p. 100), this system contributes to establishing trust in the market, since any consumer who changes supplier for a market-based contract is safe in the knowledge that they may return to a more familiar system.

#### 1.2. Regulatory context

Based on the Law of 7 December 2006, several provisions have been implemented to protect consumers. The following legislation was adopted in 2007-2008:

- regulation of customer invoices and supervision of suppliers' commercial practices;
- inauguration of the French National Energy Mediator;
- creation of a special natural gas solidarity tariff for vulnerable customers.

The Decree of 16 June 2001 relative to commercially sensitive information has also been modified.

#### 1.2.1. Regulation of customer invoices and supervision of suppliers' commercial practices

The Order of 2 July 2007 issued by the ministers for the economy and for energy specifies how electricity or natural gas supplier invoices must be presented and defines a list of information that must be provided. For example, invoices must specify whether consumption is based on an estimate or a meter reading, and must list the subscribed services in detail. It does not prohibit invoicing based on a lump sum price, but does require that at least once a year, the customer receives an invoice based on the amount of energy actually consumed. This order was passed after consultation with the French National Council on Consumer Affairs and has adopted CRE recommendations issued in its decisions dated 8 February and 27 September 2007 pertaining to the preparation for open markets.

A decree dated 20 August 2007, issued by the Minister for the Economy, reinforces the provisions of the Code for Consumer Protection contained in the Law of 7 December 2006, by enforcing sanctions for failure to comply with these provisions.

#### 1.2.2. Inauguration of the French National Energy Mediator

The French National Energy Mediator was inaugurated in accordance with Article 43 of the Law of 10 February 2000, as modified by the Law of 7 December 2006, and is responsible for recommending solutions

to settle disputes between consumers and electricity or natural gas suppliers, and for helping to ensure consumers are correctly informed. A decree of 19 October 2007, passed by the ministers for energy and for the economy, specified how this entity shall operate.

An order issued by the ministers for the economy and for energy, dated 26 October 2007, set the amount allocated to the Mediator's 2007 budget (€1 million). The current mediator was appointed on 5 November 2007.

#### 1.2.3. Special natural gas solidarity tariff created for vulnerable customers

A draft decree relative to supplying natural gas at a special solidarity tariff was sent to CRE on 11 February 2008 by the ministers for the economy and for energy. CRE published its conclusions on 27 March 2008.

The draft decree was sent to the *Conseil d'Etat* on 24 April 2008.

#### 1.2.4. Modification of the decree on commercially sensitive information (CSI)

The decree of 16 June 2001 relative to commercially sensitive information was modified by a decree dated 27 November 2007. As a result, it is now possible to overrule the opposition raised by most electricity distribution system operators with regards to transmitting certain information to electricity suppliers, namely consumption records and transportation power, when customers sign a supply service contract. CRE re-

requested this modification long ago, since it is essential in order for the market to operate correctly. It is up to ERDF to rapidly implement the required modifications to its information system, especially since these modifications could have been planned in advance.

## 2. Electricity markets

### 2.1. The value chain and physical reconciliation

The electricity value chain is composed of four links: power generation, trading, transmission/distribution, supply to final customers (see Figure 29, p.100).

#### Power generation

Power generation is open to competition. Any company may produce electricity in France in order to:

- sell it on wholesale and retail markets;
- consume it, wholly or in part, for its own needs;
- sell it to EDF or local distribution companies (LDCs) under the provisions of the purchase obligation system;
- export it.

### Inset 19: Reversibility conditions for household customers

Source: [www.energie-info.fr](http://www.energie-info.fr)

#### ELECTRICITY

I already use electricity in my residence	If my current contract is under regulated tariffs	1) I can keep my current contract 2) I can sign a market-based contract
	If my current contract is a market-based contract	1) I can keep my current contract 2) I can sign another market-based contract 3) The “reversibility” principle applies until 30 June 2010, I can sign a contract under regulated tariffs from EDF (1), at least 6 months after having signed a market-based contract for the first time for my current residence.
I am moving into a previously occupied residence or a newly connected residence		1) I can sign a market-based contract. 2) Up to 30 June 2010, I can sign a regulated tariff contract with EDF (1).

#### NATURAL GAS

I already use natural gas in my residence	If my current contract is under regulated tariffs	1) I can keep my current contract. 2) I can sign a market-based contract. > Important: If I sign a market-based contract, I can no longer be supplied under regulated tariffs in my name for this place of residence.
	If my current contract is a market-based contract	1) I can keep my current contract. 2) I can sign another market-based contract. > Note: I can no longer subscribe, in my name, to a regulated tariff contract for this residence.
I am moving into previously occupied lodgings or a newly connected residence		1) I can sign a market-based contract. 2) Up to 30 June 2010, I can subscribe to a regulated tariff contract from Gaz de France (2)

(1) EDF or, in certain municipalities (involving less than 5% of the customer base), a local electricity supplier.

(2) Gaz de France or, in certain municipalities (concerning less than 5% of the customer base), a local natural gas supplier.

## Inset 20: Reversibility conditions for professional customers

Source: www.energie-info.fr

### ELECTRICITY

I already use electricity at my place of business	If my current contract is under regulated tariffs	1) I can keep my current contract. 2) I can sign a market-based contract.
	If my current contract is a market-based contract	1) I can keep my current contract. 2) I can sign another market-based contract.
I'm requesting the reconnection of electricity in a previously occupied place of business		1) I can sign a market-based contract. 2) Until 30 June 2010, if I have power installed that is less than or equal to 36 kVA (Kilovolt-Amperes), I can subscribe to a regulated tariff contract from EDF (1).
I'm requesting the connection of electricity in a place of business that has just been connected to the electricity grid.		1) I can sign a market-based contract. 2) Until 30 June 2010, I can sign a regulated tariff contract with EDF (1), regardless of installed power at this location.

100

### NATURAL GAS

I already use natural gas on my place of business	If my current contract is under regulated tariffs	1) I can keep my current contract. 2) I can sign a market-based contract. Important: If I sign a market-based contract, I will no longer have the option of signing a regulated tariff contract for this location (this rule applies both to me and the next occupants at this location).
	If my current contract is a market-based contract	1) I can keep my current contract. 2) I can sign another market-based contract.
I'm requesting the reconnection of natural gas in a previously occupied place of business		1) I can sign a market-based contract. 2) I can sign a regulated tariff contract from Gaz de France(2) under the condition that the previous occupant of this location did not sign a market-based contract for natural gas.
I'm requesting the connection of natural gas in a place of business that has just been connected to the natural gas network		I must sign a market-based contract with the natural gas supplier of my choice.

(1) EDF or, in certain municipalities (involving less than 5% of the customer base), a local electricity supplier.

(2) Gaz de France or, in certain municipalities (concerning less than 5% of the customer base), a local natural gas supplier.

Figure 29: The commercial value chain for electricity

Source: CRE



In France, EDF holds a dominant position in power generation, with 85% of total generation capacity. Four other generators operate high-power facilities: Suez (CNR and SHERM), Endesa France, Gaz de France and Total. They own 6% of existing installed capacity. The remaining 9% is made up of small generating plants operated by:

- a large number of independent generators, mostly selling the electricity they generate to EDF and LDCs under purchase obligations;
- industrial companies, which consume the electricity they generate.

### Trading

Trading consists in exchanging large volumes of electricity on the wholesale market. On 31 March 2008, 117 operators were active on the French wholesale market, i.e. roughly the same amount as the year before. There are three types of market players:

- the five main generators mentioned above, who have final customers and resell all or part of the electricity they generate on the wholesale market, or they may purchase electricity on this market, in addition to their own production, in order to supply their final customers;
- non-generating suppliers, who buy on the wholesale market to cover the demand of their final customers;
- traders, who have no generation facilities and no final customers, but purchase and resell electricity to take advantage of oppor-

tunities provided through price differentials in France and Europe.

The five principal generators, together with some non-generating suppliers, have developed trading activities. This activity is generally managed as a profit centre that is separate from generating and supply activities.

### Transmission and distribution

The French public transmission system is managed by RTE, a subsidiary of EDF. The distribution grids are managed by ERDF, an EDF subsidiary, and by roughly 160 LDCs. Access to the French grid is open to third parties and is regulated.

### Supply

Supply refers to the sale of electricity to final customers, i.e. customers who actually use electricity without re-selling it. This activity is open to competition. There are 18 alternative suppliers and around 160 LDCs who are electrical energy suppliers in France.

Physical balance on the French market continues to show a significantly positive export position, but one that is declining each year. In 2007, net electricity exports accounted for 11% of the national generation volume, compared with 16% in 2006.

Figure 30 shows French electricity suppliers' procurements and trade outlets in 2007, together with variations compared with 2006.

## 2.2. Wholesale market

### 2.2.1. Upstream concentration and vertical integration on the market

Competition in terms of the power-generating business in France is structurally insufficient. The French market is highly concentrated in the upstream segment. In 2007, the EDF group, which operates most of the generation facilities, was responsible for 85% of power produced nationally and acquired a further 5% of nationally produced power from independent generators under the purchase obligation system.

Similarly, power generation outside EDF is concentrated between four generators.

Over the coming years, three factors are likely to somewhat modify the French generating structure:

- the Suez/Gaz de France merger project, which will increase the concentration of generators other than EDF;
- start-up of new generating plants (using mainly combined-cycle gas turbines) already announced by different companies;
- competition for the renewal of existing hydraulic power concessions.

Only the latter two factors will contribute to an increase in competition in the generation segment. However, their effects will be modest and only tangible in the mid-term, essentially on the peakload and semi-baseload supply.

**Figure 30: Physical balance of French market in 2007, compared with 2006 (TWh)**

Source: CRE according to RTE

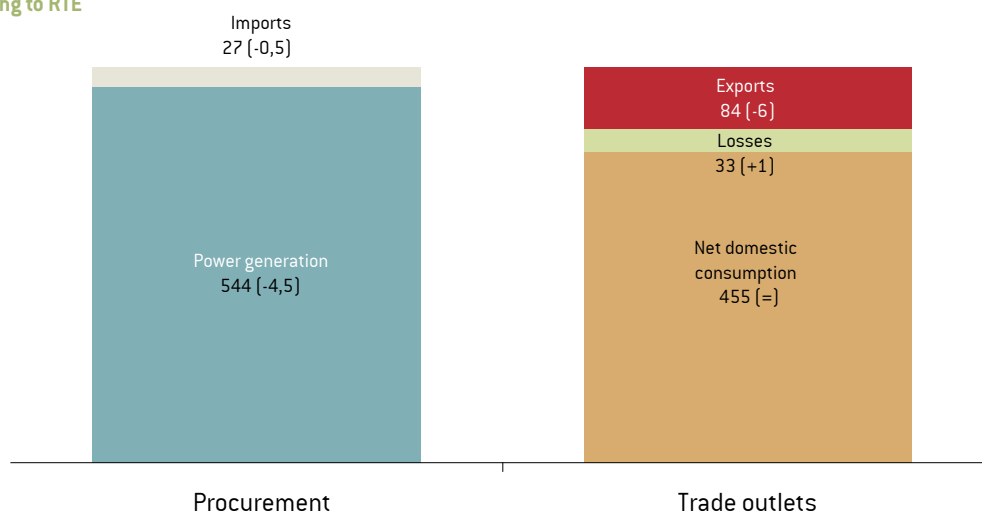


Figure 31 illustrates the concentration of French generating capacity.

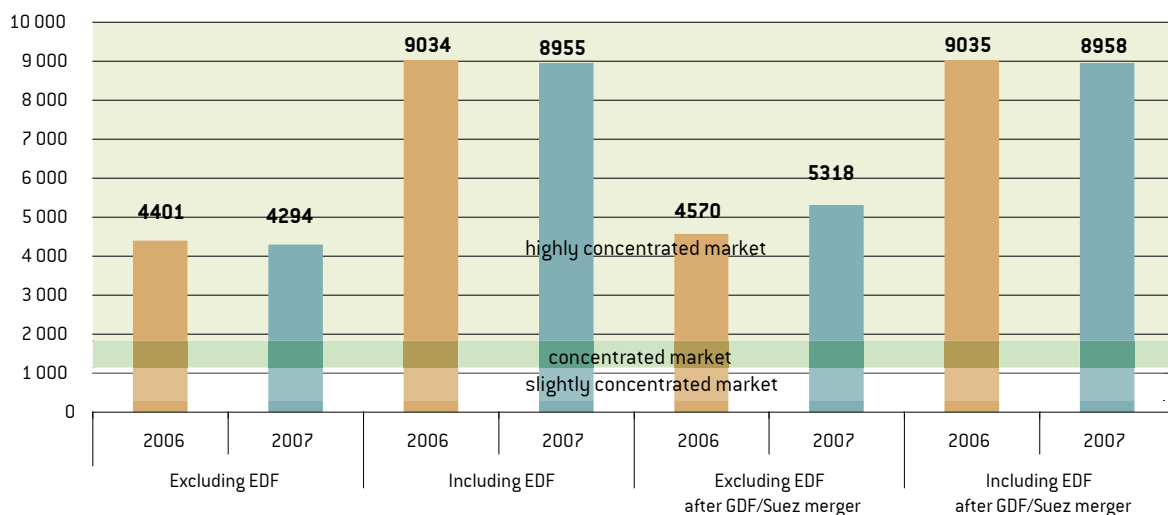
The Herfindahl-Hirschman Index (HHI) measures market concentration – the more concentrated a market, the higher the HHI. The HHI is equal to the sum of the square of the market shares held by each market participant. In general, a market is considered to have a low concentration if its HHI is below 1,000, and a high one if it is above 1,800. Given the specific features of the electricity and gas markets, the index

should be used with caution as an indicator of the degree of competition. Concentration and competition on wholesale electricity markets are not connected as directly as they are on most other markets: in certain circumstances with a strained supply-demand balance, an operator with a limited market share may have sufficient market power to be able to influence prices. Figure 32 shows energy flows between the different upstream and downstream segments of the French wholesale market in 2007.

Due to internal transfers of electricity between EDF's generation and supply activities, volume exchanged on the wholesale market remains limited compared to national consumption. Associated with high upstream concentration, this degree of vertical integration restricts French wholesale market liquidity. Thus, in 2007, only 22% of generation and 13% of final customer consumption contributed to transactions on the wholesale market.

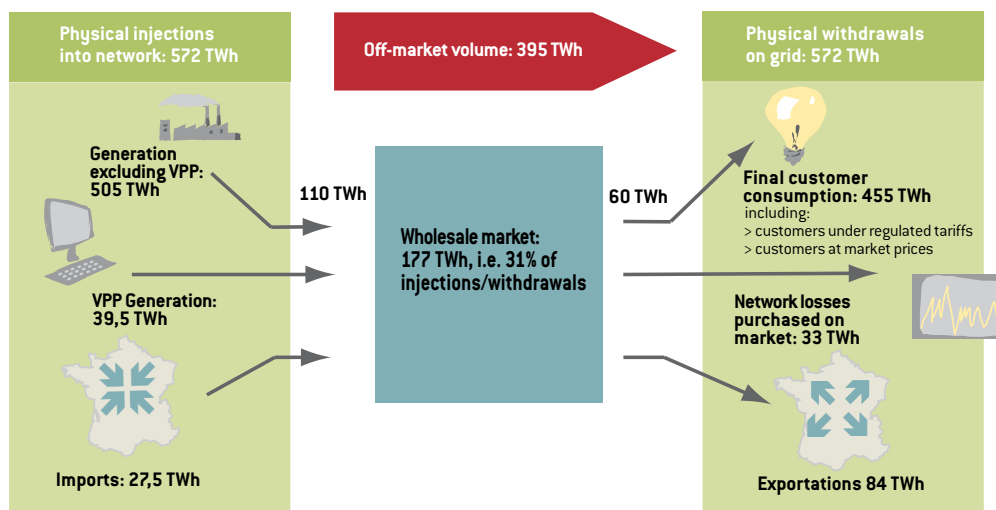
**Figure 31: Electricity generation concentration index (HHI): comparison between 2006 and 2007 according to four scenarios (in energy)**

Source: CRE according to RTE



**Figure 32: Upstream and downstream segments on French wholesale market in 2007**

Source: CRE according to RTE



**2.2.2. Business growth on French wholesale market**

**Volume has remained steady**

Deliveries between wholesale market players, which rose in 2006, have since remained steady (see Figure 33).

These deliveries, which result from transactions conducted in the past, are not an accurate reflection of actual activity on the French wholesale market. However, their stability tends to reflect a decrease in liquidity.

**Concentration of deliveries remains low**

On 31 March 2008, 117 balance responsible entities were active on the French wholesale market, including 66 on Powernext Day-Ahead and 41 on Powernext Futures. Figure 34 (p. 104) illustrates the concentration of deliveries related to transactions

on the French wholesale market. Trading is less concentrated than generation or supply to final customers. This is a result of strong EDF generation-supply vertical integration: most of the volume generated and supplied by the group does not pass through the wholesale market.

**Increased activity on Powernext**

Activity on Powernext Futures fell until September 2007 and then experienced strong growth during the fourth quarter of the same year. In total, the volume traded on Powernext Futures progressed from 37% over the last twelve months (see Figure 35, p.104). Activity on the EEX France platform has been zero since August 2006.

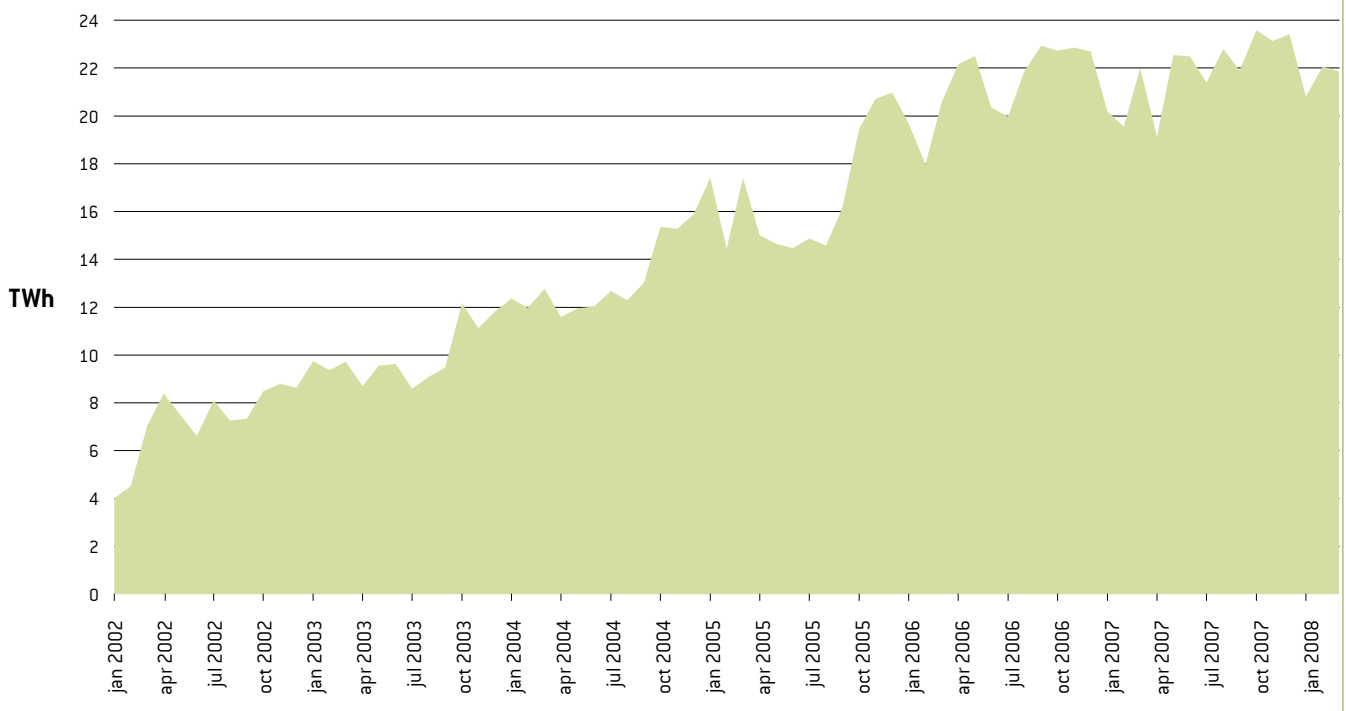
Activity on Powernext Day-Ahead is increasing, with essentially seasonal variations. The total volume traded over the last twelve months rose by more than 25%.

**Powernext launched new trading services**

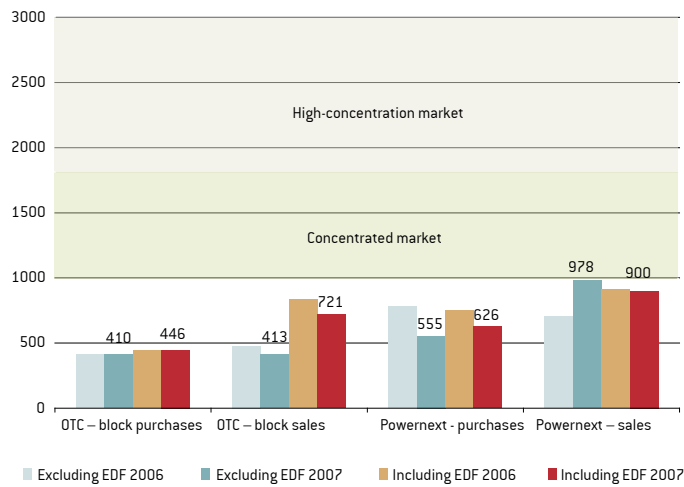
In July 2007, Powernext launched continuous-quote trading services for day-ahead contracts and intraday contracts. Activity on the intraday platform experienced strong growth from its launch until the first quarter of 2008, when it stabilized. The volume exchanged on the platform, and the number of transactions are significant: in the first quarter of 2008, monthly volume processed on Powernext Intraday was established on average at 56 GWh for an average of 2,311 transactions (see Figure 36, p.104).

**Figure 33: Volume delivered on French electricity wholesale market (net delivery volume resulting from over-the-counter transactions)**

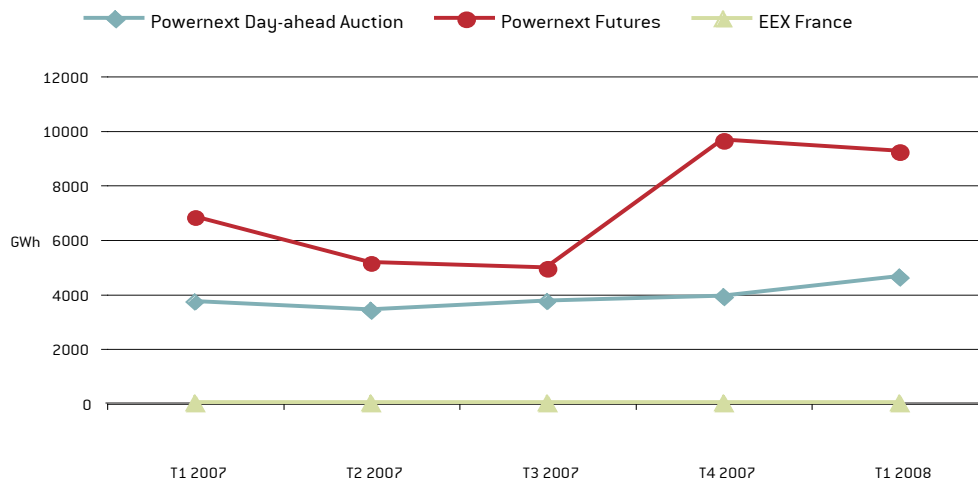
Source: CRE according to RTE



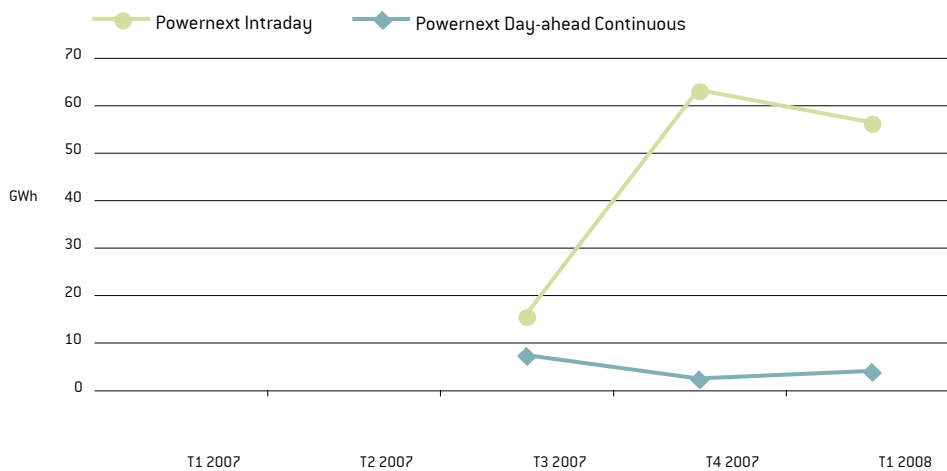
**Figure 34: Concentration index (HHI) for energy deliveries resulting from wholesale market trade – comparison between 2006 and 2007 (in energy)** Source: CRE according to Powernext, RTE



**Figure 35: Average transaction volume on French organized wholesale markets – for all term durations** Source: Powernext, EEX



**Figure 36: Average transaction volume on Powernext Intraday and Powernext Day-ahead continuous quote trading** Source: RTE, CRE analysis



### 2.2.3. Transparency in power generation

Transparency of information concerning generation is an essential condition for wholesale markets to operate correctly. This condition is particularly important in France where EDF owns most of the power generating facilities. It is essential that the other market players have access to the information necessary to anticipate changes in the physical supply-demand balance on the French market.

The *Union Française de l'Électricité* (UFE) publishes *ex post* and *ex ante* information concerning the availability and use of facilities owned by the main energy generators in France. Since February 2007, updates of this data are conducted more frequently. RTE publishes this information on its website, without, however, guaranteeing its accuracy.

Publication nonetheless improves transparency on the French market:

- information provided covers all the key French power plants, representing 91% of volume generated;
- forecast information focuses on time-scales ranging from the next day to the next three years. It thus covers the principal forward dates of maturity on the French market.

However, improvements could still be made to the UFE system, namely with regards to recommendations set out by the ERGEG in its *"Guidelines of Good Practice on Information Management and Transparency in Electricity Markets"*:

- data published only covers production resources owned by generators participating in the initiative;
- it only involves generating facilities with power greater than 20 MW;
- data is aggregated into heterogeneous categories such as "coal + gas", "fuel + peak", "others";
- no real-time updates exist for the data published, for example following any incidents that may occur in the power plants.

During its study on price peaks observed on Powernext in October-November 2007, CRE analysed the data published by the UFE for the relevant days (see p.138).

load, compared with €9/MWh for baseload and €99/MWh for peakload in 2006.

Day-ahead prices were low during the first three quarters in 2007, mainly due to mild temperatures that limited the increase in demand during the winter and encouraged the use of thermal power plants in summer.

From October 2007, prices continued to increase sharply. This increase seems to be related to a sharp drop in temperatures, together with low availability from the French nuclear sector. According to EDF, the nuclear sector experienced reduced availability due to technical contingencies and labour movements.

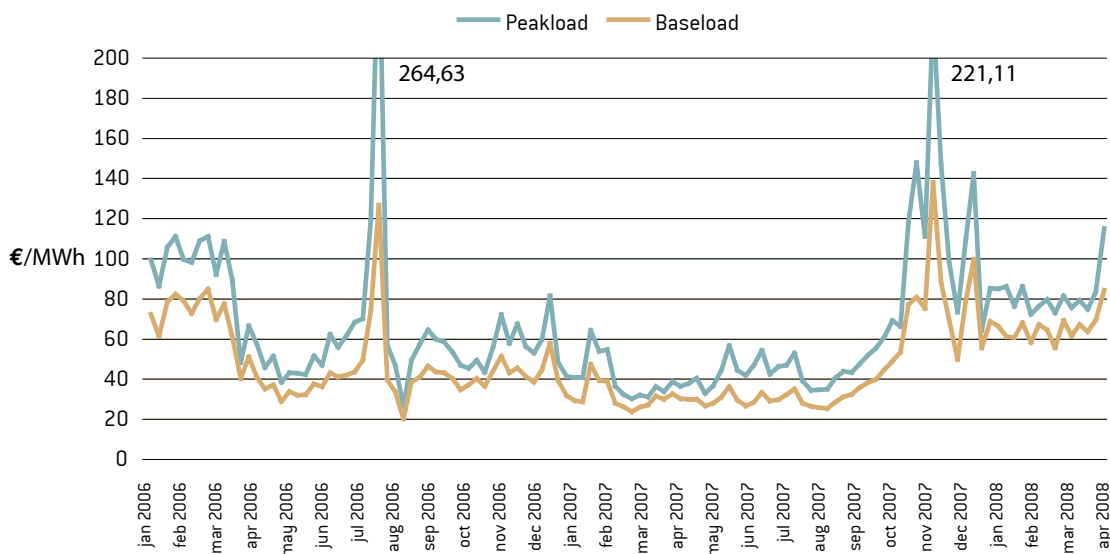
### 2.2.4. Price trends

#### Day-ahead prices

Figure 37 shows changes in day-ahead prices on Powernext since January 2006. Day-ahead levels in 2007 were lower than in 2006 – the annual average for 2007 day-ahead on Powernext stood at around €11/MWh for baseload and €9/MWh for peak-

Figure 37: Weekly averages of day-ahead prices on Powernext

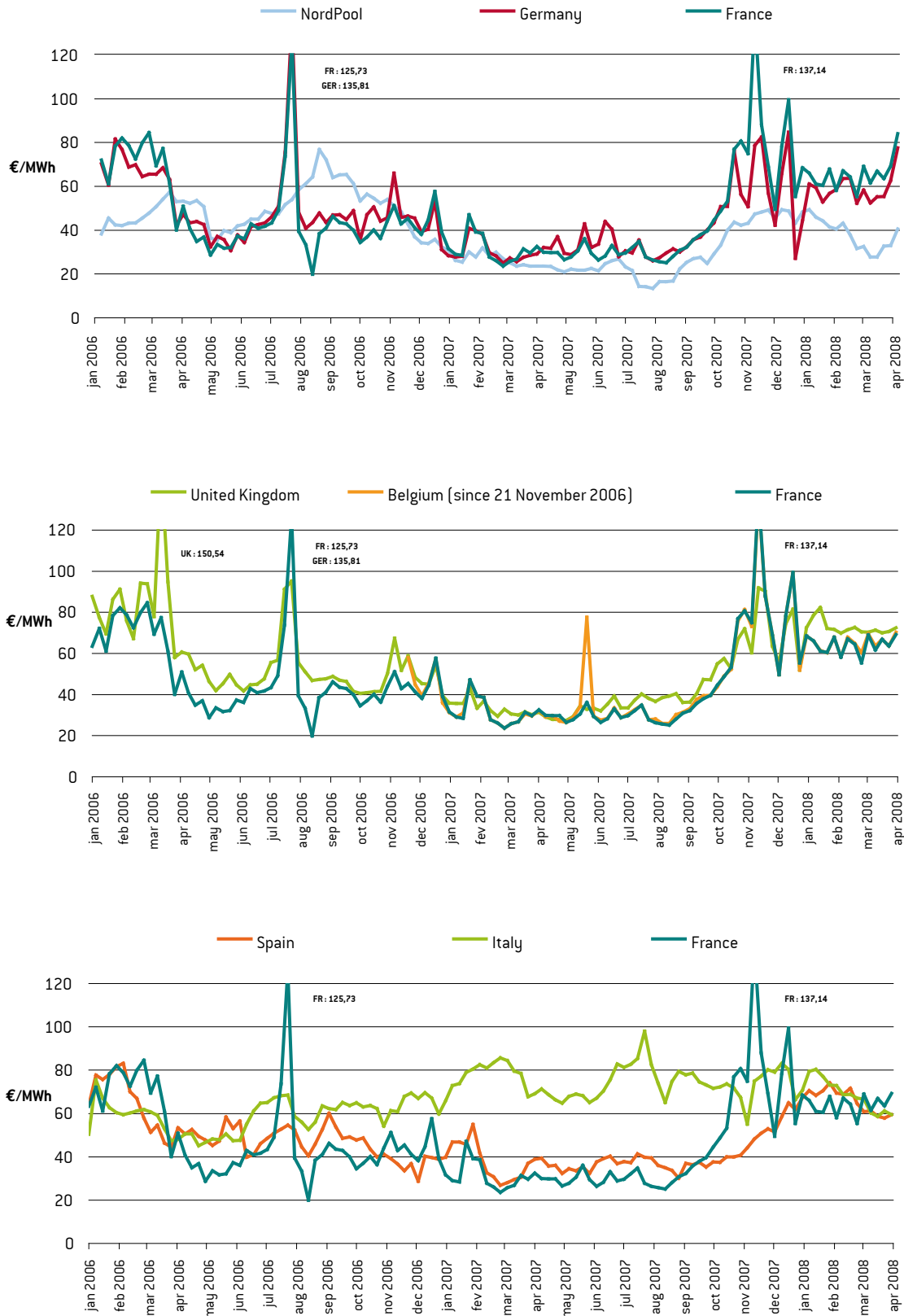
Source: Powernext





**Figure 38: Weekly averages of European day-ahead prices**

Source: Powernext, NordPool, EEX, Platts, Belpex, OMEL, IPEX



At the end of October and in November, high prices were observed on Powernext Day-Ahead: the hourly price reached €236/MWh per hour on 19 and 29 October 2007, €500/MWh per hour on 21 and 12 November, and €762/MWh per hour on 19 and 15 November. CRE analysed how these prices were established (see p.138).

Between January and the end of March 2008, the period of mild temperatures combined with good German wind-power generation helped ease tension in the French power grid, which, in turn, contributed to a drop in day-ahead prices.

The volatility of prices in 2007 reduced compared with 2006; this reduction coincided with the end of the coupling process on the French, Belgium and Dutch markets.

The prices in Germany, Belgium, United Kingdom and Spain displayed similar changes to those in France: low for the first three quarters of 2007, rising strongly from October. Prices were then pushed upwards partly because of a drop in temperatures, partly because of tension on the French grid. Although French prices were lower than in most European countries from January until September 2007, they were higher during periods of high tension on the French grid in October and November 2007.

The first quarter of 2008 saw the prices on the European markets fall, mainly due to mild temperatures.

Figure 38 shows changes in day-ahead prices on the main European markets since January 2006.

#### Forward prices

Figure 39 shows the changes in annual forward (Y+1) baseload and peak prices on Powernext since January 2006. On an average basis, prices in 2007 for supply in 2008 were not as high as prices in 2006 for supply in 2007. Nevertheless, prices at the end of 2007 were far higher than those at the beginning.

Since July 2007, the period was marked by the following:

- first, steady prices over several months;
- then, by a clear increase in prices in October and November 2007, probably due to the sharp increase in the price of coal, oil and day-ahead prices;
- then, there was a slight drop in prices in January, which appears to be related to oil and coal prices. Poor results from the US economy and European financial markets, fuelling expectations of an economic slowdown, also seemed to contribute to a drop in prices;
- finally, a sharp increase occurred from 24

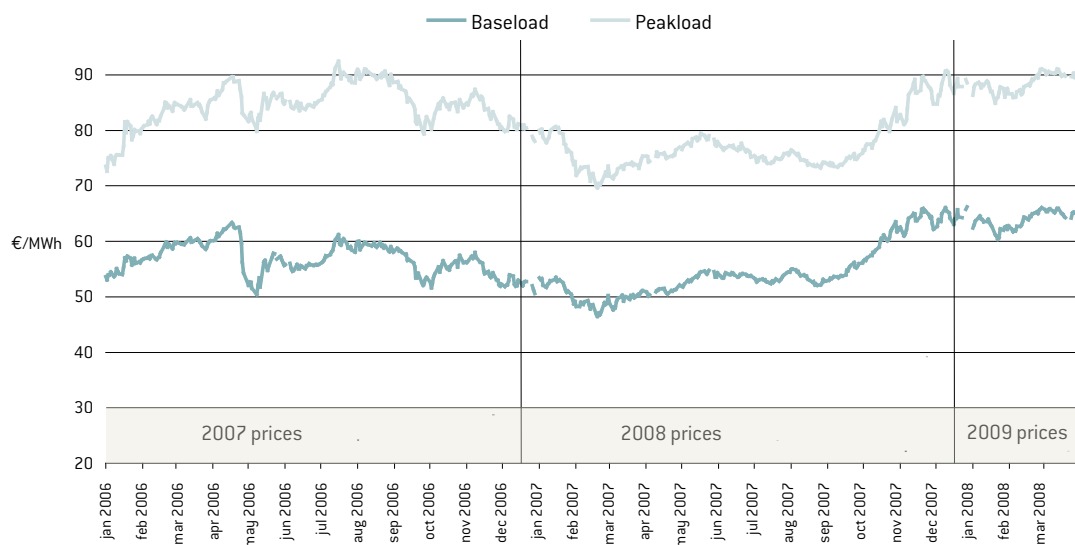
January until the end of March 2008, accompanying the sharp rise in coal and oil prices.

Figure 40 (see p.108) shows the trend for annual forward baseload prices in France, Germany, the United Kingdom and on NordPool.

In 2007, French annual forward prices had been lower than German prices since the beginning of the year, but by the end of October 2007 French prices were higher than those in Germany. This change is clearly linked to tension on the French market during this period, causing a more significant rise in day-ahead prices on the French market than on the German market. Factors that pushed the day-ahead prices upwards (low temperatures, poor nuclear availability in France) could have led market players to significantly increase the risk premium for forward prices. Furthermore, the risk premium traditionally related to cold temperatures seems, once again, to have been considered as higher in France than in Germany. From January 2008 to March 2008, the difference between German and French forward prices was almost zero.

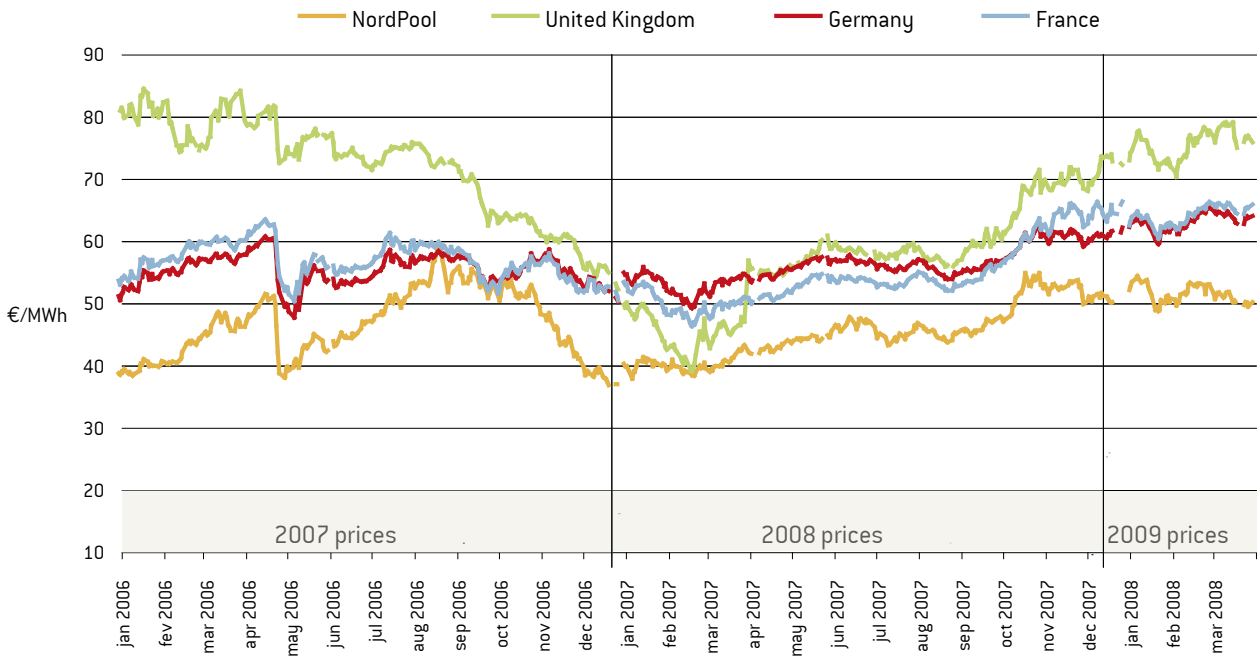
Figure 39: Annual forward prices on Powernext Futures

Source: Powernext



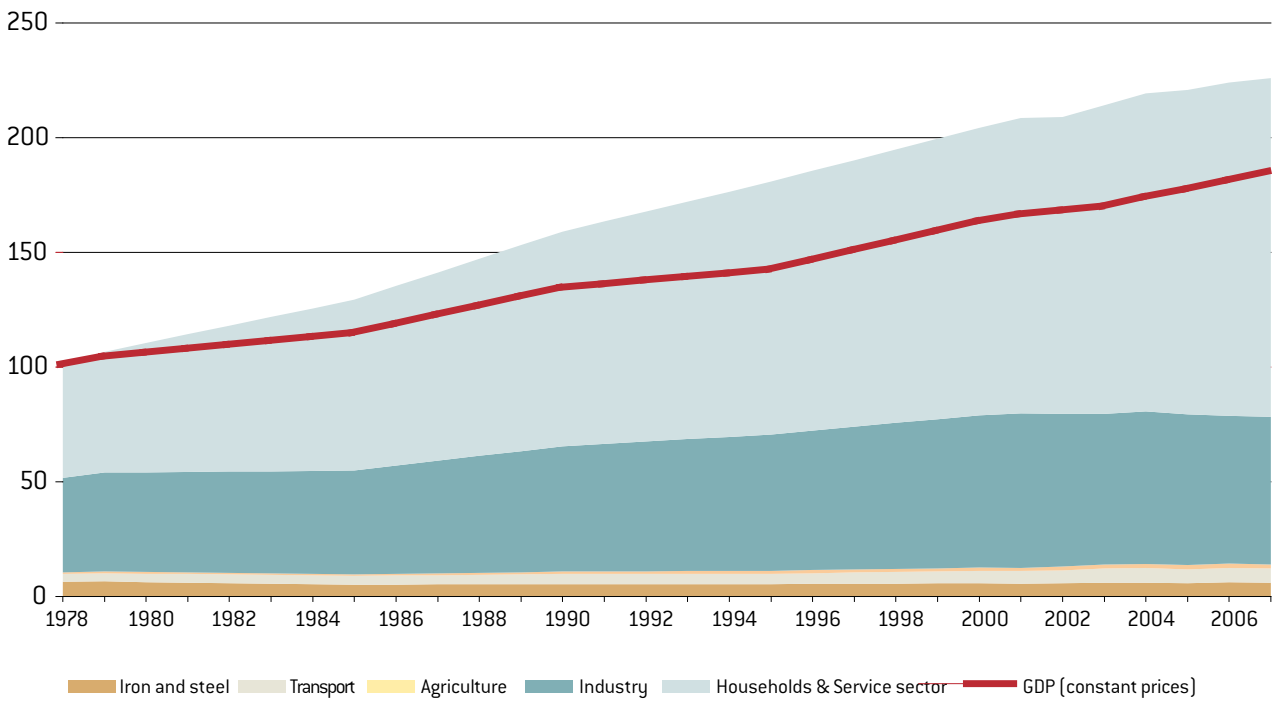
**Figure 40: European forward prices**

Source: NordPool, Platts, EEX, Powernext



**Figure 41 : Power consumption per sector and economic activity – base 100 in 1978**

Source : CRE according to INSEE, Observatoire de l'énergie, Ministry for the Economy, Finance and Industry



## 2.2. Retail market

French electricity consumption has increased sharply over the last 30 years due to rising consumption in the household and service sector (see Figure 41). From 1978 to 1990, consumption has risen more rapidly than economic growth, with electricity playing an increasingly greater role in the French economy. Since the beginning of the 1990s, power consumption has expanded at a pace close to that of GDP. However, since 2004 industrial consumption has dropped. During the past five years, the annual growth rate of power consumption has been around 1.5%. In 2007, French consumption reached 480 TWh. Since 1 July 2004, all non-household customers (4.7 million sites) have been able to

choose their electricity supplier (see Inset 21 and Figure 42). Since 1<sup>st</sup> July 2007, all consumers (34 million sites) have been able to choose their electricity supplier.

### 2.3.1. Prices proposed to customers

There are three types of contract proposed to customers:

- contracts with regulated retail tariffs, only offered by incumbent suppliers (EDF and LDCs) in their respective areas. The area covered by an incumbent supplier is defined by a concession contract or regulations applying to the services of state-run distribution companies. Contracts under regulated tariffs are subject to conditions;
- market-based contracts (offered by incumbent suppliers and alternative suppliers);

- TaRTAM contracts. These contracts were only accessible in the first half of 2007 and only to customers having previously signed market-based contracts.

### Regulated retail tariffs

Further to a request on 3 August 2007 from the ministers for energy and for the economy, CRE conducted hearings on 9 August 2007 and filed its conclusions on price changes envisaged for 16 August 2007, equivalent to 1.1% for blue tariffs, which apply to household customers and independent businesses, and 1.5% for yellow and green tariffs applicable to other customers.

### Inset 21: Segmentation adopted by CRE

**Large non-household sites:** sites where contracted power is greater than or equal to 250 kW. Their annual consumption is generally greater than 1 GWh. Examples: industrial sites, hospitals, supermarkets, large buildings.

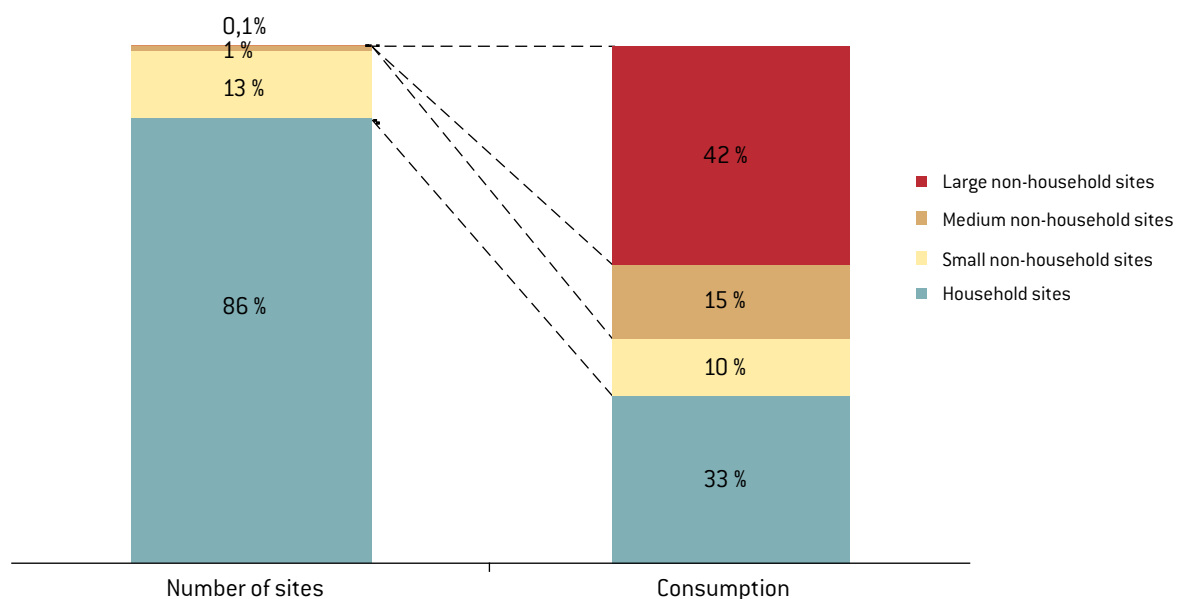
**Medium-sized non-household sites:** sites where contracted power is between 36 and 250 kW. Their annual consumption is between 0.15 GWh and 1 GWh. Examples: SMIs/SMEs.

**Small non-household sites:** sites where contracted power is less than 36 kVA. Their annual consumption is generally less than 0.15 GWh. Examples: independent businesses, tradesmen.

**Household sites:** sites where contracted power is less than 36 kVA. Their annual consumption is generally less than 10 MWh.

Figure 42: Distribution of customer segments

Source: CRE according to DSOs, RTE, supplier (2007 data)



By virtue of its decision of 9 August 2007, the Commission:

- expressed its opinion in favour of the proposed 1.1% increase for blue tariffs;
- expressed its opposition with regards to the proposed 1.5% increase for yellow and green tariffs. This increase of 1.5% does not correspond with the minimum increase required to cover all costs incurred by EDF to supply these customers. The increase must be higher than 1.5% for yellow tariffs; the increase for green "A" tariffs must be higher than the rise in yellow tariffs;
- requested that structural defects in each pricing category be corrected.

The ministerial order dated 13 August 2007 was limited to the project referred to CRE [see Figure 43].

Regulated retail tariffs are subject to a formal ruling by the European Commission in the event of any failure to fulfil obligations [see p. 51].

**Market-based contracts**

Market-based contracts vary according to customer segment. For large and medium-sized sites, the contract price is generally based on wholesale market prices. For small non-household and household customers, there are two types of contract available:

- contracts where the price is defined according to the regulated retail tariff: more often than not, the subscription fee is equivalent to that of the regulated retail tariff and the price of energy is cheaper. There are a greater number of these contracts.
- contracts where the price is not defined according to the regulated retail tariff: they are established by adding the grid access tariffs to the wholesale market price. They are often more expensive than the regulated retail tariff.

**TaRTAM**

TaRTAM tariffs were set by the Ministry for Energy on 3 January 2007. They are equivalent to the regulated retail tariff excluding

tax that was increased by 23% for green tariffs (in general those applied to large industrial sites), by 20% for yellow tariffs (in general those applied to medium-size sites) and by 10% for blue tariffs (in general those applied to small sites). TaRTAM replaces the initial contract price for a maximum period of 2 years, starting from the request.

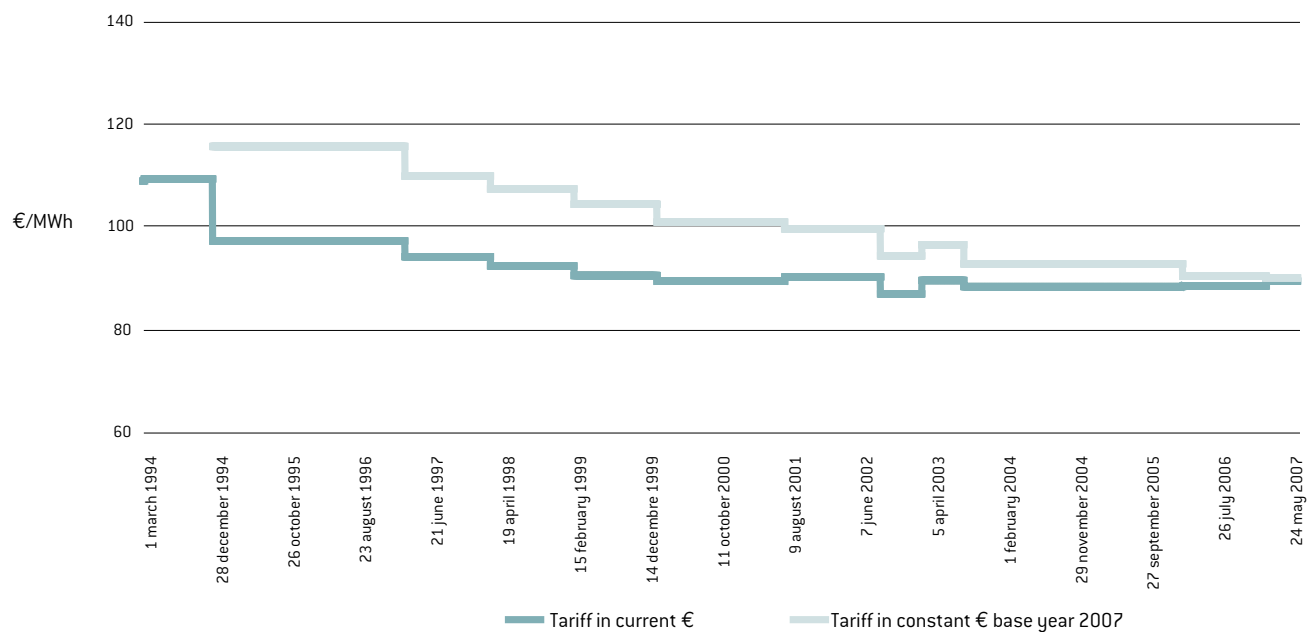
Pursuant to Article 15 of the Law of 7 December 2006, an evaluation report concerning this measure must be presented to Parliament by the government before 31 December 2008. Moreover, the TaRTAM tariff is subject to a formal assessment procedure by the European Commission based on rules regarding state assistance [see p. 51].

**2.3.2. Scissor effect between regulated retail tariffs and market prices**

The supply portion of the regulated retail tariff is obtained by deducting the transportation portion, calculated on the basis of the tariff for use of the public electricity grid. It

**Figure 43: Changes in regulated retail tariffs for electricity to household customers (exclusive of local taxes, CSPE, and VAT)**

Source: CRE, according to EDF (2008)



includes generating and marketing costs, together with the supplier's profit margin.

The supply portion of market-based contract prices for large and medium-sized sites is based on wholesale market prices. Since January 2004, the supply portion of these contracts has exceeded the level of the supply portion of regulated tariffs. This effect is even more striking since the supply portion of regulated retail tariffs, for some of these sites, does not reflect the actual supply costs, and may even be negative. For small sites (household and non-household), the supply portion of regulated retail tariffs is also lower than the wholesale market prices, but to a lesser degree than for the large and medium-sized sites. The gap between the energy price on the wholesale market and contract prices on the retail market, also known as the "scissor effect", has

caused the Direct Energy company to file a referral to the *Conseil de la concurrence* (French competition authority) against EDF (see Inset 22).

### 2.3.3. The non-household market: stagnation of sales at market price

As of 31 March 2008, i.e. nearly four years after the market was opened to all professionals and local municipalities, 802,000 non-household sites hold a market-based contract, including TaRTAM sites (see Figure 44, p.112). More than 95% of them are small non-household sites. In the first three months of 2008, the number of sites with a market-based contract increased by 1,000 sites per month compared to 5,000 sites per month in 2007. This weak growth rate for sales of market-based contracts to small non-household sites is the result of:

- the scissor effect on tariffs, which penalised alternative suppliers buying on the wholesale market (where the price has more than doubled since 2004), who, in order to attract customers, had to sell at a price lower than the regulated retail tariff, which only increased by 2.8% over the same period;
- the sales practices of EDF, who stopping selling market-price contracts to customers who are eligible to contract regulated retail tariffs for electricity.

## Inset 22: Summary of Direct Energie/EDF dispute

On 22 February 2007, the Direct Energie company referred a dispute with EDF to the Conseil de la concurrence concerning EDF's abuse of dominant position.

The reason for the complaint was the scissor effect on wholesale and retail prices.

In 2005 Direct Energie, which does not have its own generating capacity, signed a wholesale procurement contract with EDF to supply its customers. The price of this contract was so high that Direct Energie could not offer independent businesses contracts that could compete with EDF contracts, aligned with regulated tariffs.

Direct Energie thus exposed the existence of a scissor effect on tariffs, characterized by an inability to compete with EDF retail contracts without selling at a loss when supply is procured from EDF on the wholesale market.

Having sought CRE's opinion, the Conseil de la concurrence considered that EDF was "likely to have implemented practices that constituted an abuse of its dominant position on the wholesale markets for the generation and sale of electricity" and that the serious and immediate infringement must be rapidly rectified since it had a detrimental effect on both Direct Energie and the sector.

The Conseil de la concurrence therefore charged EDF to propose a contract "to supply wholesale electricity or any other technically and financially equivalent solution that allows alternative suppliers to compete efficiently, with no scissor effect on tariffs, against EDF retail contracts for electricity consumers on the free market".

In the same decision, the Conseil de la concurrence ruled that EDF must take interim protective measures.

EDF replied to the Conseil de la concurrence's injunction by proposing a commitment published on 19 July by the Conseil, which tested on the market with 21 companies and organisations; In its decision no. 07-D-43 of December 2007, the Conseil de la concurrence accepted EDF's proposal, with certain amendments, and closed the procedure (see [www.conseil-concurrence.fr/pdf/avis/07d43.pdf](http://www.conseil-concurrence.fr/pdf/avis/07d43.pdf)).

The main features of EDF's supply commitments on 10 December 2007 were as follows:

- a contract exclusively designed for the mass market (connection voltage less than 36 kVA) and limited to 10 TWh per year;
- a long-term contract, structured over two periods of five and ten years;
- an energy price in the first period that

starts at €6.8/MWh in 2008 and increases each year until it reaches €7.2/MWh in 2012;

- an energy price in the second period that is at least equal to development costs of the Flamanville 3 EPR and indexed on costs of the nuclear sector;
- best possible allocation of quantities, for example using an auction system on a price that is added to the price paid during the first period;
- a clause with additional prices designed to prevent windfall effects;
- a product that is not a baseload delivery, but a seasonal one according to the availability of EDF nuclear power stations.

Furthermore, EDF agreed to define a sales policy for its market-price customer portfolio (around 400,000 sites), so that the scissor effect would be completely eliminated from the market.

EDF ran the first two auctions on 12 March 2008. Five suppliers shared the proposed 500 MW for a surplus cost of €2.50/MWh with respect to fixed prices during the same period.

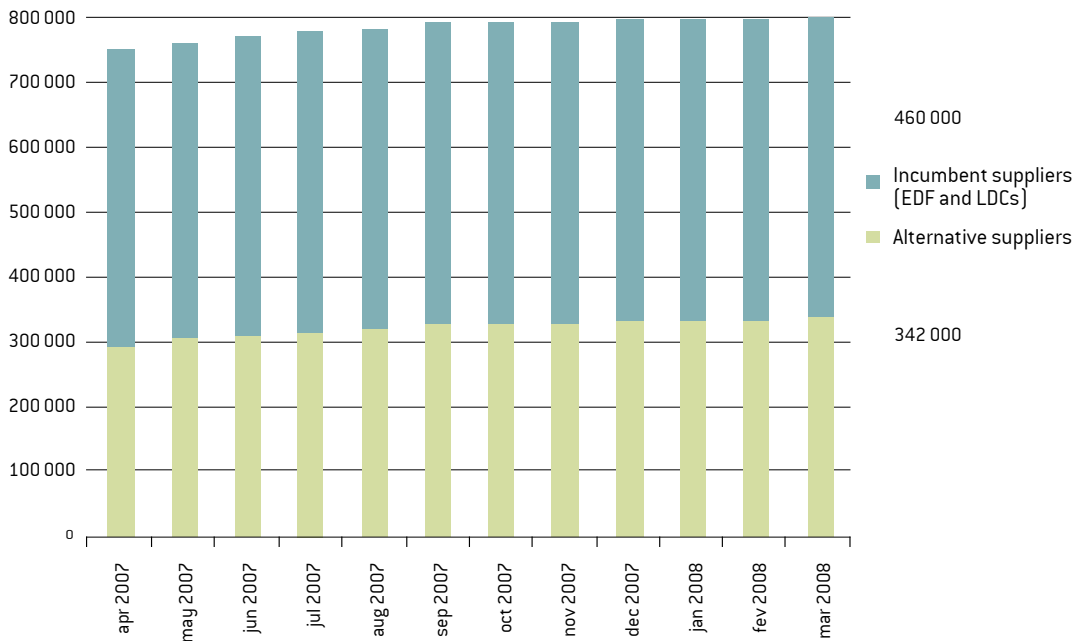
Direct Energie appealed against decision no. 07-D-43 to the Court of Appeal in Paris, and no ruling has yet been made.

Only 3,600 sites out of the 802,000 sites using market-based contracts apply the TaRTAM tariff. This involves mainly large consumers (3,031 sites) that represent 99.9% of the 86 TWh concerned by the TaRTAM tariff. Seven small sites and 319 medium-sized sites also apply TaRTAM.

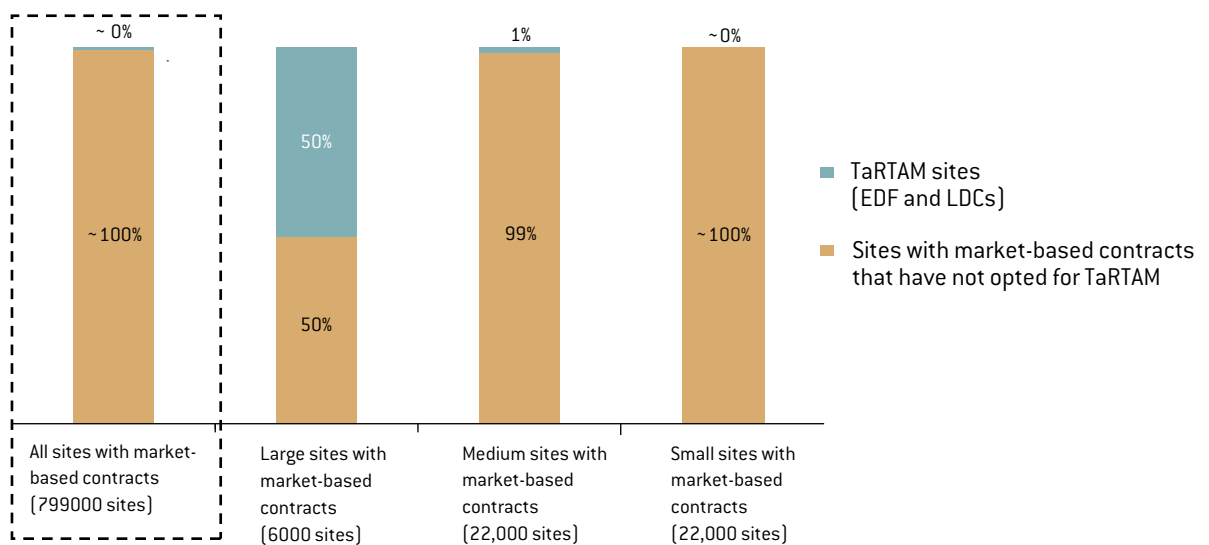
During the fourth quarter, around 200 large sites representing 11 TWh of consumption, discontinued their use of the TaRTAM tariff, contracted mainly with incumbent suppliers (see Figures 45 and 46).

Comparison of the supply portion of TaRTAM with forward prices, which serve as the basis for market-based contracts for large sites (see Figure 47), shows that most of these sites previously holding market-based contracts have resorted to the TaRTAM tariff.

**Figure 44: Number of non-household sites with market-based contracts**  
 Source: CRE according to DSOs, RTE, incumbent suppliers



**Figure 45: Proportion of TaRTAM sites in relation to total number of non-household sites with market-based contracts on 31 March 2008**  
 Source: CRE according to suppliers



**2.3.4. Household market: opening to competition still not in sight**

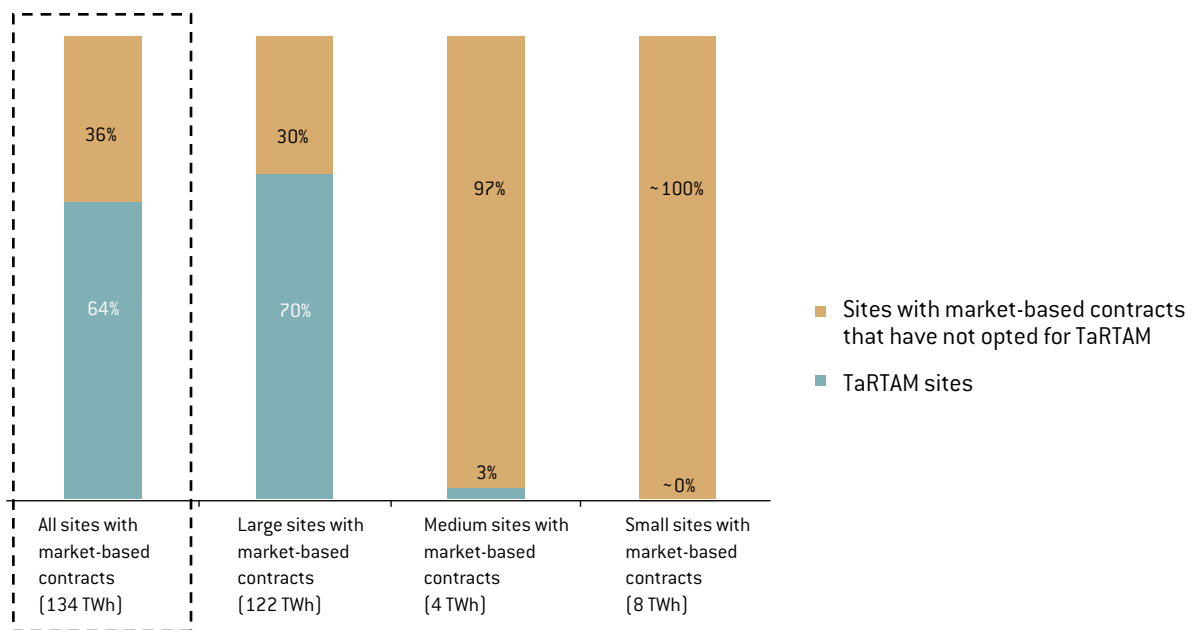
On 31 March 2008, nine months after the market was opened to household customers, 116,000 household sites out of 29.5 million had signed market-based contracts

(see Figure 48, p.115). More than 95% of them selected an alternative supplier. This limited extension of market-based contracts could be explained by the scarcity of information available to consumers concerning the open market (see p.134), as well as the psychological impediment

imposed by the fact that, until 21 January 2008, consumers were unable to return to regulated retail tariffs. The Law of 21 January 2008, which established “reversibility” under specific conditions, aims to encourage consumer trust, thus encouraging a competitive, open market.

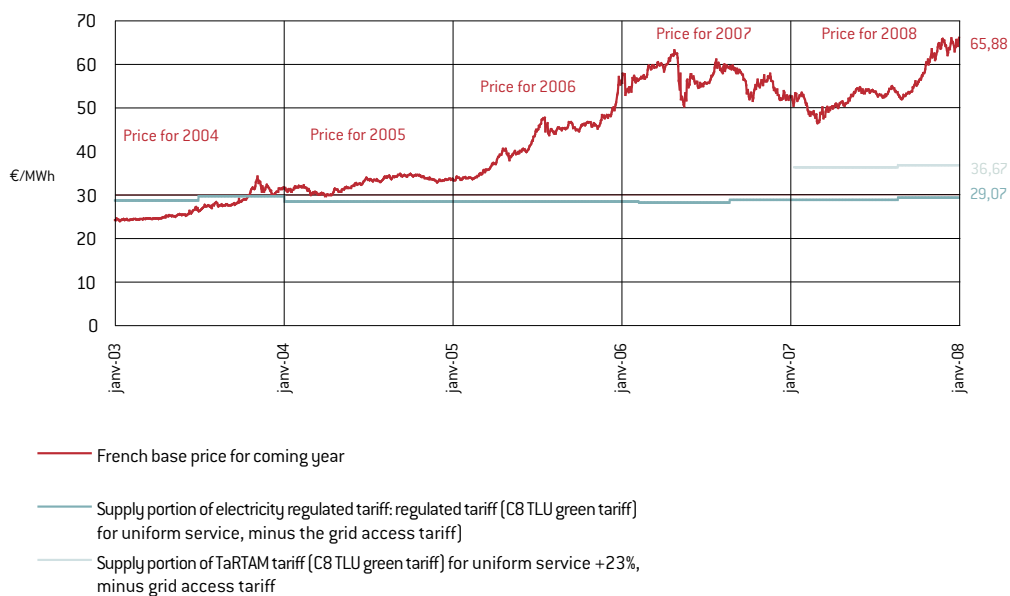
**Figure 46: Consumption portion of TaRTAM sites in relation to total number of non-household sites using market-based contracts on 31 March 2008**

Source: CRE according to suppliers



**Figure 47: Standard large industrial site on transmission grid**

Source: CRE January 2008, according to Platts – Powernext data





### 2.3.5. A highly concentrated market

As of 31 March 2008, 18 alternative suppliers had at least one customer in their portfolios (see Table 10). Small household and non-household sites have more limited choice of suppliers than the others. This is

also the case for customers in areas served by LDCs.

The market share of alternative suppliers remains low: only 7.2% of non-household customers (342,000 sites) opted to select an alternative supplier (see Figure 49). Alternative suppliers meet 12.4% of con-

sumption demand for non-household sites (see Figure 50, p.116). The Herfindahl-Hirschman Index (HHI) values on the retail market show that it is highly concentrated (see Figure 51, p.116).

**Table 10: List of active suppliers<sup>1</sup> on ERDF or RTE grids who asked to appear on the list of suppliers published by CRE<sup>2</sup>**

Source: CRE according to DSOs, RTE

	Large non-household sites	Medium non-household sites	Small non-household sites	Household sites
Alterna*	€	€	€	€
Atel Énergie	•	•		
Compagnie Nationale du Rhône	•	•	€	€
Direct Énergie		€€	€	€
EDF*	•	•	€	€
EGL	€€			
Electrabel, Groupe SUEZ	•	•	€	€
Endesa Energía	€€	•	€	
Endesa France (SNET)	€€	•		
Enel France	€€			
Enercoop		€	€€	€€
E.ON Group	€€			
Gaz de France	€€	€	€€	€€
GEG Source d'énergies*		€	€€	€€
HEW Énergies	• €			
Iberdrola	• €			
KalibraXe	• €			
Planète UI			• €	• €
Poweo	• €	• €	• €	• €
Proxelia*	• €	• €	• €	• €
Sorégies*		• €		
Verbund	• €			

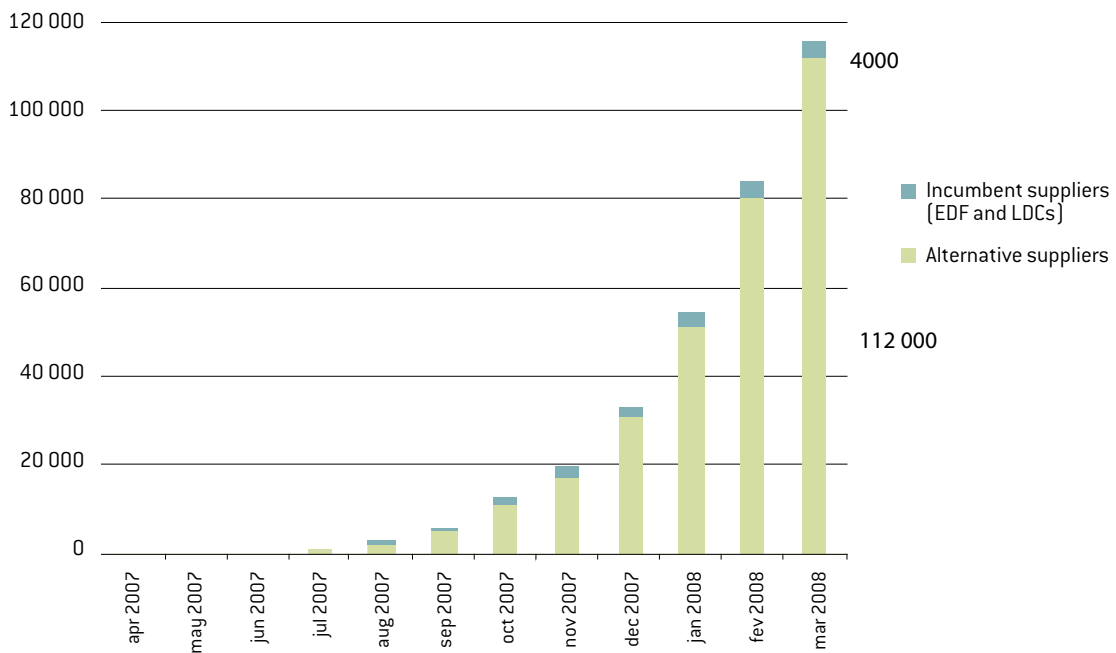
\* These suppliers are considered as incumbent suppliers in statistics published by CRE.

(1) A supplier is "active" if it fulfils at least one of the following conditions: it has at least one site under a single contract; it acts as the balance responsible entity for at least one site through a distribution/transmission grid access contract; or it acts as the balance responsible entity and has delivered a part of the consumption for a site in the previous quarter.

(2) The lists of suppliers published by CRE are drawn up using information sent by the suppliers on a voluntary basis. Suppliers that do not wish to appear on the list of suppliers published by CRE are not mentioned.

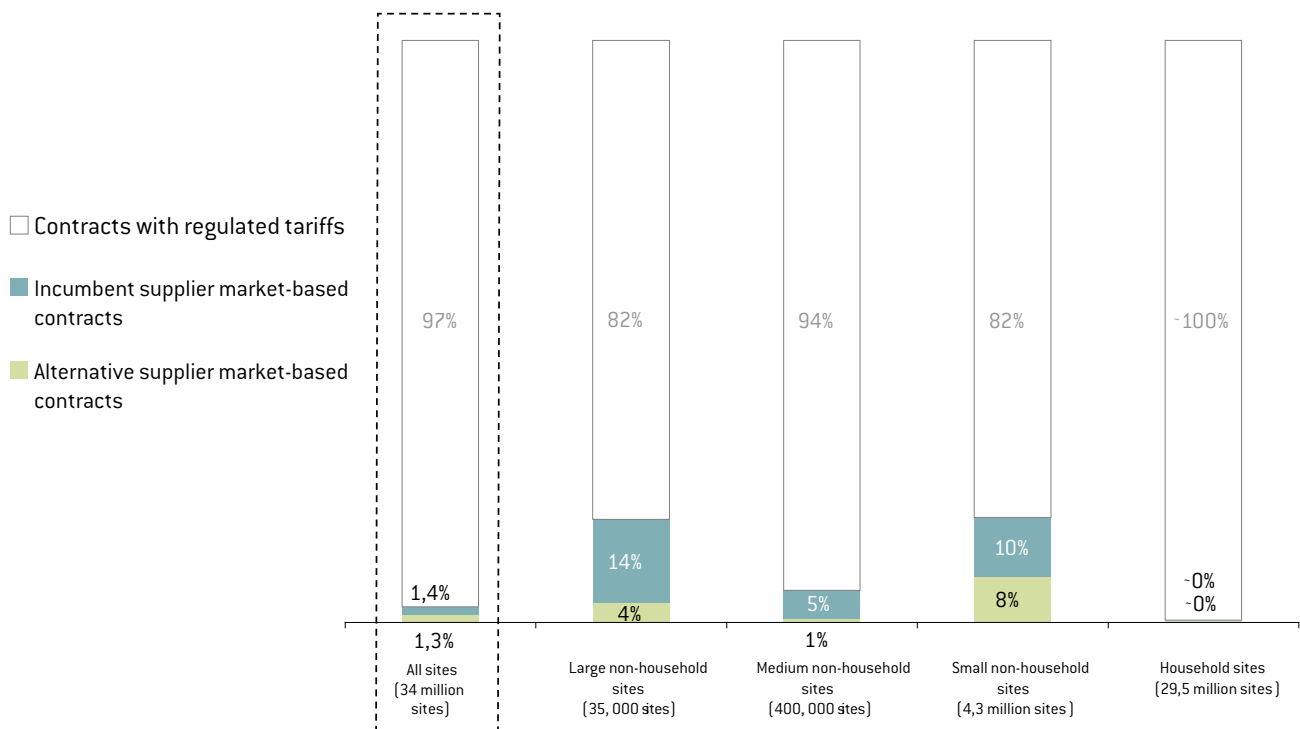
**Figure 48: Number of household sites with market-based contracts**

CRE according to DSOs, RTE, incumbent suppliers



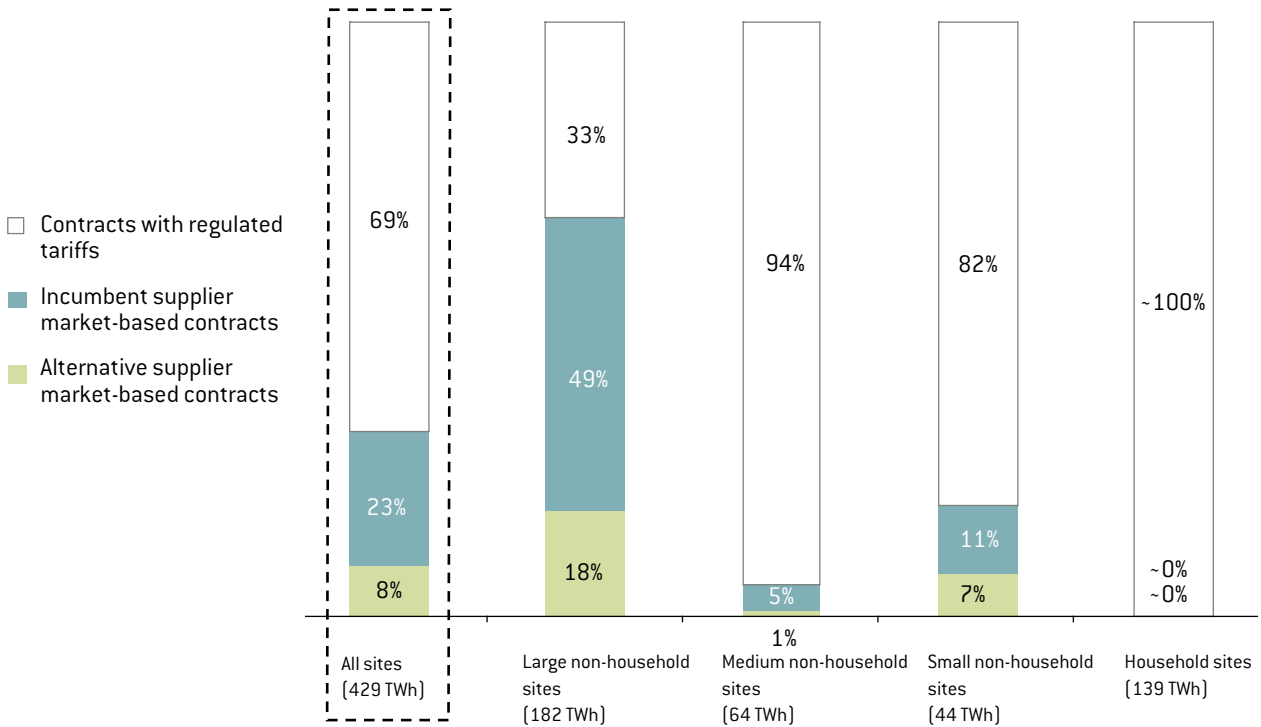
**Figure 49: Distribution of sites according to contract type as of 31 March 2008**

Source: CRE according to DSOs, RTE and incumbent suppliers



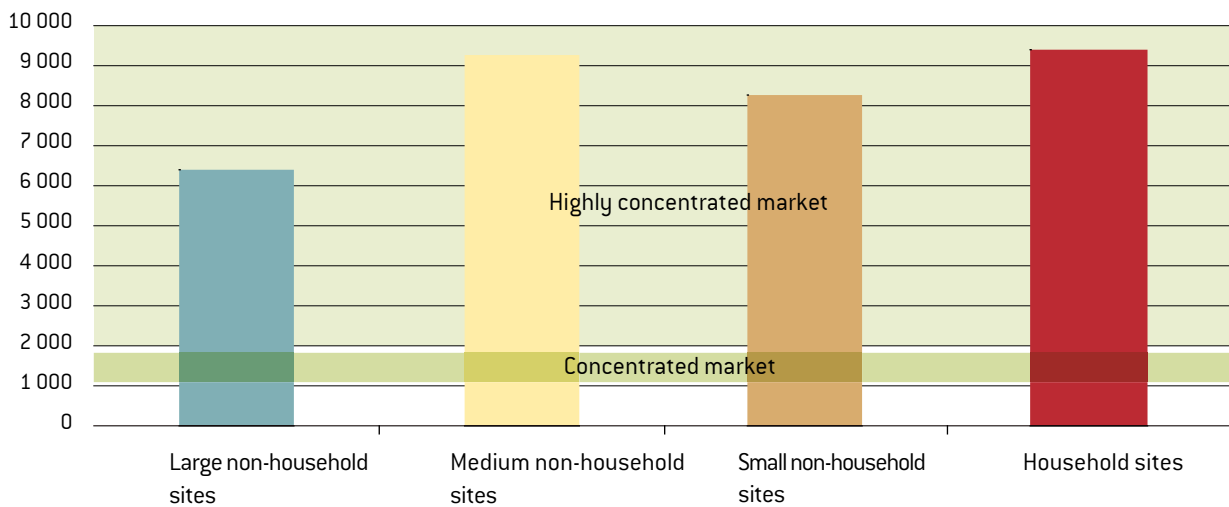
**Figure 50: Distribution of consumption according to contract type as of 31 March 2008**

Source: CRE according to DSOs, RTE and incumbent suppliers



**Figure 51: Concentration index (HHI) of electricity supply calculated according to 2007 consumption**

CRE according to DSOs, RTE, incumbent suppliers



### 3. Natural gas markets

#### 3.1. The value chain and physical balance

The natural gas value chain is composed of five links: production, trading, transmission/distribution, storage and supply to final customers (see Figure 52).

##### Production

In France gas is produced by Gaz de France and Total. The volumes produced are very low compared with national consumption (less than 2.5%).

##### Trading

Trading describes the exchange of large volumes of gas. In 2007, 32 operators were active on the French wholesale market, equivalent to a 23% increase compared with 2006. There are two different types of market players:

- suppliers, who buy and sell on the whole-

sale market to cover the consumption demand of their final customers and take advantage of the flexibility of their supply contracts;

- traders, who do not have final customers but buy and resell gas to take advantage of opportunities provided through price differentials in France, Europe and on the short-term LNG market.

Certain suppliers have developed trading activities. This activity is generally managed as a profit centre that is separate from supply activities.

##### Transmission and distribution

The two public transmission networks are managed by GRTgaz, subsidiary of Gaz de France, and TIGF, subsidiary of Total. The distribution networks are managed by GrDF, a Gaz de France subsidiary, and by 23 LDCs. Access to French networks is open to third parties and is regulated.

##### Storage facilities

As provided in Directive 2003/55/CE of 26 June 2003, France has opted to allow third-party access to storage facilities to be negotiated rather than regulated. In practice, competition on the storage market is insufficient given the duopoly consisting of Gaz de France and TIGF.

##### Supply

'Supply' implies the sale of gas to final customers, i.e. customers who actually consume the gas rather than re-sell it. This activity is open to competition. On 31 December 2007, 13 active alternative suppliers (i.e. a shipper that has at least one site in its portfolio) and 22 LDCs were conducting supply activities in France.

French consumers are supplied almost entirely by imports. French production volumes have been declining regularly and, in 2007, represented only 2.2% of domestic consumption. Figure 53 (see p.117) shows

Figure 52: The commercial value chain for gas

Source: CRE

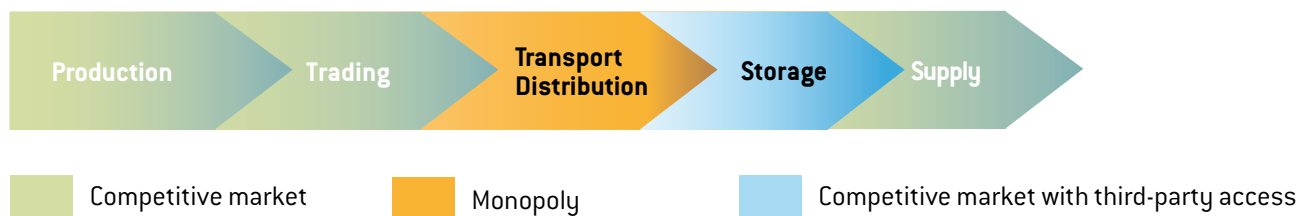
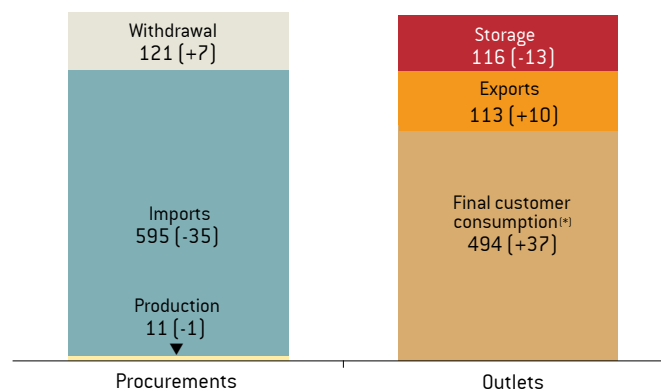


Figure 53: Physical balance of French market in 2007 and comparison with 2006 (TWh)

Source: CRE, according to GRTgaz and TIGF



(\*) Including system operator consumption

French electricity suppliers' procurements and trade outlets in 2007, along with variations compared with 2006.

**3.2. Wholesale market**

**3.2.1. Upstream concentration and vertical integration on the market**

**Concentrated imports/exports**

Competition is insufficient in the supply segment of the French market. Gaz de

France and Total still own almost all of the gas capacity that enters France. This implies that the two groups cover practically all of the gas import market. In 2007, 89.3% of the gas imported in France was imported by Gaz de France and 4.2% by Total.

83.3% the export market in 2007 was covered by Gaz de France, and mainly involved the operator's transit contracts.

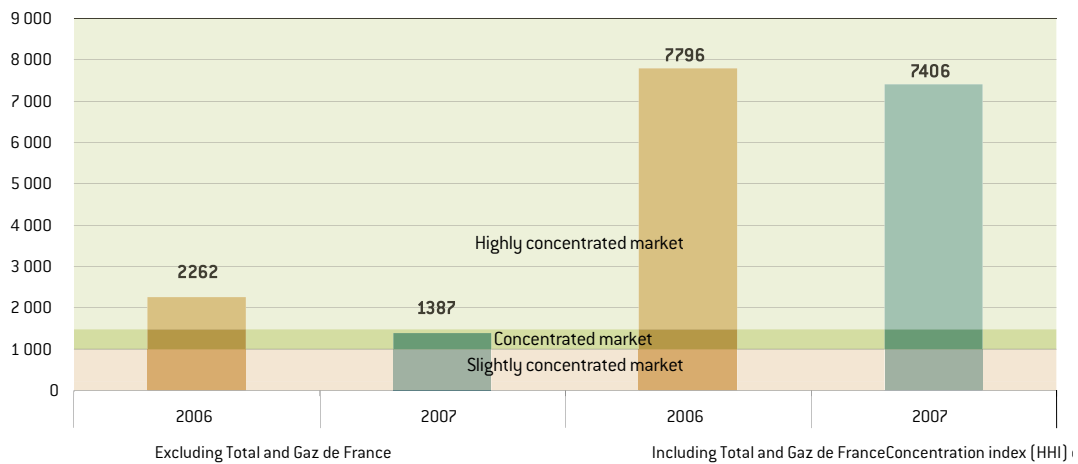
Figures 54 and 55 show the concentration of natural gas imports and exports and how it has changed from 2006 to 2007. The

concentration index used is Herfindahl-Hirschman (HHI – see p.102).

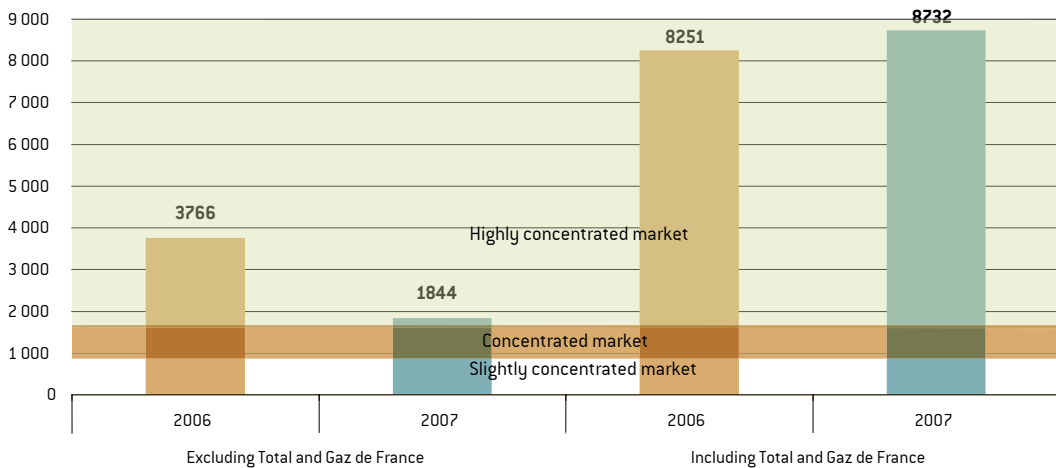
**Strong vertical integration**

Volume exchanged on the wholesale market remains relatively low in terms of national consumption. The concentration in imports and high degree of vertical integration between import and supply activities result in low liquidity. Most of the gas imported or consumed in France is not traded on the wholesale market, but is transferred inside integrated groups.

**Figure 54 : Concentration index (HHI) of natural gas imports in France (2007 compared with 2006)**  
CRE, according to GRTgaz and TIGF



**Figure 55: Concentration index (HHI) of natural gas exports from France (2007 compared with 2006)**  
CRE, according to GRTgaz and TIGF



### Gas release programmes

Further to a European Commission decision and at the request of CRE, a temporary gas release programme was implemented for a three-year period, starting on 1 January 2005. Gaz de France sold 15 TWh per year on the “South” exchange point. Total sold 1.1 TWh per year on the South-West gas exchange point.

On 20 July 2007, given the large gas release volumes in alternative supplier procurements, CRE launched a public consultation on the impact of ending the gas release programmes and whether or not it was worthwhile to repeat this experience.

In its decision of 22 November 2007, CRE underlined the how important gas release programmes are in terms of developing alternative supplier activities in the South and South-West balancing zones. Terminating these programmes would make it difficult for certain alternative suppliers to guarantee customer supply in these zones. That is why CRE recommended the rapid implementation of new programmes by Gaz de France and Total in the South and South-West zones.

It is unfortunate that Gaz de France and Total have not implemented any new gas release programmes, especially since industrial implementation of the Fos Cavaou LNG terminal has been significantly delayed.

In its Third Energy Package proposal, the European Commission envisages granting regulators the authority to impose the implementation of gas release programmes in order to promote competition.

### 3.2.2. Growth on the French wholesale market

#### Volume delivered continues to grow

Volume delivered between operators on the French market increased considerably during the second half of 2007, from 28 TWh traded during the fourth quarter of 2006 to 39 TWh during the fourth quarter of 2007. Activities related to GRTgaz balancing represents less than 1% of the volume processed.

Figure 56 illustrates the particularly strong increase in the North H zone where volume delivered more than doubled during the year. The North H gas exchange point has become the leading exchange point on the

French market, with 20.6 TWh delivered during the fourth quarter of 2007. In other zones, during the same period, increases in activity were limited or zero.

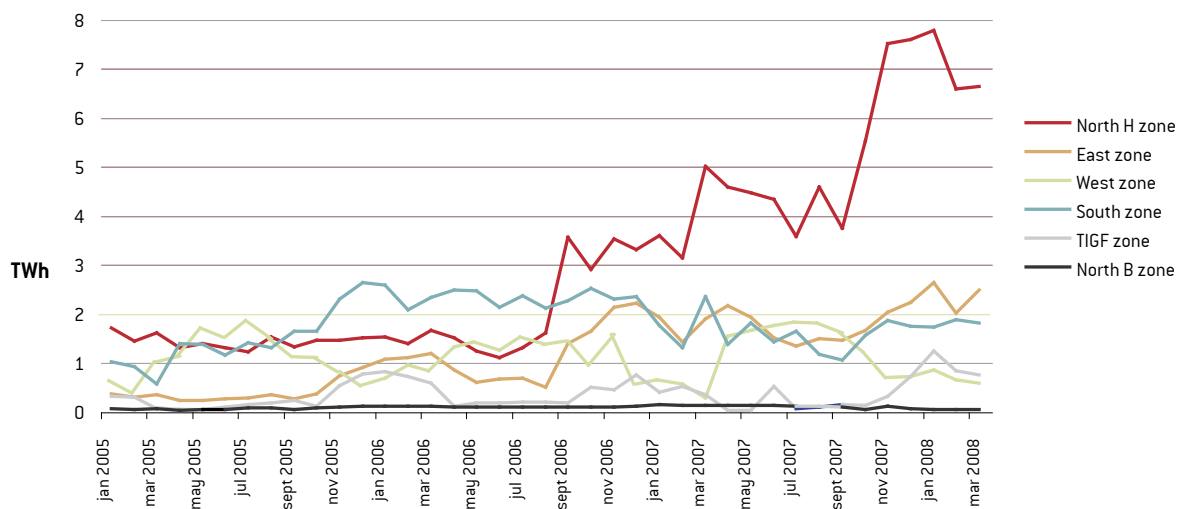
Deliveries on the French market in 2007 remain highly concentrated. 67% of volume delivered between operators in 2007 was sold or bought by Gaz de France or Total. Consequently, only 33% of deliveries resulted from transactions between newcomers on the market.

Figure 57 (see p. 120) provides details of deliveries nominated at the various gas exchange points in 2007.

Figure 58 (see p.120) illustrates the concentration of purchases (withdrawals) and sales (deliveries) at the six gas exchange points. The most liquid gas exchange points (North and East) also have also the least concentrated purchases. However, sales are highly concentrated in all zones, except the East zone. The concentration index used is the Herfindahl-Hirschman Index (HHI – see p.102).

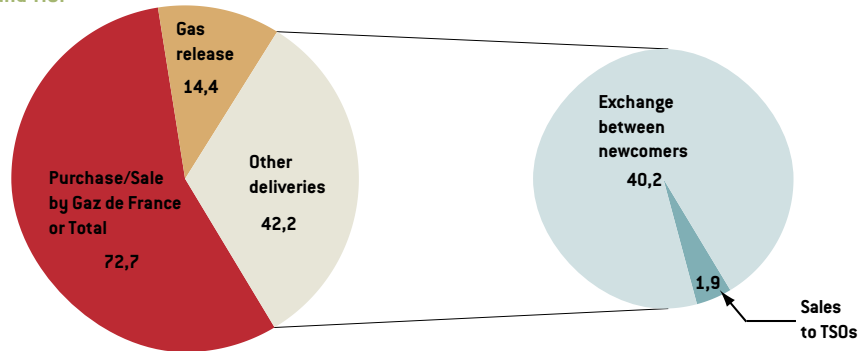
**Figure 56: Delivery volume at exchange points (excluding gas release deliveries)**

Source: CRE, according to GRTgaz and TIGF, Gaz de France et Total



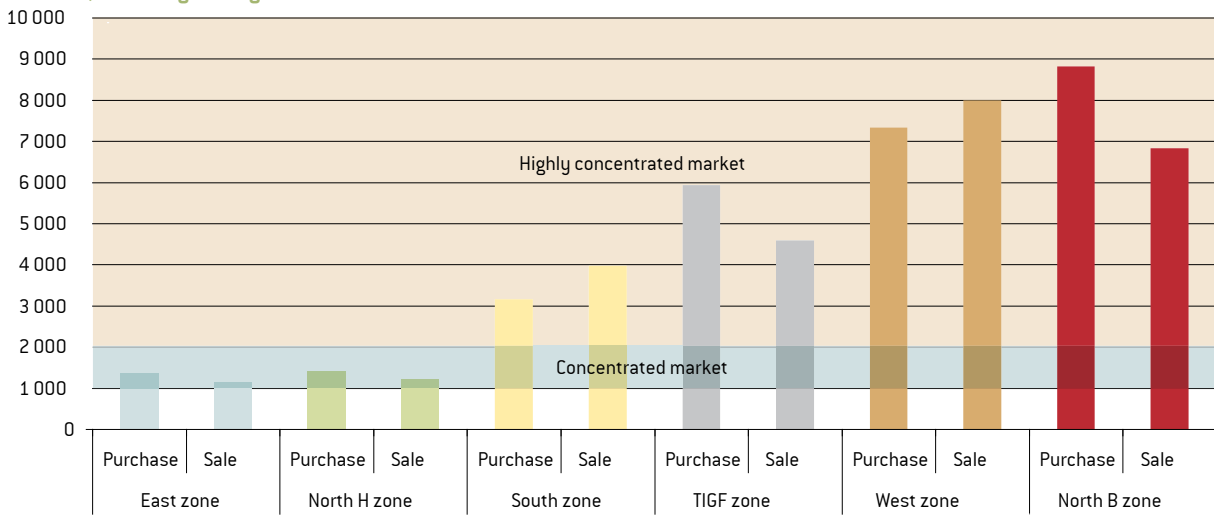
**Figure 57: Deliveries between operators on the French wholesale market in 2007 (TWh)**

Source: CRE, according to GRTgaz and TIGF



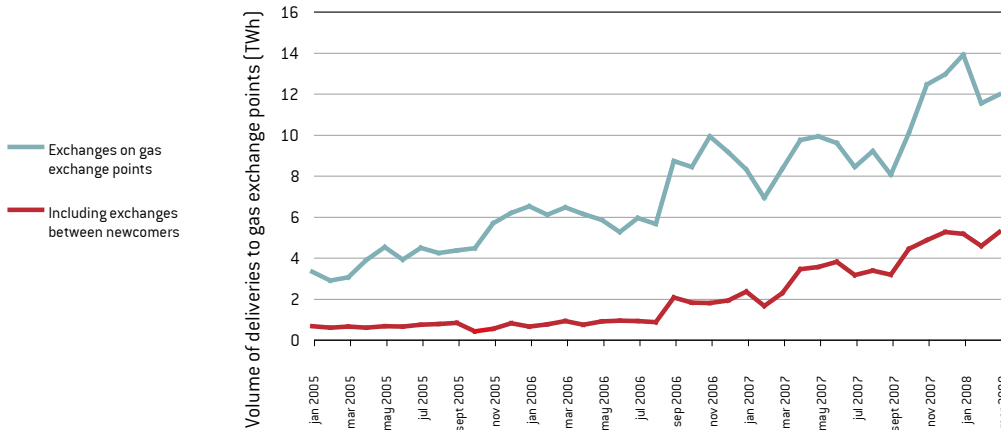
**Figure 58: Concentration index (HHI) for deliveries to gas exchange points in 2007 (excluding gas release deliveries)**

Source: CRE, according to GRTgaz and TIGF



**Figure 59: Newcomer activity on the wholesale market (excluding gas release activity)**

Source: CRE, according to GRTgaz and TIGF



Although deliveries at gas exchange points are concentrated, or even highly concentrated, the alternative operators' share increased sharply in 2007, rising from 19.2% in the fourth quarter of 2006 to 40.5% in the fourth quarter of 2007. Figure 59 shows that volumes handled by alternative operators have more than doubled since March 2007.

### 3.2.3. Price trends

#### Aligning French prices with other European markets

In the absence of an organised gas market in France, the only available prices indexes are published by specialized publication agencies, such as Heren or Argus.

Figure 60 compares the day-ahead trend for European markets and the estimated prices for long-term contracts.

The French market is characterized by:

- the significant flexibility available to French suppliers with regards to their procurement activities using flexibility clauses in long-term import contracts and large storage capacities;
- strong congestion at interconnections.

Given these two characteristics, wholesale market prices should reflect the tension in the physical supply and demand balance

in France. And yet, day-ahead prices on the French market are very close to those observed on NBP, which influence prices on the Zeebrugge hub.

Pricing in France is not representative of the supply-demand balance in the country. It is essentially dictated by the situation on the British market. This results from the significant lack of liquidity on the French wholesale market.

#### Sharp rise in European prices

- Hub prices

In Europe, three hubs propose reference prices for wholesale gas trading: given the strength of the British market (very high liquidity and a large number of market players), prices established at the National Balancing Point (NBP) (a virtual hub) in the United Kingdom are guideline prices for other European hubs. In continental Europe, the two most important hubs are the Zeebrugge physical hub in Belgium and the Title Transfer Facility (TTF) in the Netherlands. The liquidity of the latter increased strongly in 2007, whereas activity on the Zeebrugge hub remained stable, but still with exchange levels higher than TTF.

Day-ahead prices established at these hubs are the prices resulting from gas supply and demand for delivery the following day. The

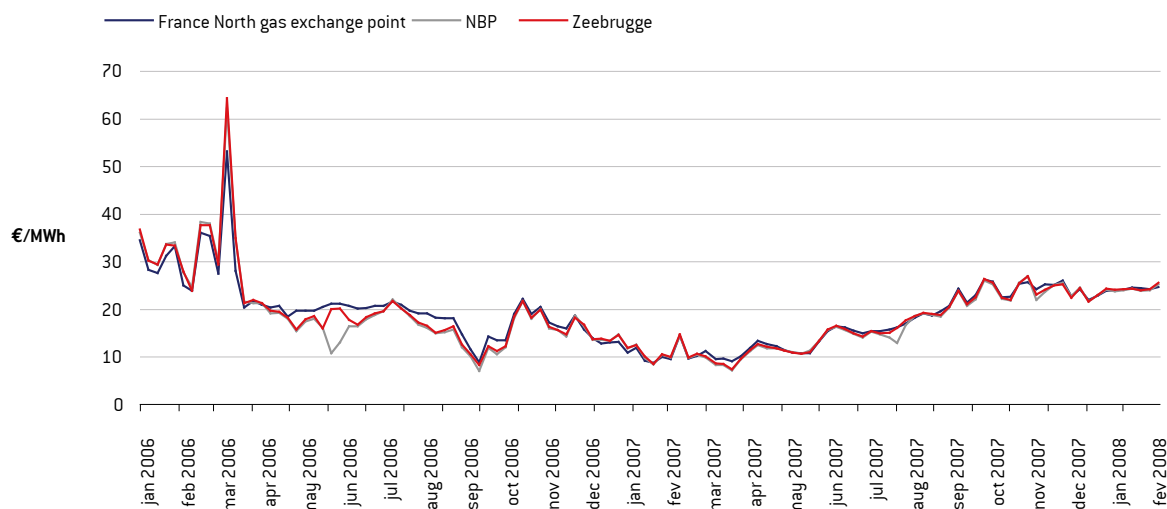
various forward prices correspond to delivery on one of several standard timescales (month, quarter, half-year, year). Other hubs exist in continental Europe, including BEB in Northern Germany, and more recently E.ON Gastransport in West Germany, PSV in Italy and Baumgarten in Austria, but their liquidity still remains very low.

– Day-ahead prices

Having dropped by 50% between January and April 2007 to reach €/MWh, day-ahead prices of the three principal hubs on the European markets have been multiplied by three. As a result, in April 2008, they stood at €/MWh. Although a long-term price reduction was expected after the implementation of several infrastructures in the UK (new re-gasification facility in Tees-side, implementation of BBL gas pipeline from the Netherlands to the United Kingdom and from the Langeled gas pipeline in Norway to the United Kingdom, and the capacity extension of the Interconnector from Belgium to the United Kingdom), it is actually the opposite that has occurred.

Figure 60: Gas day-ahead prices in France and Europe - weekly average

Source: Argus, Platts





There are many causes behind this very sharp price rise.

- The increase in the price of oil products (which serve to index long-term gas supply contracts), thereby affecting forward prices as well as day-ahead prices established on trading hubs.
- The instability and unpredictable nature of gas flows from Norway, which is also partly responsible for the very high volatility of observed prices. The Norwegians appear to be abandoning their conventional policy of keeping production and gas flows to the United Kingdom and the Continent steady,

in favour of a more flexible and more price-reactive production policy.

- Strong demand in Asia, which now has an impact on European gas prices through LNG, since a certain number of LNG shippers unloaded their deliveries in Asia, where prices were more attractive. The sharp rise in demand in Asia is largely due to the demand from Japanese gas plants, since Japan closed its main nuclear power plant following the earthquake in July 2007. Although in 2007 the American demand for natural gas had increased for the first time since 2004 and LNG imports were at their

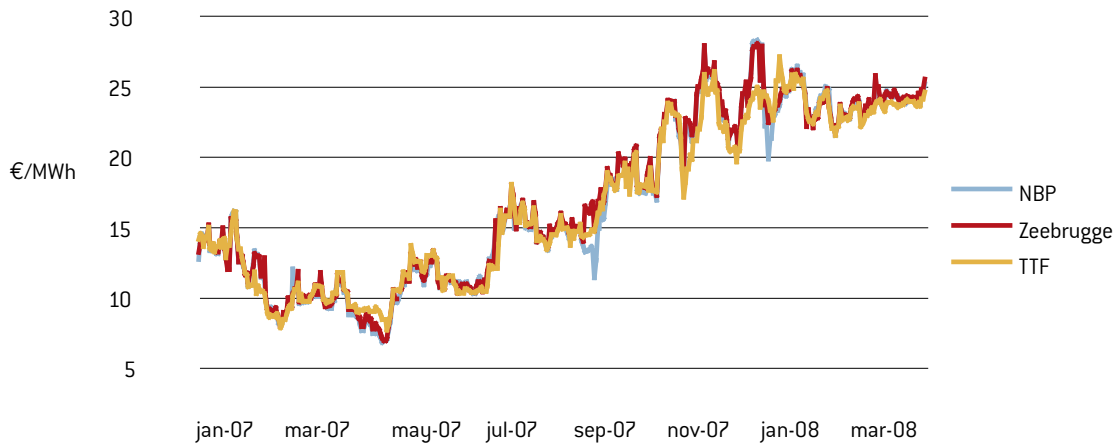
highest, prices at the Henry Hub, the reference prices in the United States, have been lower than NBP prices since Spring 2007 (see Figure 61).

– Forward prices

Having dropped at the beginning of 2007 to €6/MWh in mid-February, forward prices on NBP and in Zeebrugge increased in two phases, with a certain stability between the months of May and September 2007, reaching €6.5/MWh in January 2008. The end of 2007 was also marked by highly

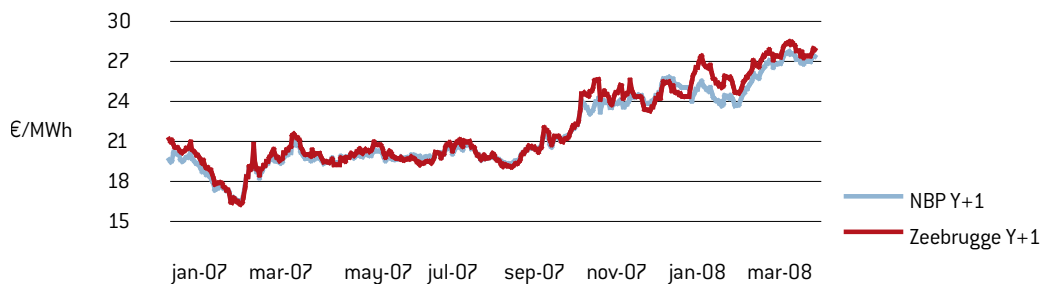
**Figure 61: Day-ahead prices for the three main European spot markets during 2006-2007**

Source: Platts, Argus



**Figure 62: Forward prices (gas year) on NBP**

Source: Platts, Argus



volatile prices as well as a certain decorrelation between quotations on NBP and in Zeebrugge.

Like day-ahead prices, the drop of annual 2007 prices can be explained by a second year of mild temperatures and the implementation and extension of several gas transmission infrastructures in the United Kingdom. The very sharp rise in annual forward prices since the end of February 2007 is explained mostly by increasing prices for oil products, which serve to index long-term contracts. Thus, the Dated Brent price rose from \$54/bbl in January 2007 to more than \$100/bbl in April 2008 (see Figure 62).

• Long-term contract prices

In continental Europe, around 90% of gas is purchased within the framework of long-term contracts. The prices of these contracts are indexed on domestic fuel oil and heavy fuel oil prices quoted in dollars and, in some cases, on the dollar/euro parity. Price upturns and downturns alike lag behind by three to six months, and are smoother than those of oil products (see Figure 63). Contract prices have stabilized to a higher level since April 2006. In April 2008, prices of Algerian LNG entering via Montoir in Brittany, and Russian and Norwegian gas (both entering via Germany) reached 21, 19.35 and €1.55/MWh respectively.

The Troll contract delivered to Zeebrugge increased by 22% in 2007.

3.3. Retail market

The growth in consumption over the last 30 years is related to increased consumption in the household and service sectors (see Figure 64, p.124). However, the low growth observed in the last two years can be partly explained by the trend towards installing electric heating in new buildings, by improved building insulation and by more saving-focussed behaviour. In 2007, gas consumption before climate corrections (497 TWh) fell by 2.9% compared with 2006, whereas increases since 1995 have stood at a yearly average of +2.5% and +1.5% since 2000.

Since 1 July 2007, all consumers (11.5 million sites) are free to choose their natural gas supplier (see Inset 23 and Figure 65, p.124).

3.3.1. Prices proposed to customers

There are two types of contract:

• contracts under regulated retail tariffs, only proposed by incumbent suppliers (Gaz de France, Tegaz and the 22 LDCs) in their respective zones. An incumbent supplier's zone is defined by a concession contract

or regulations applying to the services of state-run distribution companies. Signing a contract for these tariffs is subject to specific conditions;

• market-price contracts, proposed by incumbent suppliers and alternative suppliers, who are free to set the price. Market-based contracts vary according to customer segment. For sites connected to transmission networks, market-based contract prices are generally based on European wholesale market prices. For other customers, the price is either defined according to regulated tariffs or determined by totalling the supplier's costs.

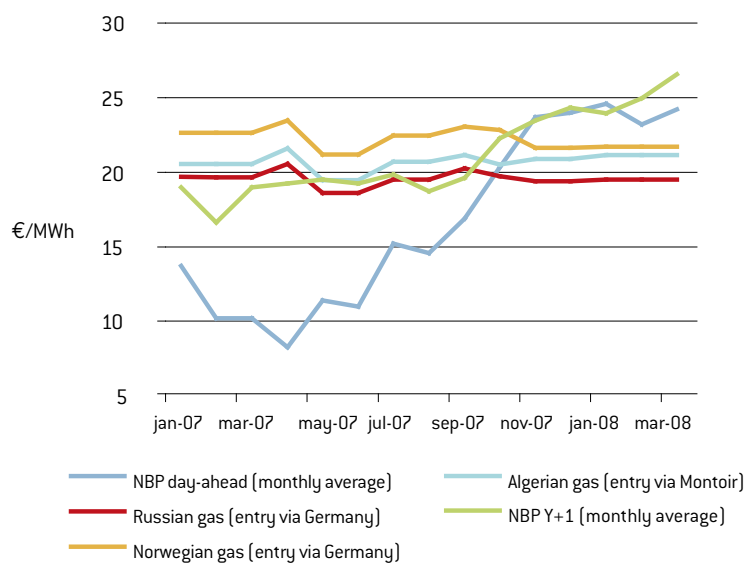
3.3.2. Regulated retail tariffs

The original version of the Order of 16 June 2005, in application of the Decree of 20 November 1990, regulated price changes of gas sold by Gaz de France and LDCs from public distribution networks until 31 December 2007. After its modification by the Order of 28 April 2006, it no longer regulated price changes of gas sold by Gaz de France. These provisions expired on 31 December 2007.

A new order, dated 21 December 2007, now provides a framework for changes in gas regulated retail tariffs by LDCs and Tegaz (see Inset 24, p.125).

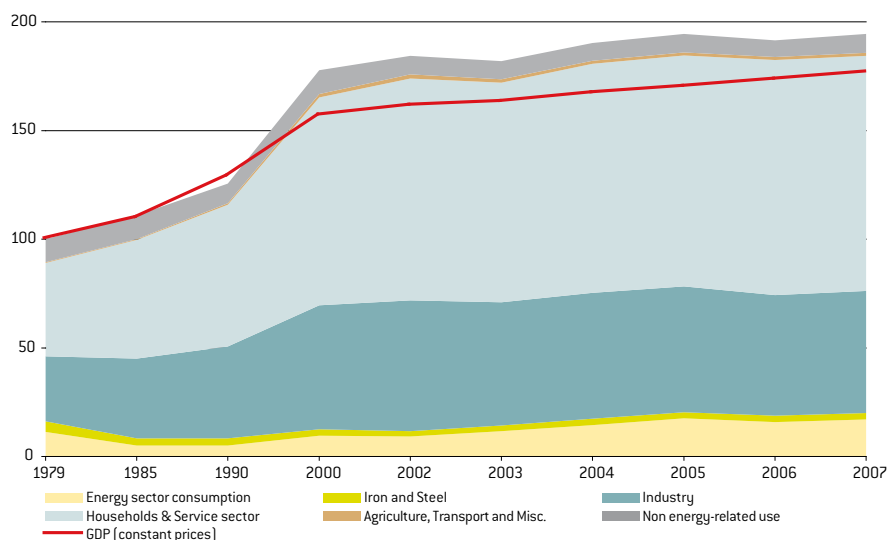
Figure 63: Long-term contract prices and market prices

Source: Platts



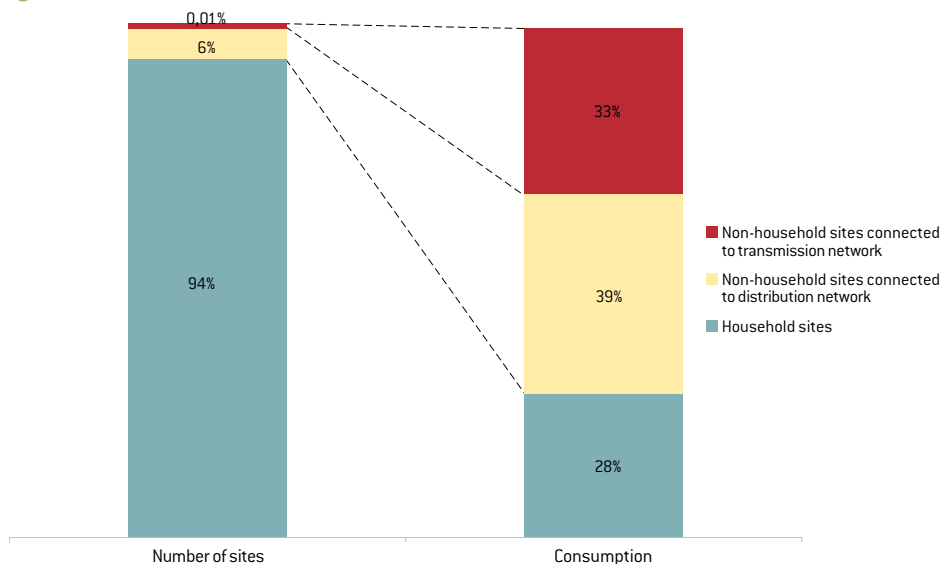
**Figure 64: Natural gas consumption per sector and economic activity - base 100 in 1979 (data corrected for climate)**

Source: CRE according to Observatoire de l'énergie, the Ministry for the Economy, Finance and Industry



**Figure 65: Distribution of customer segments**

Source: CRE according to DSOs, TSOs



**Inset 23: Segmentation adopted by CRE**

**Non-household sites connected to transmission network:** these sites are mainly industrial sites from any sector. Examples: iron and steel producers, paper producers, chemical industries

**Non-household sites connected to distribution network:** these sites correspond to the professional mass market.

**Examples:** small industries, SME/SMIs, skilled tradesmen, businesses.

**Household sites:** domestic consumer sites.

### Local distribution company tariffs

Over the last year, 81 tariff scale proposals were referred to CRE from LDCs for their public distribution tariffs and subscription tariffs. It gave an unfavourable opinion for certain tariff scales filed for the 1 January and 1 April 2008 deadlines (see Table 11) mainly because the equation used for procurement cost changes was not appropriate.

LDCs purchase their supply based on the Gaz de France STS tariff (Seasonal Transmission Subscription), the Tegaz M tariff, or the market price. Changes in their sales tariffs are very different (see Figure 66, p.126).

### Gaz de France tariffs: public distribution tariffs and subscription tariffs

Gaz de France public distribution tariffs were fixed from 1 May 2006 to 31 December 2007. In accordance with the Order of 27 December 2007, they were increased to an average of c€1.173/kWh as of 1 January 2008.

The Law of 3 January 2003 states that regulated retail tariffs must cover costs. Pursuant to this provision, as interpreted by the Order from the *Conseil d'Etat* on 10 December 2007 (see Inset 25, p.126), CRE estimated, in its conclusion dated 27 December 2007, that the planned tariff increase did not cover the average costs incurred by Gaz de France on 1 January 2008, in an economic context that points to

a future oil price per barrel higher than prices integrated in the calculation of material costs on 1 January 2008. CRE calculated that the increase on 1 January 2008 should have been at least c€0.257/kWh on average (i.e. an average of +6.4%), taking into account catch-up measures reintroduced by order of the *Conseil d'Etat*, and considered, with this in view, that further tariff changes should normally take place during the first half of 2008.

This is what the French government decided by fixing an average increase for these tariffs at c€0.264/kWh, pursuant to the order of 17 April 2008, published in the Official Journal on 29 April 2008 (i.e. 6.3% on average, 5.5% on the B1 private heating tariff).

### Inset 24: The Order of 21 December 2007

The Order of 21 December 2007, relative to regulated retail tariffs for natural gas sold by local distribution companies and Tegaz, sets the conditions for changing regulated retail tariffs applicable to public distribution and subscription tariffs from these companies up until 31 December 2010.

Tariff changes occur each quarter. They must reflect any variations in gas procurement costs and any variations in other fees, namely those related to the use of networks and access to storage facilities.

Procurement costs are calculated using a revision equation specific to each supplier registered with the Ministry for Energy and the Ministry for the Economy, as well as CRE.

In addition, each supplier is requested to submit to these ministries an annual report on the implementation of the tariff revision equation and the incorporation of costs other than procurement. If this report reveals costs that are not reflected in the tariffs, they are integrated in tariff change proposals for the coming year.

Tariff scale proposals are filed by suppliers at least 21 days before the end of each quarter. They are accepted if the ministries do not raise any objections within a week after receipt of CRE's opinion. Furthermore, ministries may request that a supplier file a new tariff scale that complies with CRE's opinion. In its opinion dated 18 December 2007, CRE deplored the fact that the order did not

cover the regulated retail tariffs of Gaz de France. Gaz de France is treated differently than LDCs and Tegaz and this cannot be justified, even more so since Gaz de France supplies around 11 million customers, compared to roughly 500,000 for LDCs and Tegaz. Furthermore, not having a clear view of changes in regulated retail tariffs of this supplier is detrimental to operations on the French natural gas market and constitutes an entry barrier to alternative suppliers.

Table 11: CRE opinions on retail tariff changes by LDCs

Source: CRE

	Proposed tariff scales	Favourable opinion	Unfavourable opinion
1 July 2007	19	19	0
1 October 2007	19	19	0
1 January 2008	21	14 including 1 not agreed by ministers)	7 (including 4 not agreed by ministers)
1 April 2008	22	17	5 (including 3 not agreed by ministers)

In its opinion dated 17 April 2008, CRE observed with satisfaction that the government proposed to continue the modification of tariff structures (initiated on 1 January 2008) and to take into account the variation of procurement costs – indexed on oil product prices – since backed by the operator. The increase resulted in bringing tariffs closer to the criteria required by

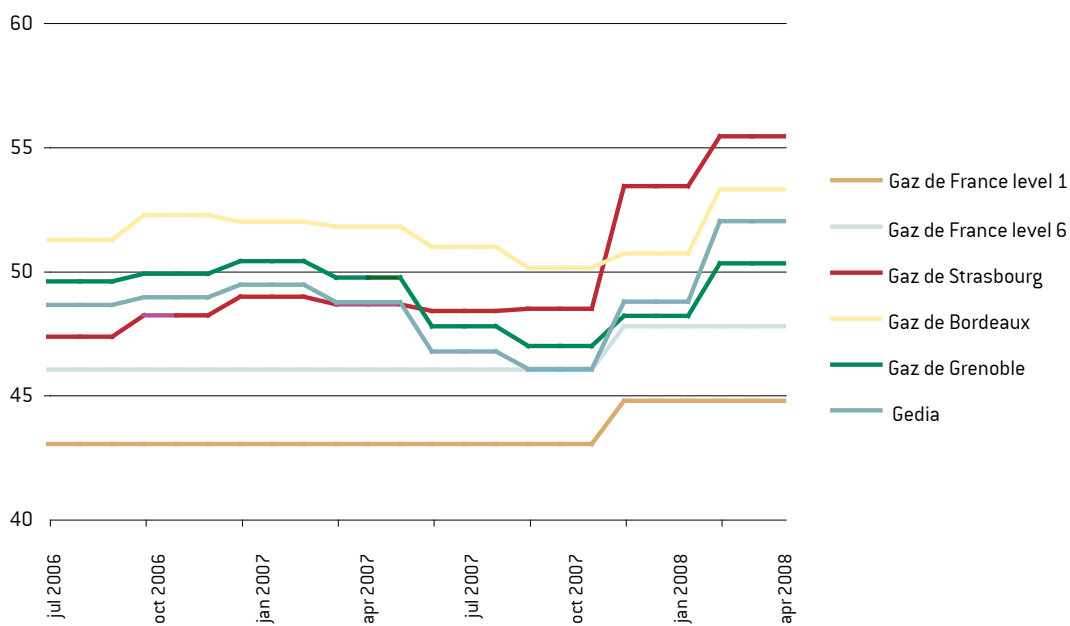
law. However, it should have been at least at €0.348/kWh on average (i.e. +8.3% on average, +7.6% on the B1 private heating tariff).

In its opinion, CRE requested that the Gaz de France regulated retail tariffs for public distribution change on 1 July 2008 to take into account the new tariff for use of public

distribution networks that comes into force on this date.

Finally, CRE confirmed the need to implement a regulatory framework defining how to fix the Gaz de France regulated retail tariffs. To provide suppliers and consumers with increased transparency, it recommended publishing a tariff indexing equation.

**Figure 66: Changes in public distribution tariffs between July 2006 and May 2008 (average customer with gas heating consuming 17 MWh/yr)** Source: CRE



#### Inset 25: Order of the Conseil d'État dated 10 December 2007

In its order dated 10 December 2007, further to the referral from the Poweo company and the Fédération française des combustibles, carburants et chauffage, the Conseil d'Etat cancelled articles from the Order of 29 December 2005 that eliminated the initial change planned for 1 January 2006 with regards to Gaz de France public distribution tariffs, together with the mass catch-up measures planned for 1 April 2006 to compensate for losses resulting from costs that were not covered in the past by these tariffs.

The Conseil d'Etat considered that this order did not comply with the Law of 3 January 2003 and the Decree of 20 November 1990

stipulating that regulated tariffs must cover costs, which led to fixing tariffs clearly lower than the complete average costs of Gaz de France. In fact, CRE delivered an unfavourable opinion on this order on 23 December 2005.

The order now specifies that the Law of 3 January 2003 must be enforced, i.e. that the "[public distribution regulated retail] tariffs cannot be lower than the total average costs incurred by each operator. It also states that to meet this obligation, it is the competent minister's responsibility, on the day he makes his decision, first, to ensure that the tariffs cover at least the average total costs of operators as

assessed up to this date; second, to take into account an assessment of cost changes for the coming year, according to information available at the time; and, third, to adjust these tariffs if he observes any significant deviation between tariffs and cost resulting from an undervaluation of tariffs, at least during the past year, in order to compensate for this difference within a reasonable period".

Quarterly changes to the Gaz de France subscription tariffs have always been endorsed by CRE. These tariffs have not stopped rising since July 2007.

### Tegaz tariffs

Tegaz subscription tariffs now come under the Order of 21 December 2007. They also change every three months; following the same trends as Gaz de France (see Figure 67).

During 2007, Tegaz presented CRE with a cost and income analysis for each of its tariffs, together with a detailed description of its procurement portfolio. On 1 January 2008 CRE endorsed the tariff changes requested by Tegaz, which included a new equation for calculating changes in procurement costs and modified the different tariffs.

### Special natural gas solidarity tariff

In its opinion dated 27 March 2008, CRE formulated recommendations on the draft decree relative to the supply of gas at a special solidarity tariff, which have not yet been published.

### 3.3.3. Non-household market: increase sales for market-based contracts

As of 31 March 2008, nearly four years after markets had been completely opened to all non-household customers, around 178,000 sites (or 26%) had market-based contracts (see Figure 68, p.128). During the first quarter of 2008, the number of sites with market-based contracts had risen by around 4,900 sites per month, compared with 4,200 sites per month in the first quarter of 2007.

### 3.3.4. Household market opens gradually to market competition

Since 1 July 2007, alternative suppliers have been signing as many market-based contracts as incumbent suppliers, essentially when customers are moving to a new residence.

Since 1 July 2007, the household gas market is more dynamic than the electricity market: 128,000 gas sites have selected an alternative supplier out of a total of almost 11 million sites, compared with 112,000 sites out of 29 million electricity sites. One of the explanations for this change is the obligation imposed on occupants moving in

to new buildings to sign market-based contracts for gas between 1 July 2007 and 21 January 2008 (see Figure 69, p.128).

### 3.3.5. A highly concentrated market

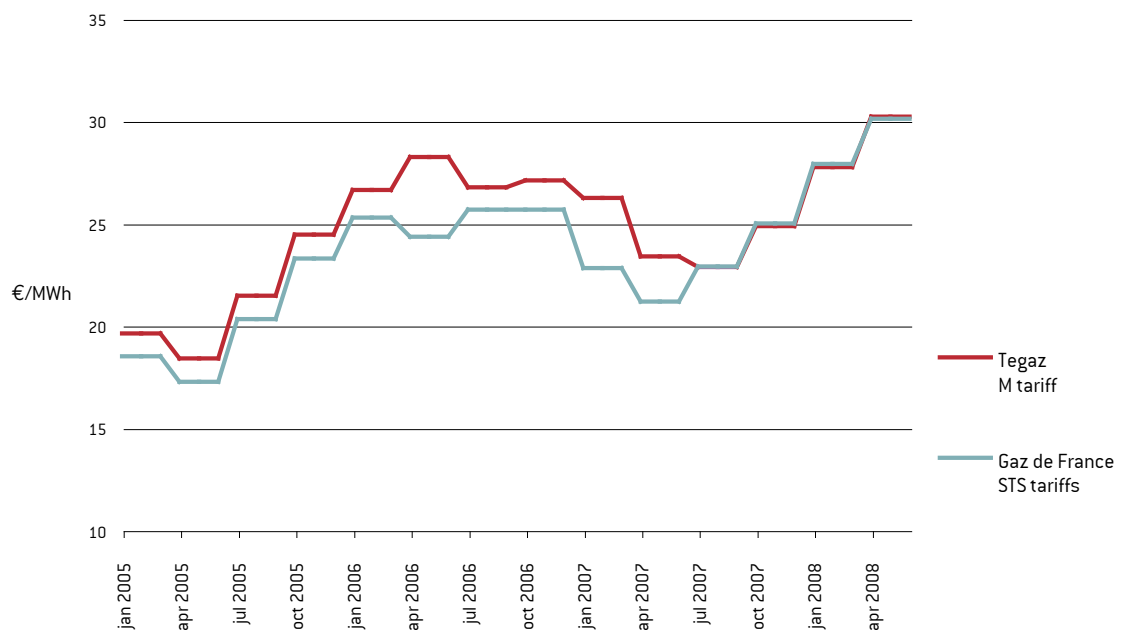
On 31 March 2008, 12 alternative suppliers had at least one customer in their portfolio (see Table 12, p.129). Three alternative suppliers offer contracts to household customers. In areas served by local distribution companies, alternative suppliers are virtually non-existent. In the current situation on the French market, alternative suppliers are concentrated in GrDF zones.

The market share of alternative suppliers remains low: of the 26% of non-household customers with market-based contracts (178,000 sites), 12% (80,000 sites) opted for an alternative supplier (see Figure 70, p.130). Alternative suppliers cover 17% of non-household site consumption (see Figure 71, p.130).

On 31 March 2008, the HHI index (Hirschmann Herfindhal Index) for the different retail market segments showed strong concentration in the sector (see Figure 72, p.131).

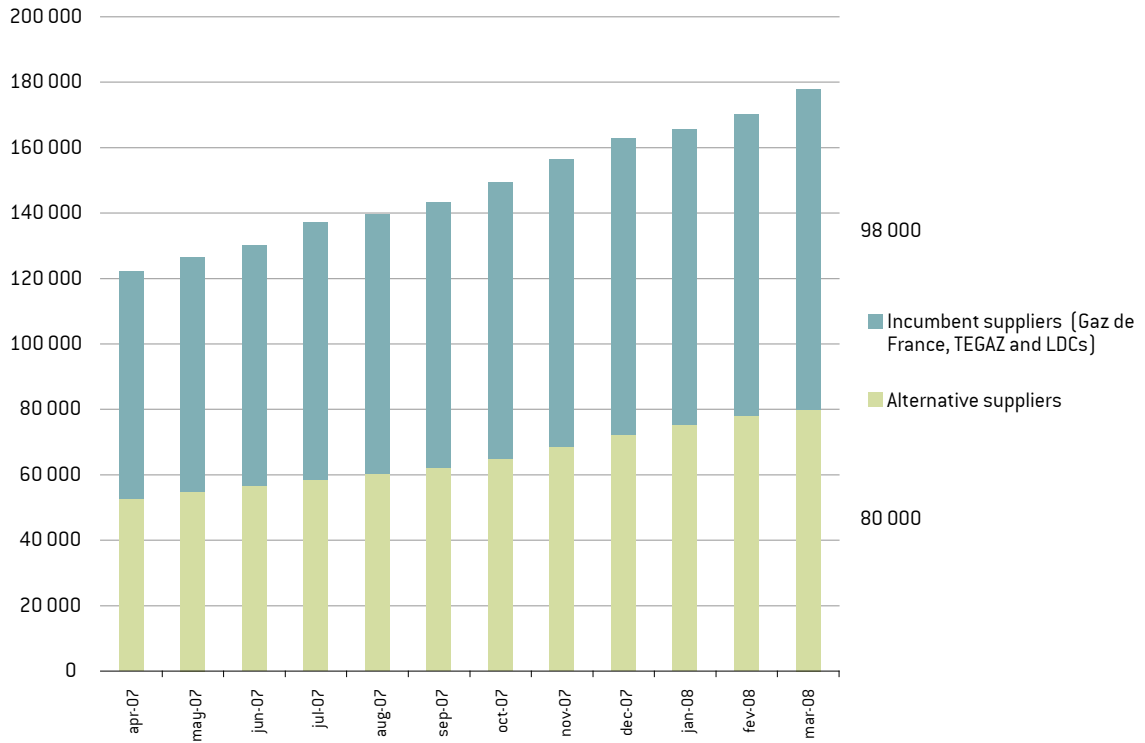
**Figure 67: Comparison of Gaz de France and Tegaz subscription tariffs for a customer consuming 80 GWh/year**

Source: CRE



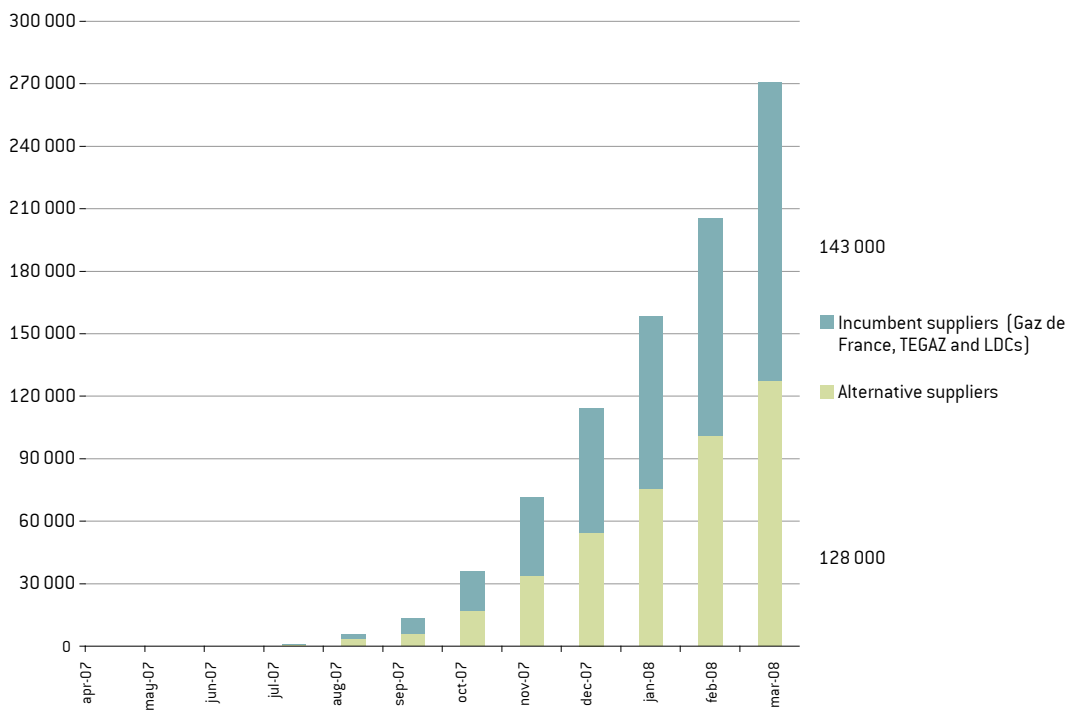
**Figure 68: Number of non-household sites with market-based contracts**

Source: CRE according to DSOs, TSOs, incumbent suppliers



**Figure 69: Number of household sites with market-based contracts**

CRE according to DSOs, TSOs, incumbent suppliers



**Table 12: Number of suppliers active<sup>1</sup> on TIGF, GRTgaz and GrDF networks who asked to appear on the list of suppliers published by CRE<sup>2</sup>**

Sources: TSOs, DSOs, CRE – CRE analysis

	Non-household sites, Transmission	Non-household sites, Distribution	Household sites
Altergaz	•	•	•
Distrigaz SA	•	•	
EDF	•	•	•
ENI S.p.A	•	•	
E.ON Group	•	•	
Gas Natural	•	•	
Gaz de France*	•	•	•
Gaz de Paris (Delostal et Thibault SA)		•	
Gazprom Marketing & Trading	•		
Iberdrola	•		
Poweo	•	•	•€
Soteg	•	•	
Tegaz*	•	•	
Wingas	•		

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\* These suppliers are considered as incumbent suppliers in statistics published by CRE.  
On 31 March 2008, only three alternative suppliers were offering contracts to household customers.

[1] A supplier is “active” if it has at least one site in its portfolio.

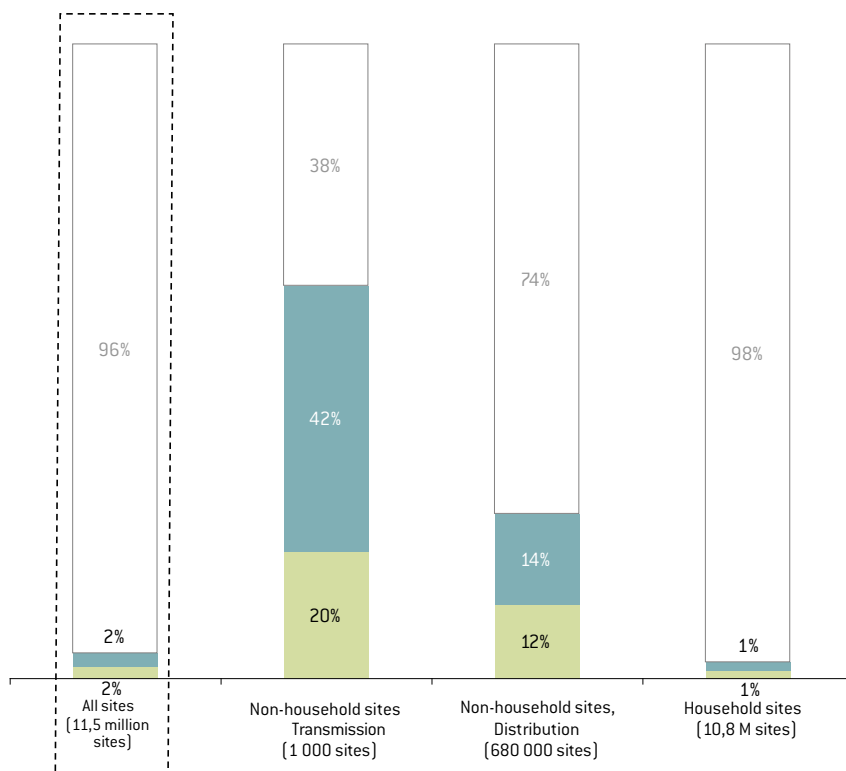
[2] The lists of suppliers published by CRE are drawn up using information sent by suppliers on a voluntary basis. Suppliers that do not wish to appear on the list of suppliers published by CRE are not mentioned.



**Figure 70: Distribution of sites according to contract type as of 31 March 2008**

Source: CRE according to DSOs, TSOs, incumbent suppliers

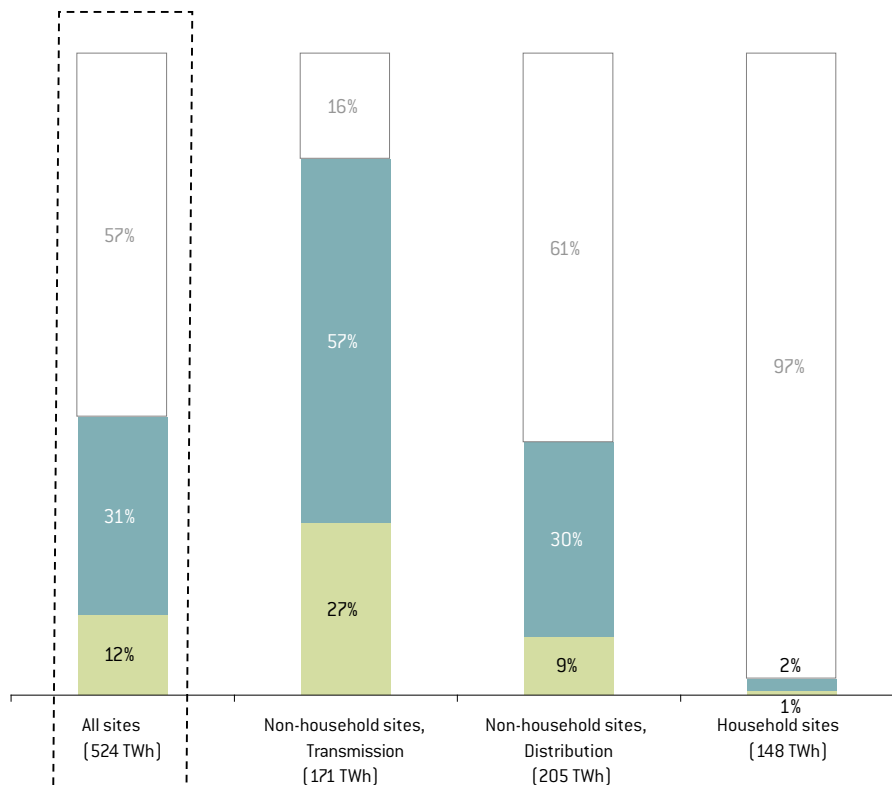
- Contracts with regulated tariffs
- Incumbent supplier market-based contracts (Gaz de France, TEGAZ and ELD)
- Alternative supplier market-based contracts



**Figure 71: Distribution of consumption according to contract type as of 31 March 2008**

Source: CRE according to DSOs, TSOs, incumbent suppliers

- Contracts with regulated tariffs
- Incumbent supplier market-based contracts
- Alternative supplier market-based contracts



## 4. Monitoring open market operations

### 4.1. Feedback and actions for improvement

A consultation process coordinated by CRE including representatives of customers, suppliers and system operators, working within the Consumer Working Group, Electricity Working Group and Gas Working Group, drew up procedures to cover most of the situations encountered by customers. The main concepts in these procedures were included in the *Guidelines Concerning Provisions in Force on 1 July 2007*, published by CRE on 27 September 2007. These guidelines provide market players, particularly newcomers, with a single and reliable reference document that centralises the rules applicable to open markets. It will be regularly updated.

One year after 1 July 2007, public awareness of issues on open energy markets still needs to be reinforced, which is why the working groups have been maintained,

to listen to the needs of market participants and provide them with information

A clear explanation for consumers on how open markets operate is still necessary. It is still necessary to monitor how DSOs implement procedures. ERDF and GrDF have launched projects to enhance their metering systems, submitted to and monitored by the Consumer Working Group.

#### 4.1.1. Consumer affairs

The Consumer Working Group is the place where the various stakeholders (suppliers, system operators, consumer associations) exchange their views on the best way to inform and protect consumers.

It helped prepare the consumer information campaign created by CRE, working in cooperation with the ministers responsible for consumer affairs and energy and the French National Energy Mediator. Members of the discussion groups, particularly consumer associations, have helped put together an information leaflet (*Invoice Info*) that is enclosed with incumbent sup-

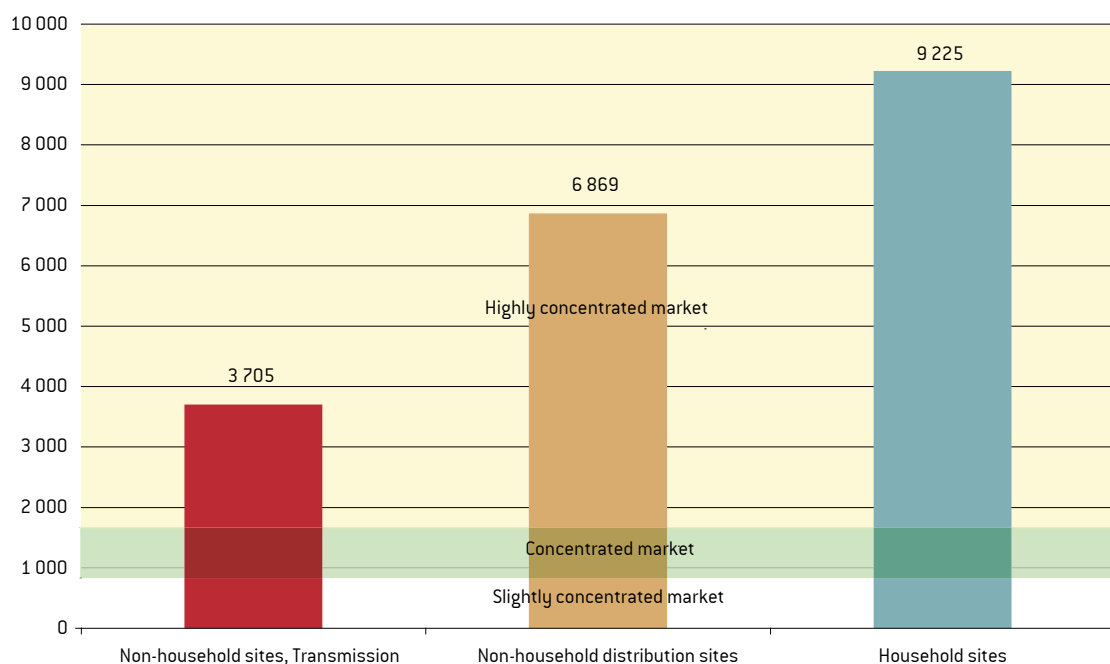
plier invoices.

Standardized models to be used to present supply services, created within the Consumer Working Group by consumer associations and suppliers, were completed by all electricity and natural gas suppliers and were made available to consumers. Since the summer of 2007, consumers have also been able to benefit from precontractual information to compare one supplier with another. Feedback was provided by the Consumer Working Group during the second half of 2007.

The Consumer Working Group pursued work on changing the charters of supplier commitments to professional consumers, implemented in 2005. Through discussion, the participants achieved consistency between the electricity and gas charters. This work also strengthened commitments in terms of providing information and processing complaints, and established standardized models for presenting supply services. Since 11 January 2008, for both gas and electricity, almost all suppliers that offer a single contract (covering both supply and transmis-

Figure 72: Concentration index (HHI) of consumed natural gas supply as of 31 March 2008

Source: CRE according to DSOs, TSOs, incumbent suppliers



sion) have signed these charters. For their part, the electricity and gas working groups have focussed their discussions around correcting any errors (technical reference of site, etc.) or handling situations in which one of the parties is not acting in accordance with procedures (sale without previous order, etc.).

This work has resulted in the creation of what has been referred to as “exception” procedures, allowing customers who have been victims of errors or abuse to return to their initial situation in a simple manner, free of charge.

#### 4.1.2. Improvement of rules relative to supplier and system operator relations

##### Contracts for system use

With regards to gas, in 2007, all suppliers signed a new version of the transportation/distribution contract with the system operator Gaz de France. This new version incorporates all provisions relative to opening the market to household customers. To help supplier's overcome their concerns relevant to DSO (now GrDF) commitments to quality of service, a new version of the contract will be put forward in July 2008.

With regards to electricity, the 2007 version of the DSO-supplier contract, which takes into account changes induced by opening the market to household customers, received strong criticism from suppliers.

These objections, which had already been voiced in 2004, focus on the legal nature

of the DSO-supplier contract and the subsequent sharing of liability. In the context of mass markets, where the single contract – covering conditions for both energy supply and distribution – is the only true practical solution, suppliers felt that the DSOs' commitments were not strong enough to efficiently establish them as the consumer's single contact point.

In light of these elements, a large majority of suppliers active on the mass market refused to sign the 2007 version of the DSO-supplier contract and four of them referred the matter to CoRDIS on 7 February 2008.

In its decision of 7 April 2008, CoRDIS decided that the DSO-supplier contract, which ensures effective supply to the final customer and implements the single contract, inevitably creates, within the framework of the single contract, a contractual relationship between the system operator and the final customer, enabling the customer to directly call on the DSO's contractual liability under conditions that are at least similar to those that would result if the final customer were to sign a contract for access to the public electricity distribution network. Like the regulated retail tariff electricity supply contract, the contractual framework must be analysed as a legally binding package, in which the supplier assumes the role of an intermediary duly tasked by the final customer and the system operator (see p. 18).

##### Customer contracting procedures

In accordance with CRE's decision on 27 September 2007, feedback from all the pro-

cedures set up to implement the change to open markets was collected through the consultation process.

The first results show that the procedures currently in force must be consolidated. With regards to electricity, the meter readings used in the different procedures needs to be more reliable, particularly the reading that appears on the meter when the customer switches supplier. Certain provisions must also be reviewed with a view to achieving greater consistency between gas and electricity service contracts. Finally, automation of procedures must be encouraged to efficiently handle the increasing amount of data exchanges between participants in the process.

##### Profiling system and rules for flow settlement

The profiling system consists of a statistical model used to distribute customer energy consumption over time between two actual meter readings. During this interval, the meter measures the energy consumed by the customer on a totalisation basis. To determine how customer consumption evolves over time, it is necessary to refer to the “profile”, a curve established statistically, which shows the “shape” of customer consumption.

Flow settlement is performed by system operators and consists of attributing the energy consumed by customers to the relevant suppliers so that suppliers can be invoiced for transportation costs. System operators rely on information provided by the profiling system in order to perform flow settlement.

Given the potential financial consequences, suppliers give careful attention to the profiling system and flow settlement. These provisions have already undergone many changes since they were implemented in 2004, when markets were opening to competition. But suppliers feel that further improvements are necessary.

With this in mind, the Gas Working Group has defined a pluriannual action plan that aims to change certain parameters in the current profiling system (climate correction and adjustment factors, reference temperatures). With regards to flow settlement, system operators have undertaken several studies to implement a customer consumption forecasting system.

With regards to electricity, questions related to changing the series of profiles have instigated many debates and, until now, no consensus has been reached, since there is no clearly defined decision-making process.

At the beginning of 2008, GTE defined a series of qualitative and quantitative indicators used to direct choices in terms of changes to the profiling system. It also set up a governing process for this system wherein CRE approval is required for any

question related to this issue. This falls with the scope of the powers endowed to CRE by Article 15 of the Law of 10 February 2000 on the approval of rules relative to the balance responsible entity system.

#### 4.1.3. Adequate information systems for open market conditions

##### ERDF and GrDF information systems

GrDF and ERDF customer management information systems (IS) have been enhanced to accommodate the sudden increase in data flows subsequent to full market opening. Suppliers rely on these systems to automatically send and manage requests from their customers, in accordance with most of the rules defined during the consultation process (see Insets 26 and 27).

Some ERDF and GrDF information system functions remain to be deployed to meet all supplier expectations and fully comply with market operation rules. New releases are planned on a half-yearly or annual basis.

With regards to electricity, the most recent upgrades to the ERDF IS incorporated the new regulatory provisions relative to com-

mercially sensitive information (CSI). The new system makes it possible to switch supplier at any time and has automated procedures that were previously managed manually.

With regards to gas, in accordance with the CRE decision of 27 September 2007, suppliers are now associated in the decision-making process when GrDF makes changes to its information systems.

Despite this progress, given the critical role of IS when operating in an open market context, CRE wished to make certain that development of the GrDF information system was properly managed and provided sufficient enhanceability. CRE conducted an audit on GrDF information systems from May to July 2008 for just this purpose.

##### LDC information systems

Local distribution companies (LDCs), approximately 160 for electricity and 22 for gas, serve less than 5% of the total number of customers. Unfortunately, such wide diversity makes it impractical to consider any harmonisation of their information systems.

#### Inset 26: Separating the ERDF and incumbent supplier's customer management databases

Based on conclusions from the IS audit conducted at ERDF during the second half of 2006, CRE requested, in its decision of 8 February 2007, that the supplier EDF stop using Disco as soon as possible. (Disco is the system traditionally shared with ERDF, and used by EDF to manage regulated-tariff

customers.) The deadline of July 2009 was set for EDF to transfer all its customers to its own customer management system.

CRE deplored that, given the pace of customer transfers announced by EDF, non-household customers under regulated

tariffs will continue to be managed using Disco until 2010, and that there is no scheduled date for terminating household customer transfers.

#### Inset 27: Privileged access for Gaz de France to GrDF information systems

CRE has observed that the incumbent supplier Gaz de France continues to enjoy direct access to certain legacy applications, now owned by GrDF, to manage some customers and to send a certain portion of its service applications, despite the fact that a dedicated portal exists for all suppliers.

CRE disagrees with these operating procedures, which are discriminatory with regards to other suppliers since only the incumbent supplier has a backup solution when the dedicated portal is down.

It is important that Gaz de France complete the required changes to its information system as soon as possible to separate it completely from the GrDF system.

However, suppliers must have the same market access conditions throughout the whole of France. CRE thus set out to get a clear view of measures taken by LDCs to comply with open market operation rules. It conducted a survey with each LDC to observe deployment of their information systems and presented the results to members of the consultation working groups.

One year after full market opening, it is essential that LDCs continue their efforts in this direction. At this point, only the largest LDCs have been able to implement automated data exchange systems with suppliers, an impediment to newcomers setting up in areas covered by LDCs.

## 4.2. Keeping consumers informed

### 4.2.1. Consumer surveys

At the end of 2007, CRE conducted two customer surveys focussing on open markets: one on non-household customers (the third wave of an annual opinion barometer that started in 2005), conducted by the BVA Institute, and the other on household customers, conducted by the LH2 Institute. These two surveys will be repeated at the end of 2008 to obtain results over time for both opinion barometers.

The results of these two surveys were published on the CRE website in January 2008. They confirm that consumers require better information concerning open markets. Although most consumers felt they were well informed about opening energy markets to competition, they had little knowledge on service contracts, the participants involved and practical issues, revealing that the level of information provided is still too general.

### Professional customers: increasing knowledge of open markets

More than three years after the market was fully opened to professionals, 59% of them feel they are “well informed” about the open market (end 2006: 44%, up 15 points in one year). However, two thirds of them admit to having “little knowledge” of the procedure required to switch supplier.

Opinions with regard to the open market remain largely favourable (62% compared with 15% with negative opinions), although the proportion of customers who felt they had saved money thanks to the open market dropped from 45% to 30% between the end of 2006 and the end of 2007.

Room for improvement remains with regards to practical knowledge of open market operations:

- two out of three customers were incorrect in thinking that it was the supplier who takes meter readings, whereas this task is actually the responsibility of the distribution system operator;
- two out of three customers were incorrect in thinking that the risk of electricity or gas power cuts were related to the selected supplier;
- in contrast, two customers out of three were fully aware that switching supplier is free of charge.

Finally, familiarity with market participants had strongly increased since the brand recognition rate of the main alternative suppliers had almost doubled in one year, although it still remains far below that of the incumbent supplier (see Figure 73 and 74).

### Household customers: limited knowledge of the open market and its practical aspects

Only 31% of households were aware that they had the right to switch supplier, and yet 56% felt they were well-informed about opening markets to competition. This discrepancy indicates that most households had heard of open markets, but only in general terms, thereby preventing them from clearly identifying the effects of an open market in practical terms. With regards to practical procedures, 14% (for electricity) and 15% (for gas) of households stated they knew the “steps to take” to switch supplier.

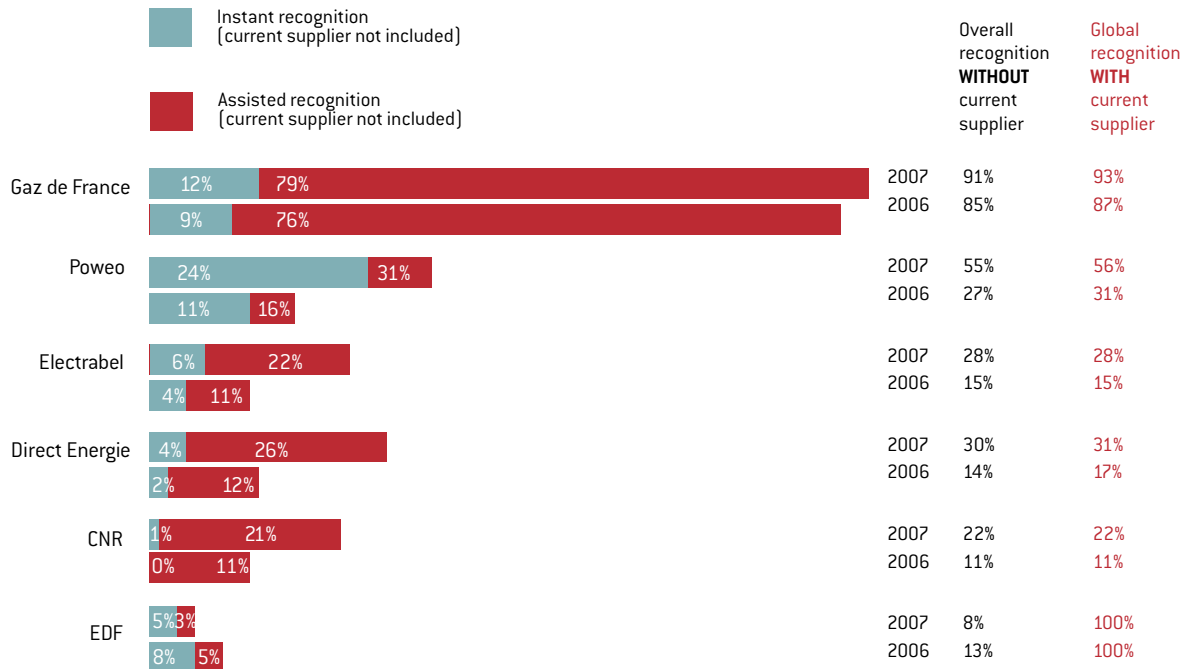
In terms of general opinion, 59% of households considered that open markets were “a good thing”, but had difficulty in correctly identifying the benefits they may expect as a result. Thus 44% of households felt that open markets would neither improve nor deteriorate the quality of service and 52% declared that it would not lead to reductions or increases in their bills. However, 29% expected a positive impact on the quality of service (21% expected a negative impact) and 29% declared that open markets would entail saving money (11% felt they would lose money).

Illustrating a lack of concrete information, most of those interviewed could not immediately cite the name of a supplier other than their own (76% for electricity, 84% for gas) and only 32% of households felt they were well informed with regards to contracts from different suppliers. Furthermore, 31% still thought that EDF and Gaz de France were one and the same company.

Most households also wrongly thought that it was their supplier who took meter readings, whereas this task is actually the responsibility of the distribution system operator (79% shared this “misconception” for electricity, 77% for gas) and one out of two households wrongly thought that the risk of electricity or gas power cuts depended on their selected supplier (see Figure 75, p.136).

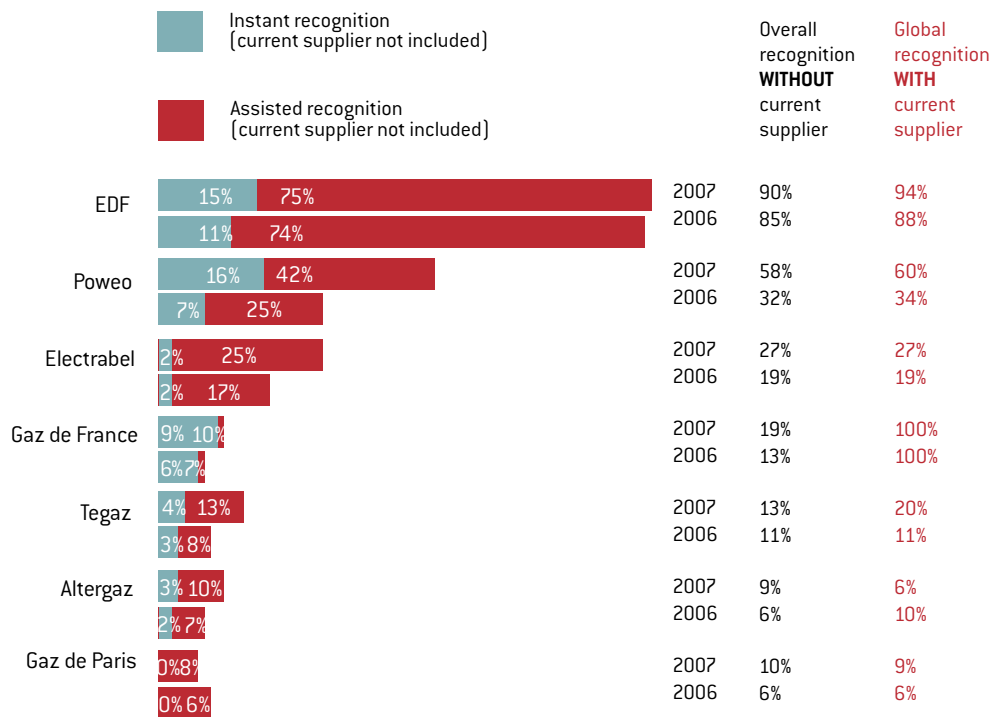
**Figure 73: Electricity supplier brand recognition by professional customers in December 2007**

Base: All persons surveyed (1,502). Current supplier not included. Source: BVA survey for CRE (December 2007)



**Figure 74: Natural gas supplier brand recognition by professional customers in December 2007**

Base: Gas users (486). Current supplier not included. Source: BVA survey for CRE (December 2007)



4.2.2. Consumer information resources

Website

On 23 May 2007, CRE unveiled an information website aimed at household customers, designed in collaboration with the ministries for consumer affairs and for energy and the French National Energy Mediator. The site at [www.energie-info.fr](http://www.energie-info.fr) informs consumers on procedures to follow (when moving house, for a new connection, contract termination, switching supplier), service contracts (information on suppliers, choice of contracts, etc.) as well as on consumer rights, particularly in the event of a dispute with a supplier. It was designed to provide access to clear, easy-to-understand information, independent of suppliers. Since its launch the website has recorded an average of 30,000 hits each month.

A section devoted to professional customers will be unveiled during the third quarter of 2008, with a view to providing specific information for companies on procedures and energy services designed for professionals.

Finally, a search engine used to locate suppliers according to their post code shall be implemented in the third quarter of 2008, allowing any consumer, household or professional, to access the complete list of electricity or natural gas energy providers offering services in their area, and in function of their level of consumption.

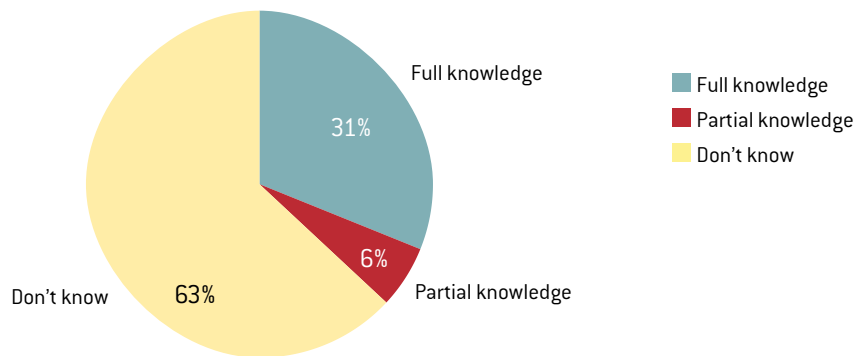
This easy-to-use search engine takes into account the specific service features of each supplier, some of them open to the possibility of developing their business in a specific geographical area or for a specific

market segment. This application was developed through a joint effort bringing together distribution system operators (electricity and natural gas) and suppliers. The latter can update any information concerning them in real-time, using a secured extranet site. Information is published under supplier responsibility (see Figure 76).

In response to questions raised by consumer associations and some elected officials, CRE is conducting a feasibility study on the development of a shopping robot to select electricity and natural gas service contracts, similar to those developed in other European states.

**Figure 75: Household customer familiarity with open markets in December 2007. “In your opinion, can a household like yours switch their natural gas/electricity supplier?”**

**Ensemble des foyers (Utilisateurs gaz + non utilisateurs gaz)**



**Full knowledge** = gas consumers who are aware of their right to switch gas AND electricity supplier + electricity-only consumers aware of their right to switch electricity supplier

**Partial knowledge** = gas consumers who have identified that they can switch one of their two suppliers

**Don't know** = gas consumers who do not know that they can switch their energy provider + electricity-only consumers who do not know that they can switch their electricity supplier

**Consumer Information Service: by mail, e-mail, and telephone**

Since July 2004, CRE has received many questions and complaints from non-household customers, mostly from independent business consumers. These customers are referred to CRE by DSOs and suppliers active on the market when they themselves are not in a position to provide them with information.

To prepare household customers for open markets, on 18 June 2007 CRE set up a consumer information service accessible by telephone on 0810 112 212 (price of a local call), by mail and by e-mail. Household and independent business customers can contact the information department for answers to their questions on the open energy market, practical procedures, and their rights.

Since 1 July 2007, this department has processed some 30,000 requests each month, including hundreds of letters and e-mail messages (see Figure 77, p.138).

90% of these inquiries requested contact details for electricity and natural gas suppliers. The other most common topics covered the practical aspects on how the French market is organised and operates, and how to proceed to switch supplier, get connected, and be activated.

Since July 2007, CRE has received 150 consumer complaints each month (household and non-household) concerning suppliers or system operators. These complaints involve the practices of suppliers' sales representatives, problems encountered when terminating a contract, quality of suppliers' customer services, billing procedures, and estimated consumption values.

Administrative authorities receive files transferred by CRE that fall within their jurisdiction: over one hundred files were transferred to the DGCCRF (directorate general for consumer affairs, competition and fraud prevention) and to the French National Energy Mediator (see Inset 28).

**Figure 76 : Finding electricity or gas suppliers at www.energie-info.fr**



**Inset 28: A service shared with the National Energy Mediator**

At the beginning of 2008, CRE and the National Energy Mediator agreed to share the CRE's consumer information service, which it had set up for household customers.

This information service includes the website www.energie-info.fr and the consumer information service (telephone, e-mail, mail).

This joint effort has set out to develop information resources while conserving a single point of entry for consumers' energy-related questions.



### 4.3. Monitoring wholesale markets

#### 4.3.1. Monitoring wholesale markets to establish trust

Article 28 of the Law of 10 February 2000, as modified by the Law of 7 December 2006, tasked CRE with a mission to monitor market activity. It stipulates that CRE “shall monitor, for electricity and natural gas, all transactions made between suppliers, traders and producers, all transactions made on the organised markets as well as cross-border trading. It shall ensure that bids made by suppliers, traders and producers are consistent with the relevant financial and technical requirements.” If CRE detects any illicit behaviour, the law also stipulates that its Chairman must refer the matter to the *Conseil de la concurrence*, the authority governing anticompetitive practices in France.

Monitoring market activity aims to detect any behaviour that may impede market competition. It ensures that any market players with a dominant position do not exercise abusive power, and that the transactions completed do not constitute an impediment to the competitive pricing mechanism.

Wholesale market prices determine:

- wholesale revenue generated by operators who control physical sources of procurement (production facilities, long-term import contracts);
- the procurement cost for suppliers who do not own such procurement sources.

Some of the practices targeted include the following:

- withholding gas production capacity or volume with the intent of raising prices by creating an artificial shortage;
- practicing excessively low sale prices with the intent of bringing market prices below their normal level, thereby reducing the revenue of competitors;
- at the initiative of one or several market players, sending purchasing or sales orders to trading platforms with the intention of spreading false information on price trends on the market.

By developing trust in the market, monitoring encourages the entry of newcomers in the trading segment and multiplies transactions. Furthermore, trust in market pricing mechanisms, a determining factor for potential investors, contributes to the security of supply on French markets.

#### 4.3.2. Price peaks in October and November 2007

On the electricity market, in October and November 2007, electricity prices hit record highs on the Powernext Day-Ahead Auction trading platform. While, during the first nine months of the year, prices for delivery between 18:00 and 20:00 averaged €6/MWh, rising to a maximum of €18 MWh, they peaked at:

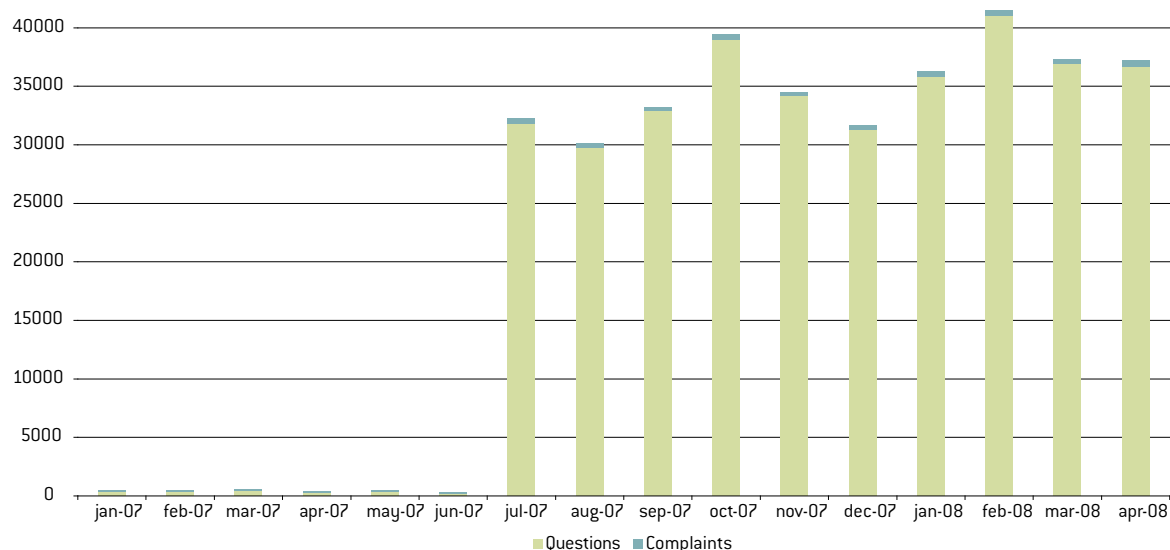
- €236/MWh for delivery on Monday, 29 October 2007 between 18:00 and 19:00;
- €500/MWh for delivery on Monday, 12 November 2007 between 20:00 and 21:00;
- €762/MWh for delivery on Thursday, 15 November 2007 between 18:00 and 19:00.

CRE conducted an investigation into these price peaks, which resulted in a CRE communication and a detailed report published on 17 April 2008.

CRE concluded at the end of this enquiry that the supply and demand balance situation favoured high prices throughout the period under study. The price peaks resulted from market players’ expectations regarding the state of tension in the French system. They were caused by concomitant supply reduction movements and/or increases in demand on the Powernext Day-

Figure 77: Customer contacts received by CRE

Source: CRE



ahead Auction. CRE did not identify any illicit individual behaviour intended to cause these price peaks.

However, CRE did identify several factors that encouraged these price peaks:

Factor No. 1: EDF Group, via EDF Trading, did not offer all its available production capacity, especially hydraulic production, on the Powernext Day-Ahead Auction on 12 November 2007 between 20:00 and 21:00.

The analysis conducted by CRE shows that the cause of this situation lies in the EDF Group's daily decision-making process.

Factor No. 2: the operating procedures of certain members of Powernext Day-ahead Auction tend to slow their reactions, particularly over the weekend; the limited size of the market players' trading teams at weekends can influence market prices on the following Monday, since by not reacting to the market situation, market conditions may give a false impression, leading participants to make wrong decisions.

Factor No. 3: the forecast production data published by the UFE (French Electricity Union) does not allow market players to correctly anticipate the risk associated with unexpected outages. In applying the rules adopted by the UFE, the forecast available capacity published for the thermal production sector only takes account of scheduled power station shutdowns that are sure to

occur. This principle increases the objectivity of the published data, but leads to systematic underestimation of published availability compared with its actual value. Moreover, the UFE publication process is not sufficiently reliable. Finally, the published data is not accompanied by sufficient historical information.

Factor No. 4: the methods used to implement procedures launched by Powernext to attract additional bids need to be improved; analysis of the procedure applied by Powernext on 11 November 2007 shows that its implementation was inappropriate given the market situation: procedure formalities had not been thoroughly established and too few market players had been consulted. Furthermore, the preliminary test conducted by Powernext to decide whether or not to launch a Request for Quotes (RFQ) needs to be improved. Finally, the RFQ procedure was not organised jointly with the other exchanges participating in market coupling, while Belgian import capacity was available.

Factor No. 5: the mechanisms currently used to allocate interconnection capacity are not conducive to efficient interconnection management. At the time of the three price peaks on the French market, while prices on the neighbouring organised markets were all much lower than on Powernext (except for Belgium), a substantial volume

of import capacity remained unused at the borders. Establishing efficient allocation methods, and, in particular, market coupling for all French interconnections, would have made it possible to keep prices on the French market down.

At the conclusion of this investigation CRE asked:

- all the major participants in the wholesale electricity market, especially EDF, to improve their internal market transaction procedures, so that their action is an accurate reflection of the state of their portfolio;
- the UFE and its power-generating members to improve the reliability of the forecast production figures published on the RTE site and, in cooperation with CRE, to supplement these publications with sufficient information so that market players can correctly anticipate the situation on the French market;
- Powernext to improve the procedure applied when the Powernext Day-ahead Auction price does not seem to reflect the market situation, specifically by coordinating with the Belgian and Dutch exchanges;
- RTE to accelerate the implementation of more efficient methods for allocating transmission capacity to interconnections.

This investigation shows that by monitoring market activity, CRE can identify concrete roads to improvement for market operations.

#### 4.3.3. Transaction monitoring procedures on wholesale markets

As part of its monitoring mission, CRE started by systematically collecting information from electricity generators, Powernext and transmission/distribution system operators on a monthly basis.

At the beginning of 2008, however, CRE had still not received information on bilateral transactions conducted by companies operating on the French electricity and natural gas wholesale markets.

CRE had begun discussions with organisations representing market participants concerning measures that would give CRE effective access to these transactions and limit the corresponding workload of these participants. On 16 April 2008, it made public the approach it plans to adopt and asked stakeholders to send in any comments they may have.

The adopted approach is divided into two phases:

- Phase 1: CRE will occasionally request information concerning transactions concluded after 1 January 2007;

- Phase 2: based on experience feedback and after discussions with market players, CRE may decide to systematically collect information on transactions.

The scope of Phase 1 covers transactions made for physical deliveries, which represents most of the transactions concluded on the French electricity and gas wholesale markets.

To reduce the workload of market participants, CRE offers them the option of sending data via intermediaries. It encourages participants to mandate brokers to whom they regularly confide their business to conserve and send to CRE any transactions they know about. CRE will itself collect data on transactions concluded on organized markets, addressing EDF for transactions completed in a VPP context, and system operators for transactions involving the purchase of their losses.

Given the price rises on the forward electricity market in 2007 and given that the first gas release contracts will expire in 2008, CRE has formulated (as part of Phase 1) a special request for data on the following:

- for electricity: any transactions completed in 2007 for annual products to be delivered in 2008 and 2009, baseload and peakload (“Y+1” or “Cal08” products);
- for gas: any transactions completed in 2007 for seasonal products to be delivered in 2008 and 2009 (calendar years and gas years).

### III. Support measures: electricity generation, vulnerable customers and TaRTAM

CRE is actively involved in implementing specific public service missions assigned to electricity and gas suppliers:

- Upon referral from the ministers in charge of the economy and energy, it advises on regulated retail tariffs for electricity and gas, especially tariffs implemented for vulnerable customers.
- It implements the procedure for calls for tender issued by the Minister for Energy which aim to achieve the objectives of the pluriannual investment programme.
- Upon referral from the Minister for Energy, it advises on feed-in tariffs established to promote renewable energies and cogeneration.
- Each year, CRE provides the Minister for Energy with an assessment of the public electricity service cost for the following year, together with the corresponding unit contribution (for the Contribution to the Public Electricity Service, CSPE). These costs correspond to support provided for cogeneration and renewable energies, tariff equalisation in favour of non-interconnected territories, and social hardship measures applicable in the electricity sector.
- Once a year CRE provides the Minister for Energy with the public gas service cost for the following year related to the application of the special solidarity tariff (pursuant to Article 7 of the Law of 3 January 2003, modified by the Law of 7 December 2006), together with the corresponding unit contribution. The first CRE proposal should be submitted by the end of 2008, once the decree pertaining to the solidarity tariff has been published.

Every year CRE also provides the Minister for Energy with the total contribution owed by EDF and CNR, which is used to fund part of the costs related to TaRTAM, the transitional regulated tariff for balancing markets, the remaining portion being funded by the CSPE.

#### 1. Supporting cogeneration and renewable energy sources

The Law of 10 February 2000 provides for two support systems for electricity generation: calls for tender (Article 8) and purchase obligations (Article 10). For calls for tender issued by the Minister for Energy, CRE follows the procedure consisting in drawing up technical specifications based on conditions established by the Minister, examining and classifying bids, and giving its opinion on the choice envisaged by the Minister. For purchase obligations, it advises on purchasing conditions defined by the Minister for Energy.

##### 1.1. Calls for tender

On 9 December 2006, the Minister issued a call for tender involving electricity generation facilities using biomass fuels. It was the second call for tender in this sector. Total target capacity was 300 MW, composed of 80 MW for facilities with unit power between 5 and 9 MW inclusive, and 220 MW for power generating facilities over 9 MW. Selected candidates will be awarded a contract for the purchase of electricity

generated at the price they propose, for a period of 20 years. 58 bids were sent to CRE before the bidding deadline on 9 August 2007.

On 30 January 2008, CRE sent the Minister a review sheet for each project, including an assessment of costs based on applying criteria set out in the technical specifications, and a summary report. On 5 June 2008, it issued its opinion on the choice envisaged by the Minister (see Table 13, p.142).

##### 1.2. Purchase obligations

Pursuant to the Law of 13 July 2005, providing a new definition of feed-in tariffs, the government has undertaken to review these tariffs. In July 2006, the Minister for Energy issued orders setting new tariffs applicable to facilities using mechanical wind energy, solar energy, biogas and geothermal energy. Subsequently, on 3 April 2007, it referred a draft order to CRE for its opinion on the proposed modifications to purchase conditions for electricity generated by plants that mainly use energy from the combustion of non-fossil materials of vegetable origin.

CRE issued its conclusions on 3 May 2007. The order has not yet been issued.

## 2. Public electricity service costs

The CSPE was created to fund public electricity service costs borne by EDF, non-nationalised distributors (NND) and Électricité de Mayotte (EDM):

- surplus costs incurred through cogeneration and renewable energies (purchase obligations, purchase contracts prior to the Law of 10 February 2000, and calls for tender);
- surplus costs from electricity generation in non-interconnected territories, resulting from tariff equalisation in favour of these regions: Corsica, Overseas Departments, Mayotte, Saint-Pierre-et-Miquelon and the Brittany islands of Molène, Ushant and Sein;
- costs borne by suppliers as part of the social hardship tariff and other measures taken for persons experiencing financial difficulties.

The CSPE also finances the French National Energy Mediator's budget, together with part of the costs resulting from TaRTAM once the public electricity service costs have been compensated. For this purpose, the CSPE has been increased to cover

TaRTAM costs, capped at €1.55/MWh. This amount cannot raise the CSPE over its 7 December 2006 value (€1.50/MWh).

Each year, before 15 October, CRE assesses the total public electricity service costs for the coming year, along with the number of kWh subject to contribution, and the resulting CSPE unit contribution.

The CSPE levied is proportional to electricity consumption in France. The Law of 10 February 2000 provides for:

- exemption for self-producers whose consumption is subject to contributions, up to a total of 240 GWh;
- a cap for the CSPE set at €00,000 per consumption site;
- for industrial companies consuming over 7 GWh a year, a cap equal to 0.5% of their added value.

### 2.1. Public service costs and 2008 contributions

Projected costs for 2008 include costs estimated for 2008 and any difference between recognised costs and contributions collected in 2006.

On 11 October 2007, CRE sent the Minister for Energy its proposal regarding projected costs and the CSPE unit contribution for 2008, for a rising figure of €1.9/MWh. Since no ministerial order has been issued, the CSPE 2008 unit contribution was set to €1.5/MWh (renewing the 2007 CSPE contribution), in accordance with Article 5 of the Law of 10 February 2000.

On 23 January 2008, CRE published a communication evaluating the projected public service costs for 2008. These costs have dropped by €29 million compared with those assessed in 2007, owing to incorporation of specific economic data in the cost calculations (forward market prices for 2008, gas retail tariff). Costs now stand at €1,637.3 million. CRE used these figures as a base when notifying the operators concerned of their costs, in accordance with Article 7 of the decree dated 28 January 2004 (see Table 14).

Table 13: Summary of calls for tender issued for renewable energies

Source: CRE (opinions available at [www.cre.fr](http://www.cre.fr))

Calls for tender	CRE bidding deadline	Number of bids	CRE review (summary report and review sheets)	CRE opinion on choice envisaged by the Minister	Ministerial orders granting operating licences	Power adopted (target power MW)
Biomasse	9 August 2007	56 (one bid rejected)	Decision of 30 January 2008	Endorsement issued on 5 June 2008		Total power of bids: 692 MW (target figure 300)
Ground-based wind farms	30 January 2005	14 (two rejected bids)	Decision of 28 April 2005	Endorsement issued on 9 November 2005	7 December 2005 (7 projects)	278 (500)
Sea-based wind farms	13 August 2004	11 (one bid rejected)	Decision of 13 January 2005	Unfavourable decision issued on 28 July 2005	On 13 October 2005 (1 project)	100 (500)
Biomass, biogas	19 July 2004	24 (one bid rejected)	Decision of 21 October 2004	Endorsement issued on 15 December 2004	11 January 2005 (14 biomass projects, 1 biogas)	216 (200) biomass 16 (50) biogas

The portion of the 2008 CSPE used to finance these costs stands at €0.26/MWh. This sum is evaluated on the basis of forecast national consumption of 469.8 TWh for 2008 (excluding losses), minus the exemption volume of 85.8 TWh (18% of national consumption).

The unit contribution used to finance the National Energy Mediator's budget stands at €0.01/MWh.

The portion of the 2008 CSPE helping to finance TaRTAM-related costs comes to €0.23/MWh, in compliance with the Law of 7 December 2006 (see Figure 78).

### 2.2. Costs recognized for 2006

In its conclusions of 11 October 2007, CRE calculated public electricity service costs actually borne by incumbent suppliers during 2006 (see Figure 79, p.144) on the basis of operators' reports based on appropriate accounting checked by their auditors, or, in the case of local state-run operations, by the public accountant. The accounting rules had been updated further to a CRE decision on 7 December 2006. CRE ensured that EDF and Électricité de Mayotte (EDM) practiced sound management of their production facilities in non-interconnected territories, and that the

physical and financial data for purchase contracts presented by incumbent suppliers were consistent.

Costs recorded for 2006 came to €535.0 million, comprising €497.0 million for EDF, €7.6 million for non-nationalised distributors and €9.8 million for EDM. They were lower than the 2005 forecast of €601.3 million, due to the rise in market prices observed in 2006 compared to the forecast (for a weighted average of +€90/MWh), and fewer-than-expected subscriptions to the social hardship tariff.

Table 14: Forecast public service charges for 2008

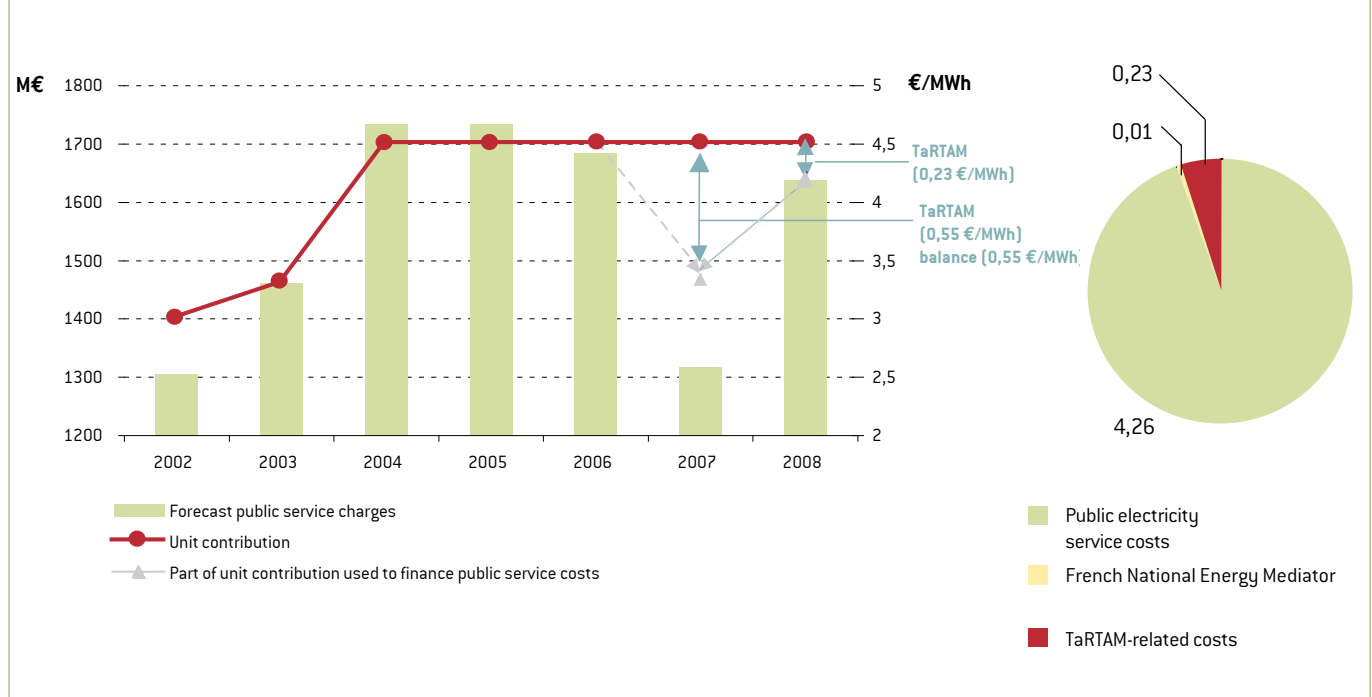
Source: CRE

Supplier	Forecast costs 2008 (in millions of euros)
EDF	1 582,3
Non-nationalised distributors	20,2
Électricité de Mayotte	34,7
Total	1 637,3*

\* including €1.1 million for management fees from the CDC

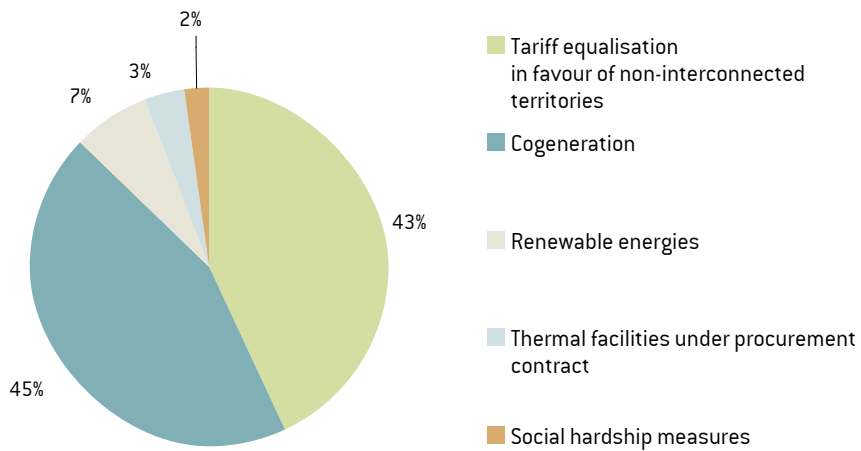
Figure 78: Changes in forecast public service costs and 2008 unit contribution

Source: CRE



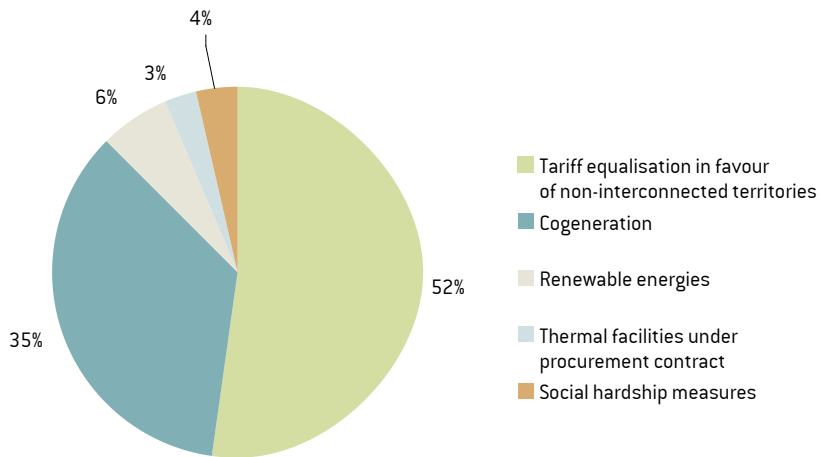
**Figure 79: Public service costs recognized for 2006 (1,535 million)**

Source: CRE



**Figure 80: Forecast public service costs recognized for 2008 (1,640 million)**

Source: CRE



**Table 15: Comparison of public service costs**

	Costs recorded for 2006 (in millions of euros)	Forecast costs for 2008 (in millions of euros)	Principal justification for 2006-2008 variations
Procurement contracts	840,6	722,7	Wind power development (+3.5 TWh)
Tariff equalisation**	660,0	857,5	Increase in fuel consumption and cost
Social hardship measures	34,4	59,9	Increase in number of beneficiaries of social hardship tariff
<b>Total</b>	<b>1 535,0</b>	<b>1 640,1</b>	

\* Not including non-interconnected territories

\*\* Surplus production costs and surplus costs related to procurement contracts in non-interconnected territories

2.2. Forecast costs for 2008

Forecast costs for 2008 were assessed on the basis of costs recorded for 2006 and relevant supplier forecasts. They stand at €640 million, an increase of 7% compared with costs recorded for 2006 (see Table 15).

Additional costs due to purchase contracts are equal to the difference between purchasing costs and the valuation of purchased volumes at electricity wholesale market prices. Market price increases of nearly 25% between 2006 (recorded prices) and 2008 (forward prices) led to

a reduction in costs related to purchase obligations, despite the projected 40% increase in volume generated using renewable energy sources (+3.5 TWh wind-generated electricity and development of electricity generated from biogas, biomass and photovoltaic systems) and despite the increase of the average cogeneration purchase tariff (see Figure 81).

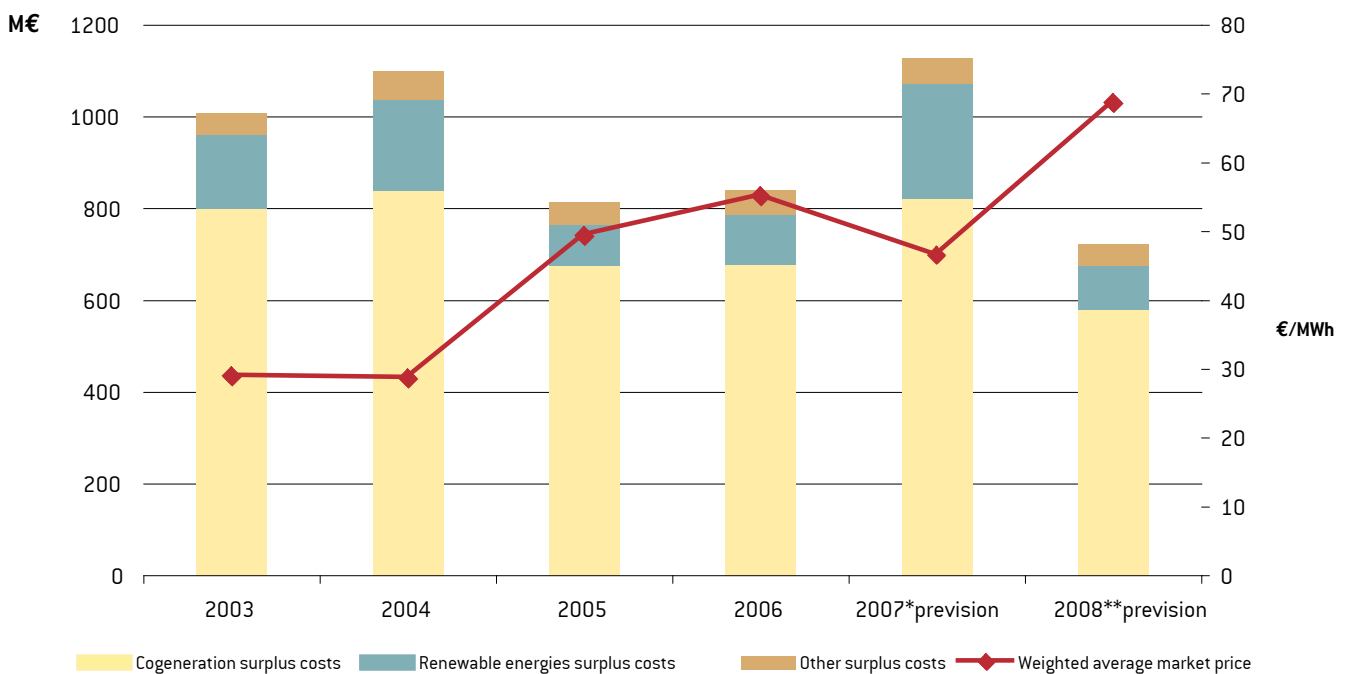
In non-interconnected territories, the steep rise in surplus costs for 2008 compared with 2006 is evaluated at 30%, due to the high fuel prices, the use of additional generation facilities and an increase in end-user consumption (+8.4% over two years).

Tariff equalization in favour of non-interconnected territories is now the leading source of public service electricity costs, representing more than 50% of total cost (see Figure 80).

Costs resulting from social hardship measures will also rise significantly during 2008 because of the projected increase in the number of people benefiting from the social hardship tariff.

Figure 81: Cost changes due to purchase contracts (not including NIT) for year n and changes in weighted average market price

Source: CRE



\* Evaluated on 1 January 2008 using 2007 spot market prices and projected volumes for 2007

\*\* Based on forward market prices and projected volumes for 2008.



### 3. Collection of public electricity service contributions (CSPE)

#### 3.1. Collection in 2006 and 2007

The sums received for CSPE 2006 were lower, by around €0 million, than the forecast costs for 2006. This gap, which represents 3% of costs, is primarily due to rounding of the CSPE total for 2006 and a lower-than-predicted CSPE reference base.

Collection of public electricity service contributions for 2007 is still in progress, since the total electricity consumption for 2007 is yet to be invoiced.

Table 16 presents the number of sites that have declared their 2007 CSPE to the *Caisse des dépôts et consignations* (CDC). The number of self-producers and consumers involved remains stable.

#### 3.2. Implementing new measures

Just over 200 industrial companies requested, before the regulatory deadline of 30 April 2007, to benefit from provisions in Article 67 of the Law of 13 July 2005, which limits the amount of CSPE owed for one year to 0.5% of the added value of the same year. For 2006, the CDC reimbursed the amount of €0.6 million.

Only 19 of these companies requested stopping CSPE invoicing for 2007, in accordance with the above-mentioned article, since they felt the CSPE that they had already paid was in excess of the total capped amount due for 2006.

As stipulated in Article 5 of the Law of 10 February 2000, the CSPE financed the 2007 budget for the Energy Mediator, to the amount of €1 million.

### 4. TaRTAM-related costs

In the context of supply to final customers under the TaRTAM tariff, electricity suppliers may bear costs corresponding to the difference between their generation cost or their procurement price, and any revenue corresponding to energy services provided under the TaRTAM tariff.

The Law of 9 August 2004, modified by the Law of 7 December 2006, makes provisions to compensate these costs (within the procurement cost price cap):

- firstly, by consumers, through the CSPE, up to a limit of €0.55/MWh;
- then, by nuclear and hydraulic generators operating more than 2000 MW (EDF, CNR), through a contribution based on their generation the previous year, up to a limit of €0.30/MWh.

A decree dated 4 May 2007 defines the methods used to evaluate supplier costs and the unit contribution for generators,

collection and cost compensation. Each year, before 15 October, CRE notifies the Minister for Energy of the unit contribution owed by EDF and CNR for the following year.

#### 4.1. Forecast costs for 2007

CRE assessed the forecast TaRTAM-related costs for 2007 using forecast declarations provided by 21 suppliers. These costs stand at €31 million.

As stipulated in the Law of 9 August 2004, the CSPE 2007 contribution finances these costs within the limit of €11 million (€0.55/MWh multiplied by the forecast consumption base of 383 TWh for 2007). The share of costs financed by EDF and CNR stands at €20 million.

On 31 May 2007, CRE sent the Minister for Energy a unit contribution for 2007 of €0.47/MWh, taking into account forecast nuclear and hydraulic generation for the year 2007.

During each quarter in 2007, CRE estimated the TaRTAM-related costs borne by suppliers during the previous quarter, based on the quarterly declarations it had received. These declarations were produced using appropriate accounting rules as defined in the decision of 21 June 2007, modified on 12 December 2007.

These costs were compensated in the 15 working days following the end of each quarter, using sums withdrawn for the

Table 16: Number of sites that have declared their CSPE contribution to the CDC

	2003	2004	2005	2006	2007
Number of self-producers that have sent their declaration to the CDC	133	144	143	140	140
Actual number of payments [1]	30	31	45	53	50
CSPE paid (in millions of euros)	2,2	3,6	3,7	3,7	3,3
Number of consumers that have sent their declaration to the CDC	97	115	123	120	127
Actual number of payments [2]	70	84	139	132	126
CSPE paid (in millions of euros)	5,2	7,6	7,5	8,2	9,5

[1] Self-producers may benefit from the 240 GWh exemption and the €00,000 ceiling

[2] Consumers may benefit from the 240 GWh exemption granted to a producer that provides energy on the same site, within a ceiling of €00,000.

CSPE 2007 contribution and contributions paid by EDF and CNR.

Information required to evaluate costs borne during the year 2007 were declared to CRE by suppliers before 31 March 2008. Any difference between costs actually observed by CRE and the total amount of the quarterly contributions received from suppliers in 2007 will be incorporated in the projected costs for 2009, which must be estimated by CRE before 15 October 2008.

#### 4.2. Forecast costs for 2008

On 11 October 2007, CRE presented the unit contribution for the year 2008, calculated using forecast cost assessments for 2008 and taking into account partial funding of TaRTAM costs in 2008 by amounts collected in 2007 for the CSPE.

On 7 December 2007, the Minister for Energy asked CRE to proceed with a new proposal for the unit contribution owed by EDF and CNR in 2008, since the sums collected for the 2007 CSPE contribution would not cover TaRTAM-related costs in 2008.

In its new proposal dated 23 January 2008, CRE upheld partial funding of TaRTAM-related costs in 2008 using the 2007 CSPE contribution, which is added to CSPE 2008 funding.

On 20 February 2008, the Minister for Energy reiterated his request for a new proposal.

In light of legal uncertainty owing to imprecise provisions in regulatory texts,

and to avoid any delay in the compensation mechanism for TaRTAM-related costs, CRE issued a new proposal whereby TaRTAM-related costs for 2008 would only be financed, for the part funded by the CSPE, by sums collected for the year 2008.

Given the CSPE 2008 amount with regards to forecast public service costs and the National Energy Mediator budget to be financed in 2008, the CSPE 2008 will be able to finance TaRTAM-related costs for 2008 up to €0.23/MWh, or €8 million.

On 13 March 2008, CRE presented the Minister for Energy with the unit contribution owed by EDF and CNR: €0.92/MWh. Forecast costs 2008 stand at €24 million.

The order dated 10 April 2008, which sets this contribution, was published in the Official Journal.

Compensation for costs borne by suppliers during the first quarter of 2008 was completed before the deadline defined in the decree of 4 May 2007.

#### 5. Costs related to the special solidarity tariff for natural gas supply

The special solidarity tariff for natural gas supply, pursuant to the Law of 3 January 2003 with provisions resulting from the Law of 7 December 2006, aims to benefit specific household customers and is currently being defined (see p. 126).

Suppliers applying this tariff will bear costs consisting of loss of income and specific administration costs. These costs will be compensated by contributions from natural gas suppliers.