

Electricity and gas market observatory

4th Quarter 2006

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Introduction

Since July 1st 2004, all electricity and gas consumers can be eligible according to their consumption site, as long as all or part of the electricity or gas consumed is designed for non-residential use.

The purpose of the observatory is to provide the general public with indicators for monitoring market deregulation. It both covers the wholesale and retail electricity and gas markets in Metropolitan France.

This observatory is updated every three months and data are available on CRE website (www.cre.fr).

It completes the information already published by CRE:

- practical information for eligible customers : consumer guide, list of suppliers,
- communications regarding markets running; CRE's annual activity report.

The electricity market

The retail electricity market

1. Introduction

The deregulation of the French electricity market took place in several stages :

- In June 2000, all sites with annual electricity consumption over 16 GWh became eligible.
- In February 2003, all sites with annual electricity consumption over 7 GWh became eligible.
- In July 2004, all companies and local government agencies became eligible.

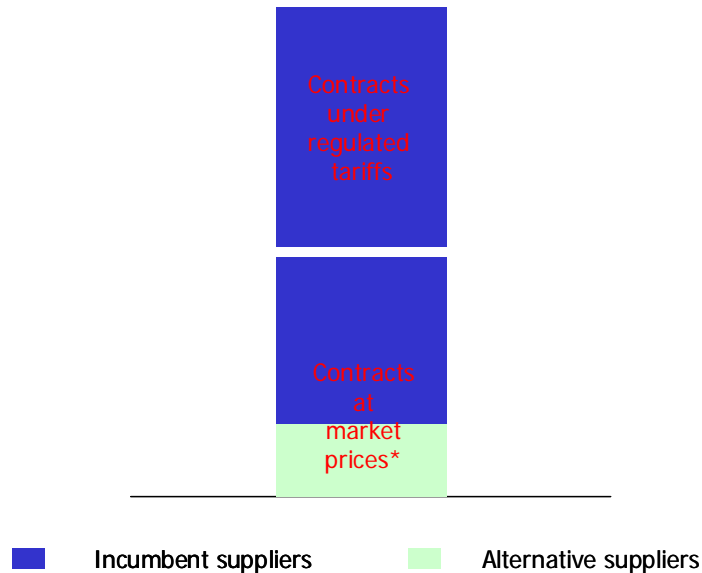
Since July 1st 2004, all companies and local government agencies are free to choose their electricity supplier. Today, they represent 4.7 million customer sites with an annual electricity consumption of around 310 TWh.

Each eligible client has the choice between two different types of contract:

- Contracts under regulated tariffs (offered by incumbent suppliers only)
- Contracts at market prices (offered by incumbent suppliers and alternative suppliers). A client has access to this kind of contracts provided he has exercised his eligibility.

The 7th of December law gives the client a new choice. Clients who have chosen contracts at market prices are allowed to ask their provider to benefit from the transitory regulated tariff for market adjustment (TARTAM), during a maximal period of two years. Clients have been authorized to make their demand from the 3rd of January until the 1st of July. The TARTAM cannot be higher than 123% of the regulated tariff applicable to a site with similar characteristics, taxes excluded.

Distribution of electricity contracts for non-residential customers in France
- illustrative diagram -



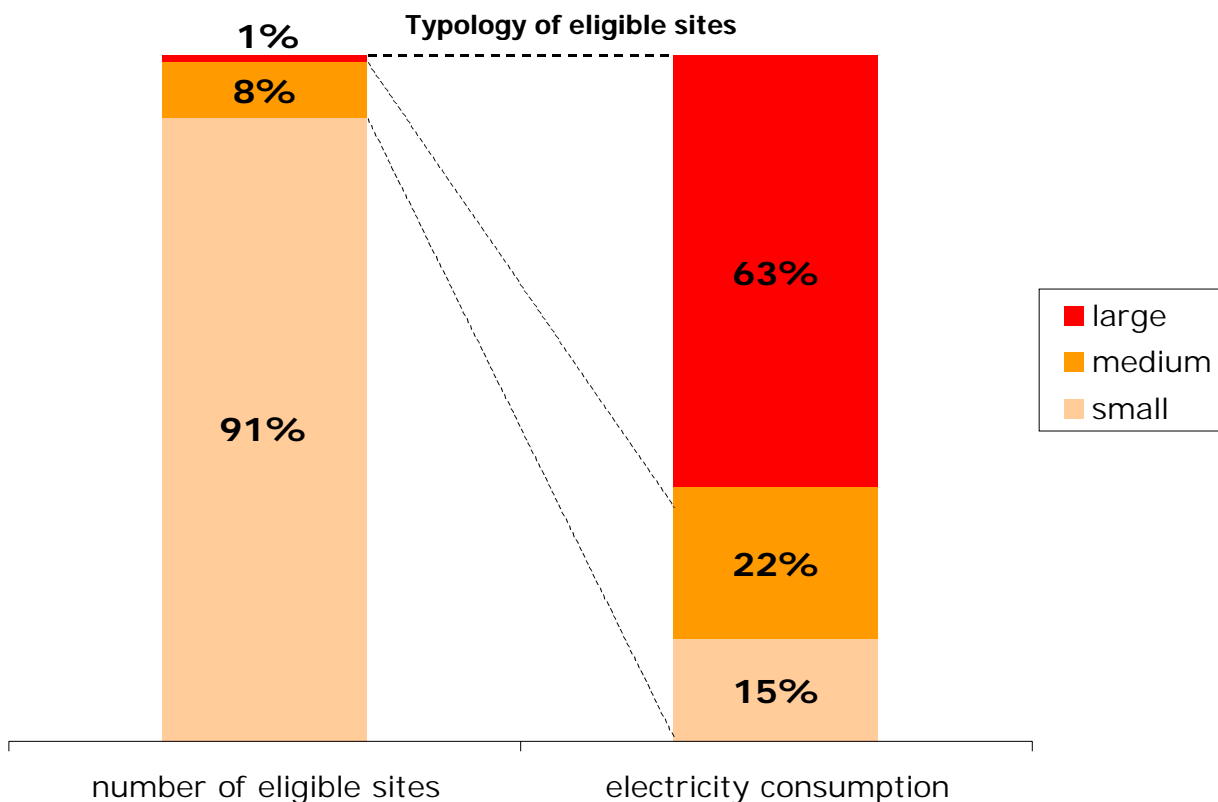
* Sites that have exercised their eligibility

The data sources of the observatory originate from RTE and from the seven largest distribution system operators (EDF Réseau de Distribution, Electricité de Strasbourg, Gaz et Electricité de Grenoble, Régie du SIEDS, Usine d' Electricité de Metz, SICAE de l'Oise and Sorégies). These networks operators cover over 98% of French sites and national electricity consumption.

By agreement, the data regarding the number of sites for month M (or quarter Q) will include:

- *new site connections carried out during month M (of quarter Q).*
- *supplier changes requested during month M (quarter Q) and brought into effect on the 1st of month M+1 (quarter Q+1).*

2. Eligible customer segments and their respective weights



Sources: DSO, RTE – Analysis: CRE

The eligible customer market consists of three segments:

- **Large sites:** high voltage sites whose subscribed power level is at least 250 kW. These sites include large industrial sites, hospitals, hypermarkets, large buildings, etc. (with an annual consumption generally over 1 GWh).
- **Medium-sized sites:** high voltage sites whose subscribed power level is less than 250 kW and low voltage sites whose subscribed power level is at least 36 kVA. These sites correspond to SME premises, for example (with an annual consumption generally between 0.15 GWh and 1 GWh).
- **Small sites:** low voltage sites whose subscribed power level is below 36 kVA. These sites correspond to the professional mass market (private professionals, trades, etc.). Their annual consumption is generally under 0.15 GWh.

The large sites, although they only represent 1% of the sites in terms of number, they account for 63% of the total electricity consumption among eligible sites.

The small sites, although they represent 91% of the sites in terms of number, they only represent 15% of the total electricity consumption among eligible sites.

3. Status at January 1st 2007

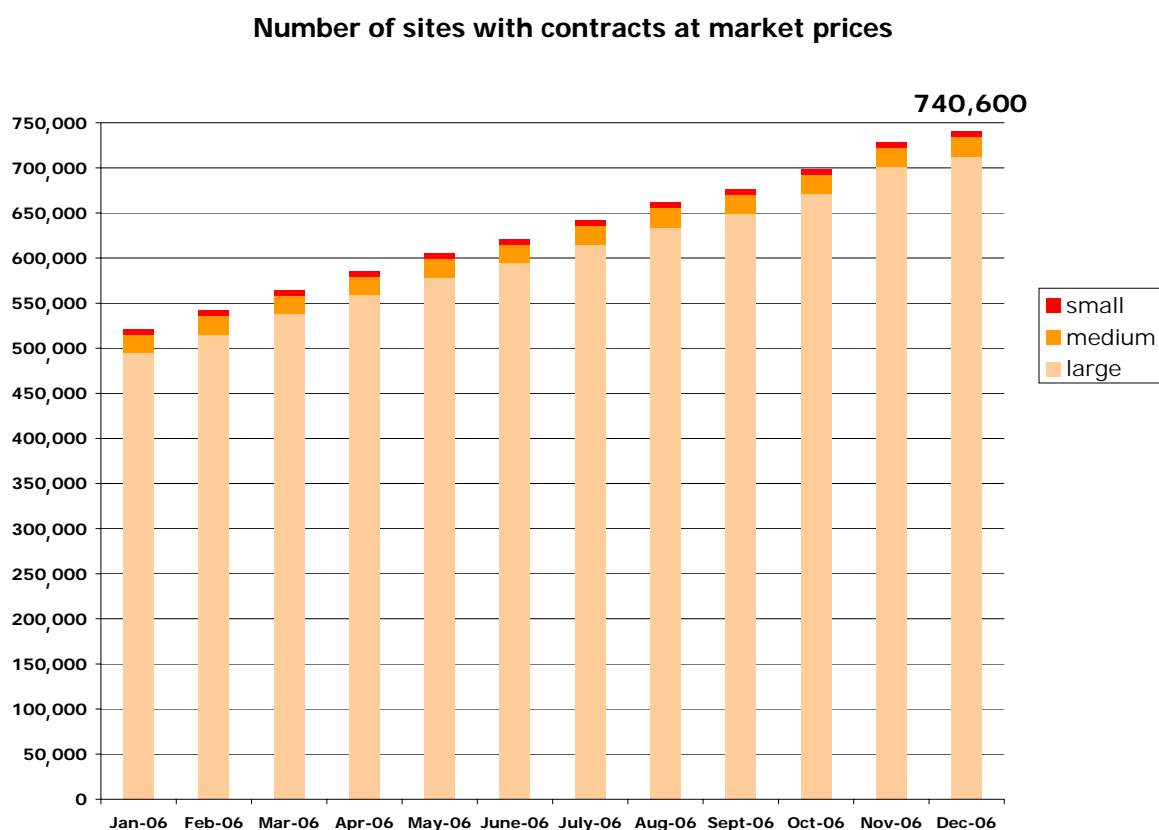
A. Summary table for the past two quarters

Situation (number of sites)	January 1 st 2007	October 1 st 2006
- eligible sites	4 700 000	4 700 000
- sites with contracts at market prices	740 600	676 900
- sites gained by alternative suppliers	276 500	249 200
- alternative suppliers' market share within all eligible sites	5,9%	5,3%

Sources: DSO, RTE – Analysis: CRE

Technical information: number of sites are rounded, but alternative supplier's market shares within all eligible sites are calculated from real figures.

B. Evolution of the number of sites with contracts at market prices

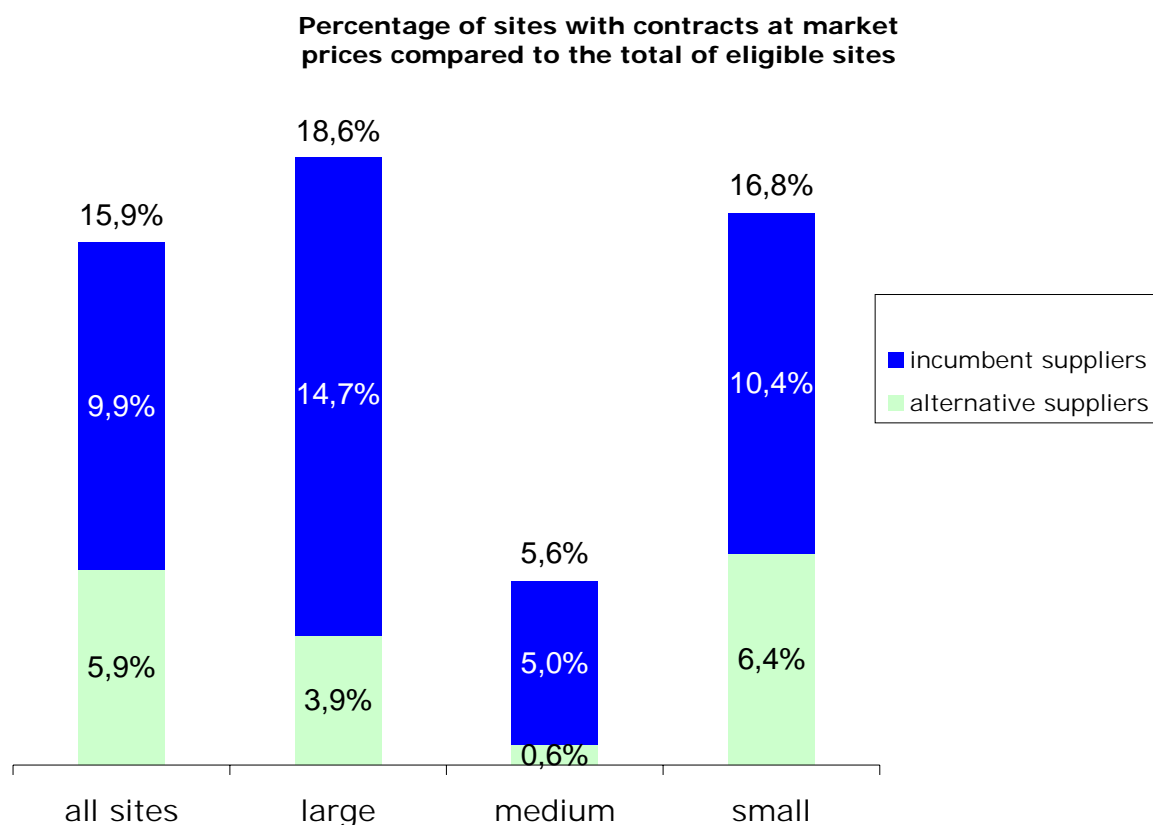


Sources: DSO, RTE – Analysis: CRE

On January 1st 2007, two years and a half after the opening of the electricity market to competition for non-residential, approximately 740, 600 sites have contracts at market prices.

During Q4 2006, the number of sites with contracts at market prices increased by 21,000 sites per month (compared to 19,000 sites per month in Q3 2006).

C. Eligibility's application rate and market shares on January 1st 2007



Sources: DSO, RTE – Analysis: CRE

The eligibility's application rate is equal to the number of sites with contracts at market prices, compared with the number of eligible sites included in the targeted segment.

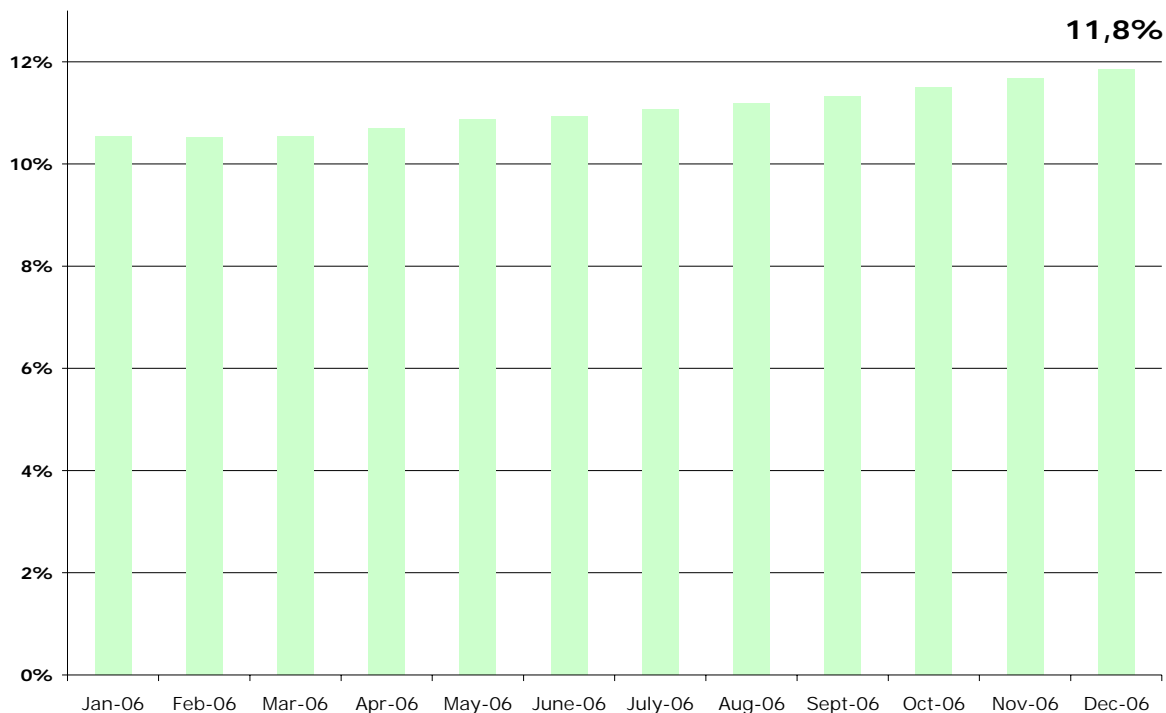
On January 1st 2007, 15,9% of all eligible sites have contracts at market prices.

5,9% of all eligible sites have opted for an alternative supplier.

The intensity of competition is always particularly low on the segment of medium-sized sites.

D. Alternative suppliers' market shares (electricity consumption) as of January 1st 2007

**Evolution of alternative suppliers' market share
Compared with total eligible consumption**
– over the last 12 months –



Sources: RTE – Analysis: CRE

E. Number of active alternative suppliers on January 1st 2007

	All sites	Large	Medium	Small
Number of active alternative suppliers	19	17	6	6

Sources : DSO, RTE – Analysis : CRE

*An alternative supplier is said to be active when it provides at least one customer with electricity.
As a reminder, about 160 incumbent suppliers operate in France.*

4. Dynamic analysis: 4th Quarter 2006

A. Summary table for the last quarters

The gross adds per month are equal to the number of sites which have signed a contract within the given month.

The gross adds at market prices is a relevant indicator for measuring the commercial competitiveness of the different suppliers, in terms of acquisition of new sites.

For the rest of this paragraph, only the gross adds at market prices will be studied.

For a given alternative supplier, the gross adds are equal to :

- *The number of sites which have been connected*
- *The number of sites which have switched to that alternative supplier*

For a given incumbent supplier, the gross adds at market prices are equal to :

- *The number of sites which have newly signed a contract at market prices (either via a review of their contract agreement or via a connection)*
- *The number of sites which have switched to that incumbent supplier*

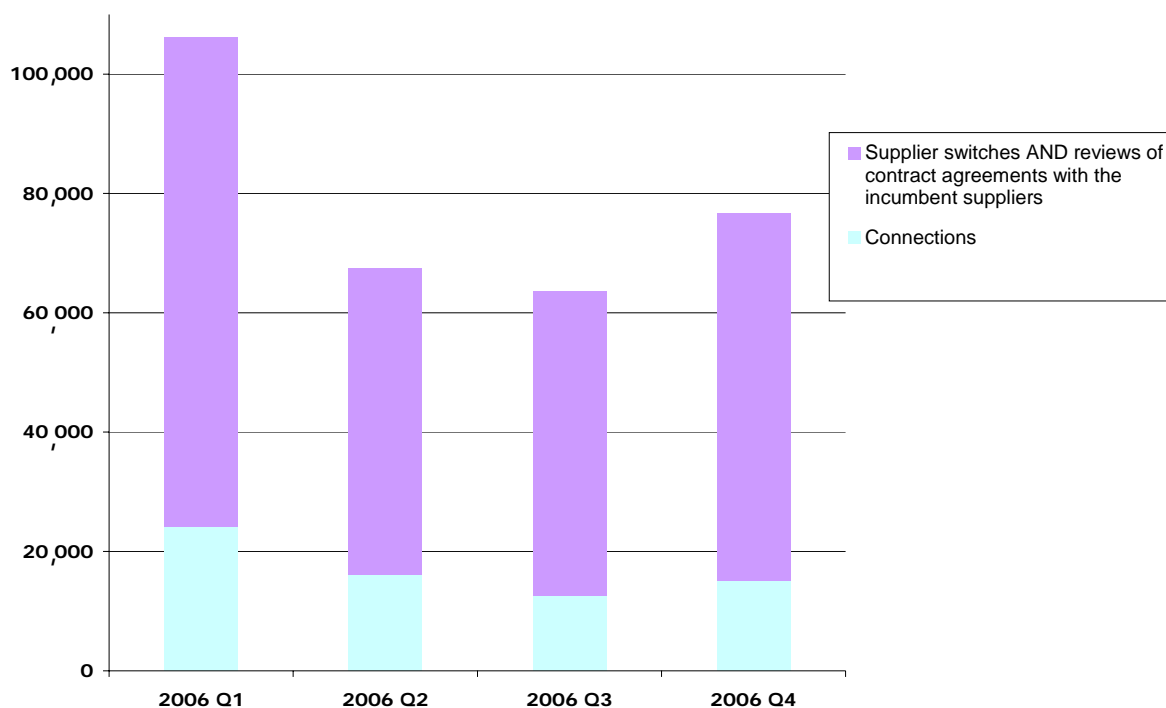
For a dynamic analysis, the gross adds at market prices is a more relevant indicator than the number of sites that have signed a contract at market prices. Indeed, in contrary to the latter, the gross adds take into account the number of sites that have switched suppliers.

DURING QUARTER: (number of sites)	4 th 2006 Quarter	3 rd 2006 Quarter
- gross adds at market prices	76,700	63,600
- gross adds for alternative suppliers	35,200	35,200
- alternative suppliers' market shares within all gross adds at market prices	46%	55%

Sources: DSO, RTE – Analysis: CRE

B. Gross adds at market prices for the last quarters

**Decomposition of gross adds at market prices
- number of sites -**



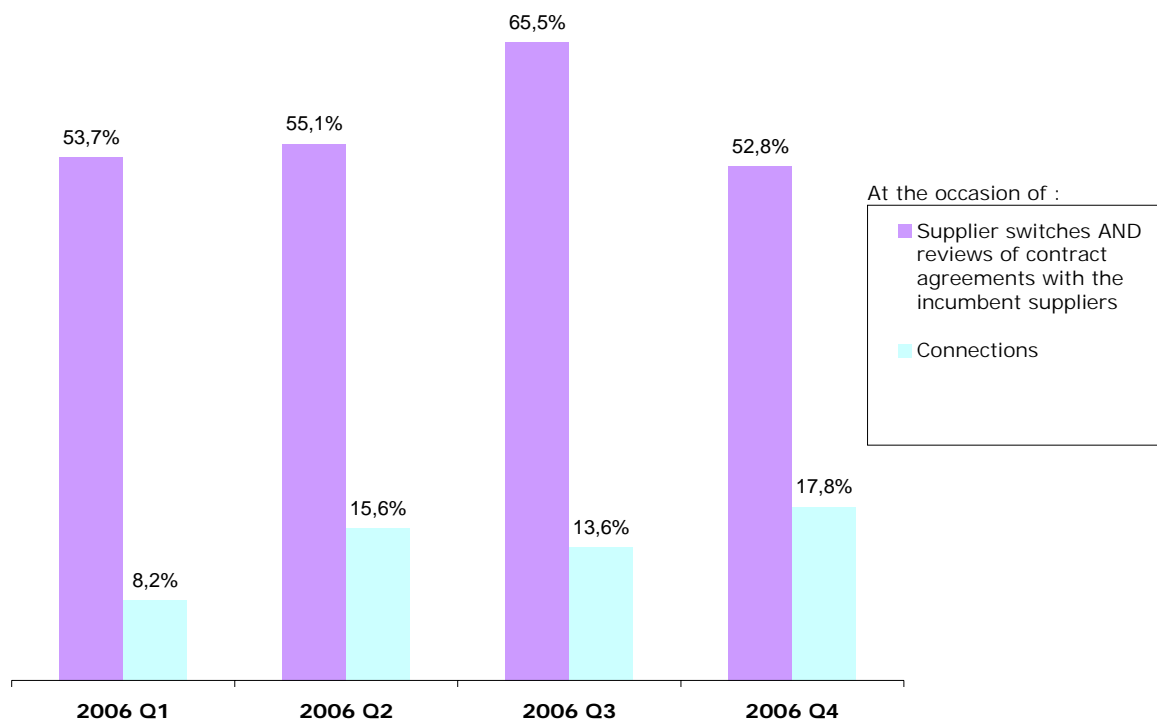
Sources: DSO, RTE – Analysis: CRE

Gross adds at market prices increased by 21% between 2006 Q3 and 2006 Q4. They had been constantly decreasing since 2005 Q4.

Almost a fifth of gross adds are linked to a connection.

C. Alternative suppliers' market shares

Percentage of sites having signed a contract with an alternative supplier



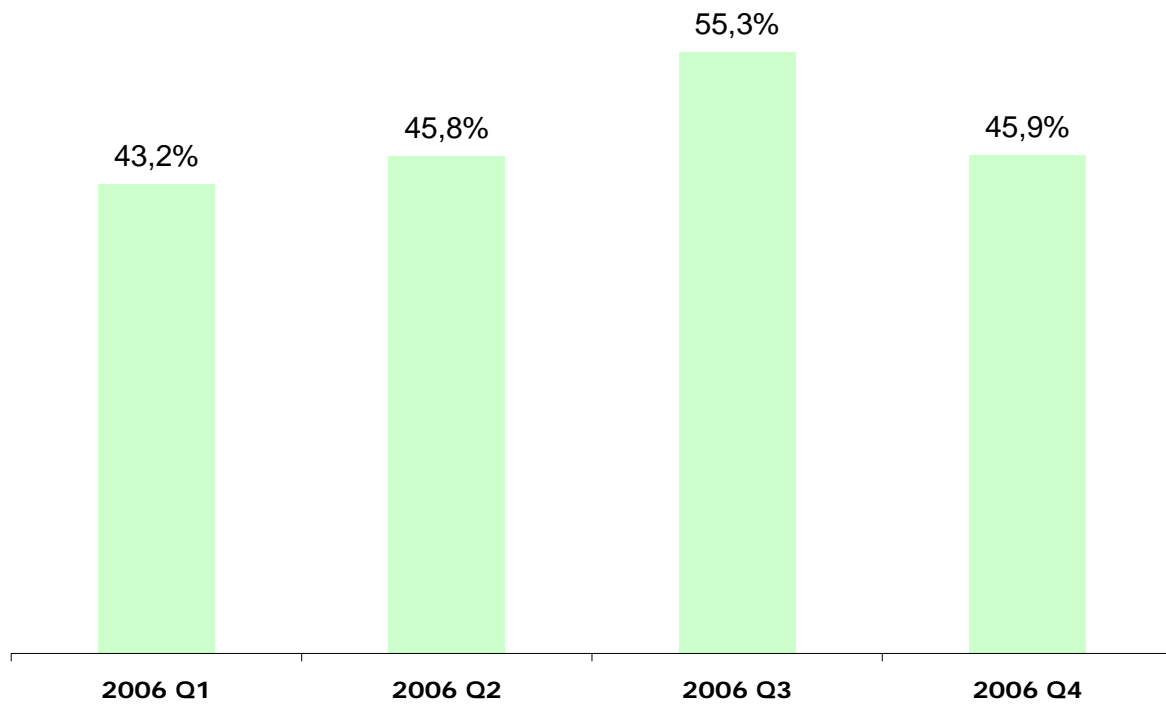
Sources: DSO, RTE – Analysis: CRE

Alternative suppliers are hardly present on the segment of connections. Nevertheless, their market share on that particularly segment has increased during the last semester to 17,8%.

On the segment of supplier switches and reviews of contact agreements, the alternative suppliers' market share has been decreasing during 2006 Q4.

The alternative suppliers' market share on the overall segment of gross adds at market prices represents 46 % at 2006 Q4. Therefore less than half sites having signed a contract at market prices choose an alternative supplier.

Percentage of sites having signed a contract at market prices with an alternative supplier



Sources: DSO, RTE – Analysis: CRE

The wholesale electricity market

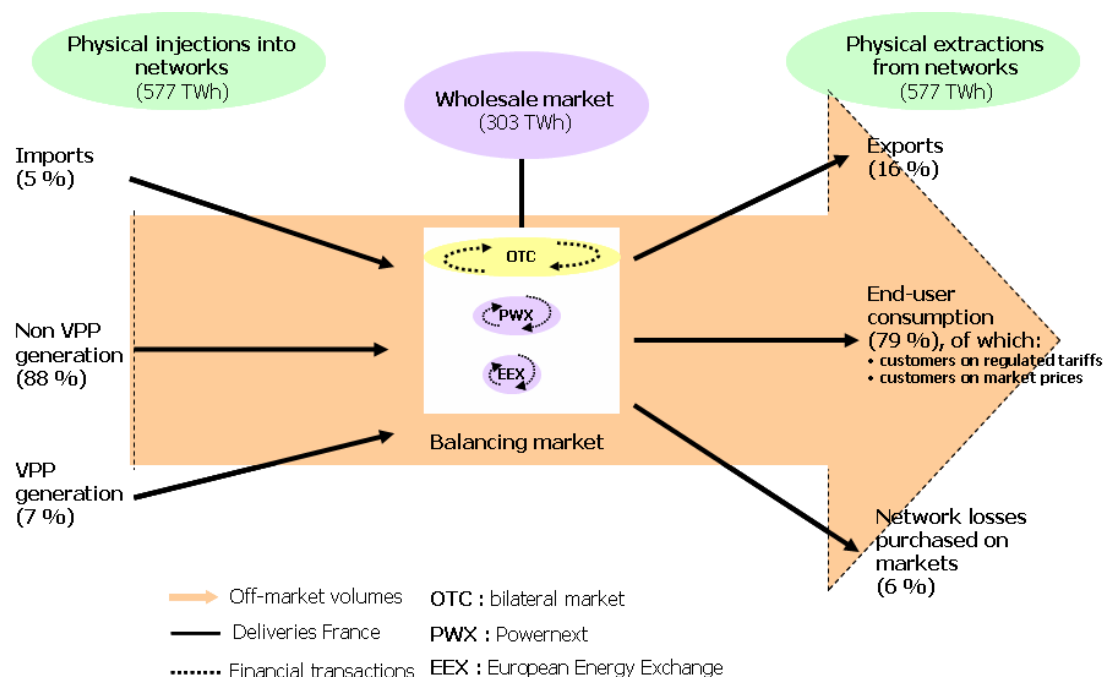
1. Introduction

A. Main steps in the French wholesale electricity market

- November 2000: CRE validated the initial version of the Balancing Responsible Entity (BR) contract¹
- Early 2001: first purchases of losses on the market by RTE
- May 2001: first OTC quotations published regarding the French electricity market
- September 2001: first generation capacity auctions set up by EDF (VPP)
- November 2001: launch of the Powernext *Spot* market
- June 2004: launch of the Powernext *Futures* market
- August 2005: launch of the EEX France market (*Futures* with physical delivery)
- January 2006: implementation of explicit capacity auctions on interconnections (except for Switzerland)
- November 2006: publication of data regarding French electricity production by RTE (following an initiative by the *Union Française de l'Électricité*)

B. Presentation of the French wholesale electricity market

The graph below shows the different upstream and downstream segments, as well as the French wholesale electricity market's running. There is a differentiation between trading involving physical deliveries on the network (Deliveries in France) and purely financial trading. Volumes which are not traded through the wholesale market (off-market volumes) are also represented.



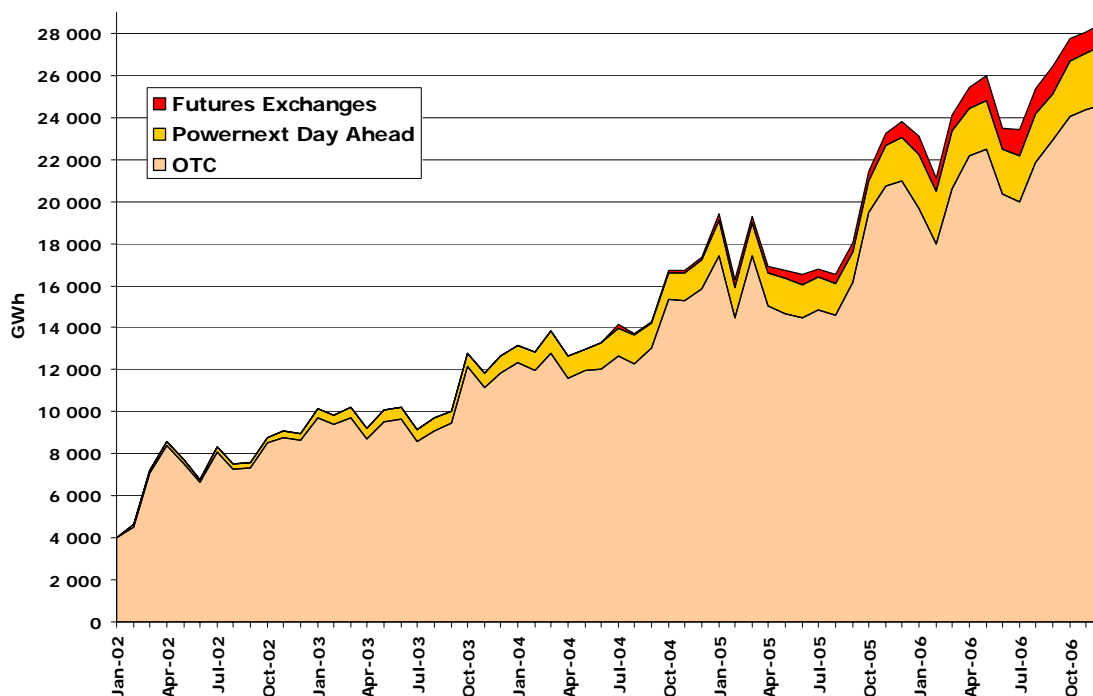
Source: CRE according to RTE 2006 data

¹ The balancing responsible entity is an intermediary between eligible customers and RTE. It is responsible for the financial risks associated with the adjustments that RTE must make to compensate for any gap between customers' supplies schedule and their actual consumption, in order to ensure the overall balance of the network.

In the 4th quarter of 2006, the total volume of French wholesale deliveries increased compared with the previous quarter and was estimated at 84.3 TWh (compared with 75.5 TWh in the 3rd quarter of 2006). It represented approximately 57% of injections or off-takes within the grid, compared with 60% in the 3rd quarter of 2006.

These numbers do not represent traded volumes in the French wholesale market, but the physical deliveries observed in quarter, which partly result from previous transactions. The real wholesale market activity in France is not public. Nevertheless, the volumes exchanged on Powernext (see section 2.B.) give an indication for a part of the total volume traded in the French wholesale market.

Volumes traded on the French wholesale electricity market
- deliveries in France -



Sources: RTE, PWX – Analysis: CRE

2. Traded volumes on the French wholesale electricity market and comparison with European markets

It is relevant to notice that, compared with national consumption, the trading volumes on the European power exchanges are still limited, except for NordPool. Despite the development of power exchange markets, most of the wholesale electricity trade still takes place through direct OTC trading or through intermediaries (brokerage companies and trading platforms).

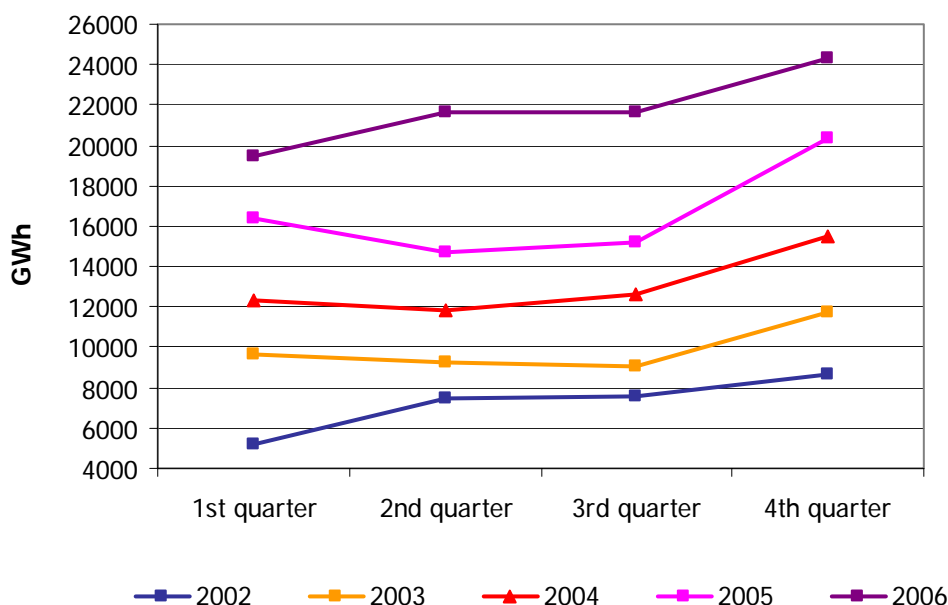
Furthermore, the French wholesale electricity market includes both purely financial trading and trading involving physical deliveries of electricity on the French network.

A. OTC volumes estimate: block trading on the French market

Since volume data concerning bilateral trading are not public, the volume of block trading provides an estimate of the French OTC market liquidity².

As shown in the graph below, the volume of block trading grew steadily over the past four years. After stabilisation in the 3rd quarter of 2006, liquidity increased (+12.8%) over the 4th quarter of 2006. The negotiated volumes reached an average monthly volume of 24.3 TWh in the 4th quarter of 2006 (compared with 21.6 TWh in the 3rd quarter of 2006).

Block trading on the French wholesale electricity market
- average monthly volumes -



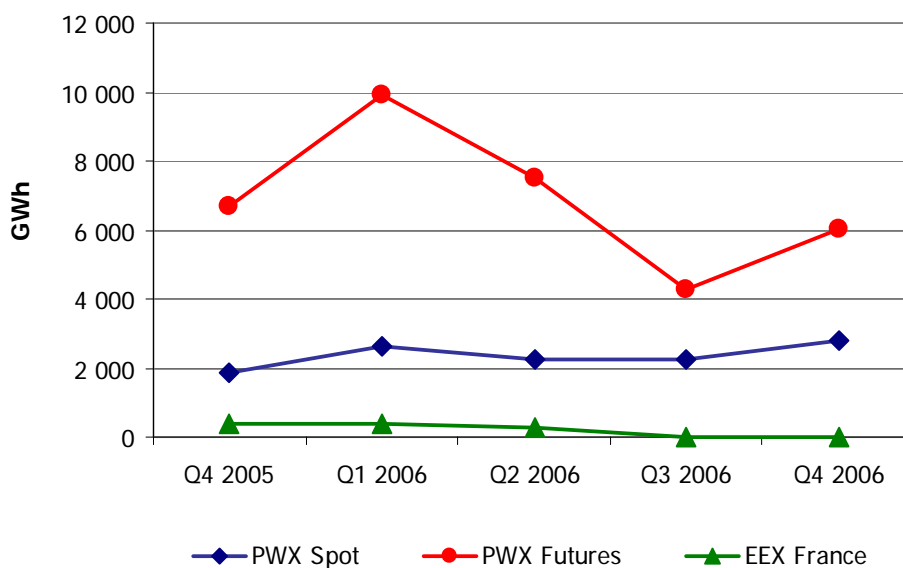
Source: RTE – Analysis: CRE

² It should be noticed that block trading corresponds to purchases/sales made privately on the French system, excluding sales to end customers (consumption sites). This estimate does not therefore include purely financial bilateral trading.

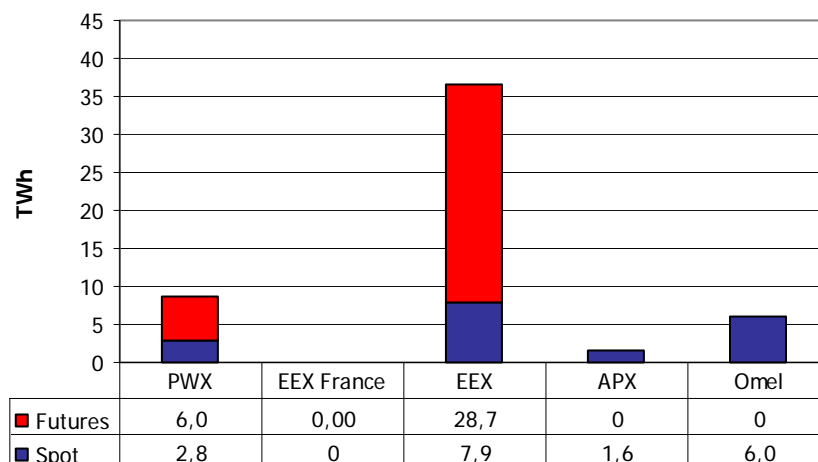
B. Volumes traded on the power exchange markets

After a decrease in the last two quarters, an increase of liquidity can be observed on Powernext *Futures* in the 4th quarter of 2006. The volumes exchanged on Powernext *Spot* have also increased over the same period. The volumes exchanged on EEX France were equal to zero during the whole period.

Average monthly volumes traded on PWX *Spot*, PWX *Futures* and EEX France (all maturities combined)



Average monthly traded volumes during the 2006 4th quarter on the main European power exchanges (spot & futures)



Sources: PWX, EEX, APX, Omel – Analysis: CRE

The volumes indicated for EEX Futures and EEX France do not include OTC clearing transactions.

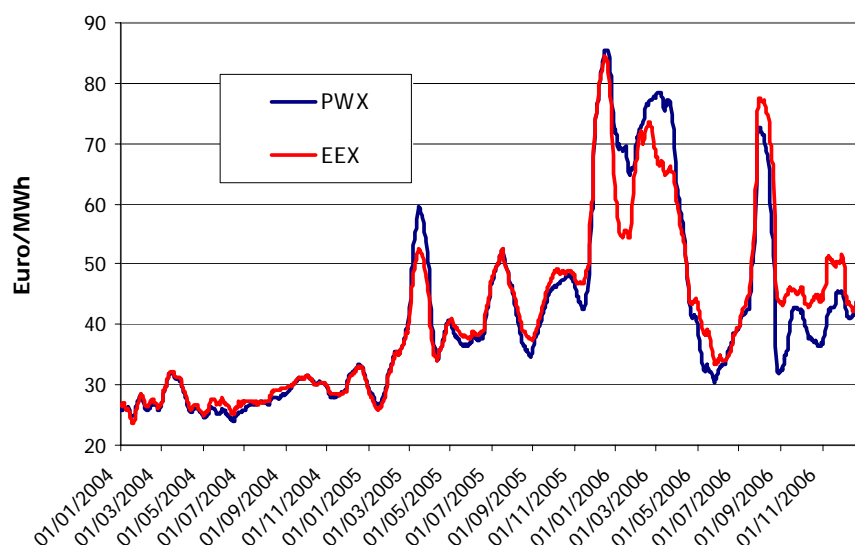
3. Prices on the French wholesale electricity market and European comparison

As prices of bilateral trading are not made public, this section covers power exchange trading only.

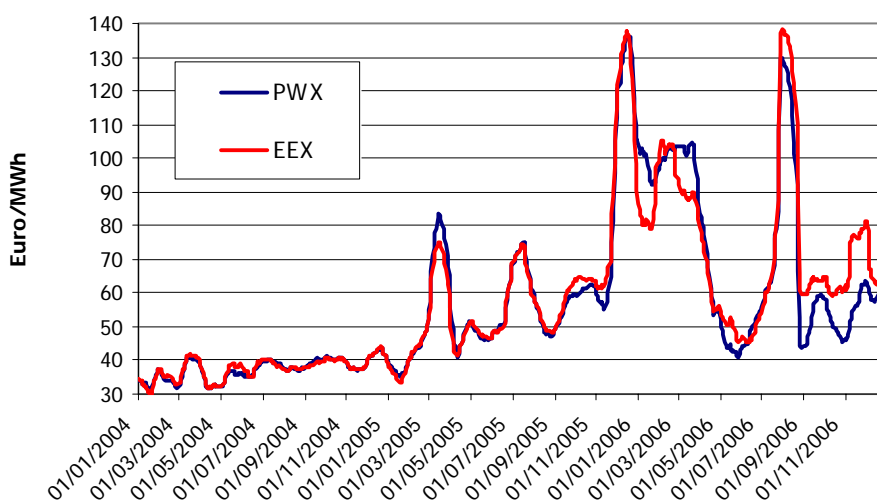
A. Spot prices

In the quarter, spot prices in France remained lower than spot prices in Germany on average. The average Baseload price on Powernext (41.72 €/MWh) was around 33% lower than the one observed in the same quarter last year (62.54 €/MWh). Over the same period, the average Baseload price on EEX decreased by 25%.

Baseload Spot prices – 28 days sliding average



Peakload Spot prices – 20 days sliding average



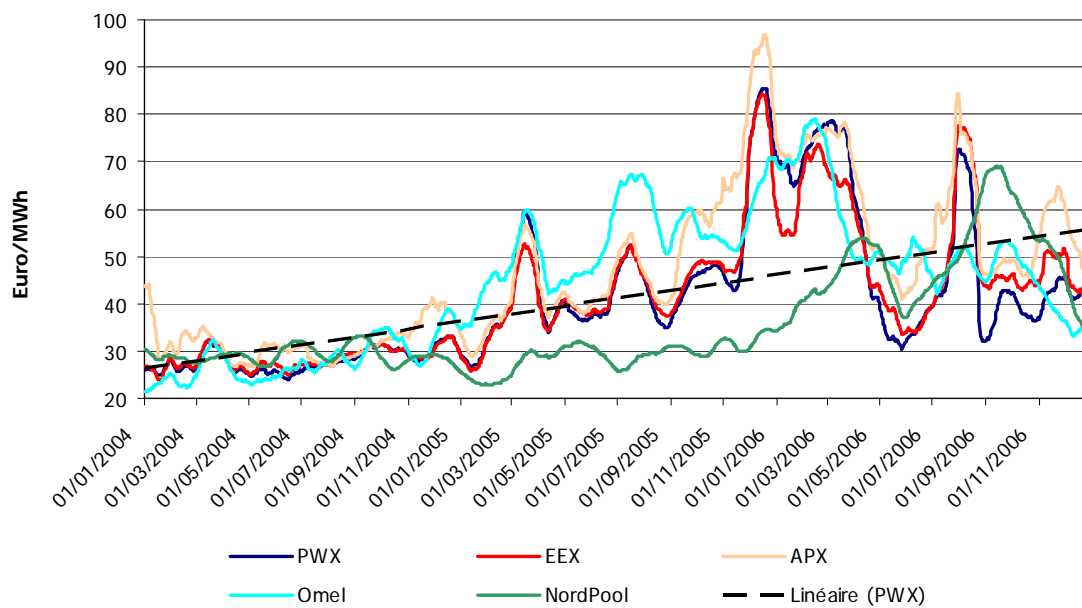
Sources: PWX, EEX – Analysis: CRE

As shown in the graph below, spot prices during the 4th 2006 quarter across the main European power exchanges show a downward trend.

Prices on Powernext, EEX and APX, relatively low in October, increased in the beginning of November and then strongly decreased in December.

Prices on Omel and NordPool, high in October, strongly decreased during the whole quarter.

Baseload Spot prices in Europe – Monthly averages & trend curve (linear regression on PWX)



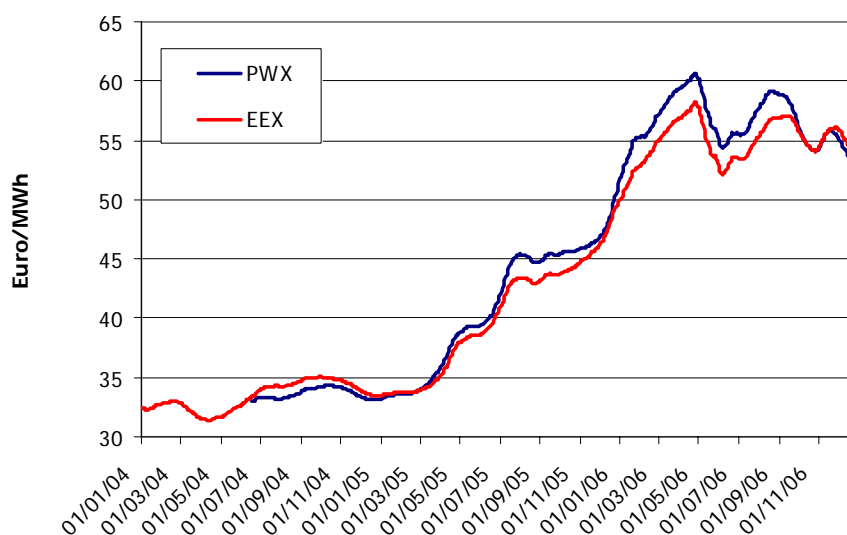
Sources: PWX, EEX, APX, Omel, NordPool – Analysis: CRE

B. Futures prices

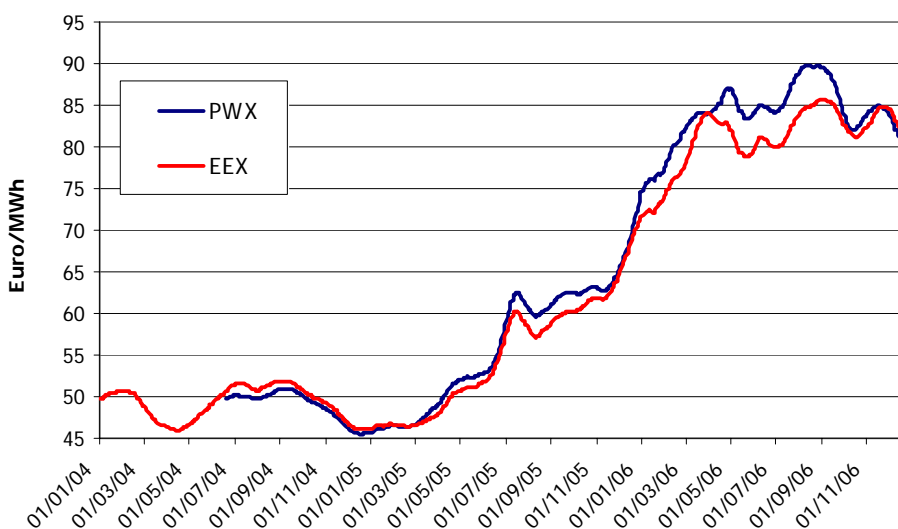
Over the 4th 2006 quarter, the annual future prices (Y+1) in France and Germany first increased in October and then decreased in November and December. On Powernext, the price of the Baseload Y+1 product went up from 52.3 €/MWh beginning October to over 57 €/MWh in the second week of November, then decreased to 50.2 €/MWh in the end of December.

The Cal 2007 (annual future) price remained higher in France than in Germany in the beginning of the quarter, but the price differential changed sign on October 25 for the Baseload and on November 9 for the Peakload. From these dates on, the French products in Base- and Peakload remained cheaper than the German products.

Future prices Y+1 Baseload – 28 days sliding average



Future prices Y+1 Peakload – 20 days sliding average

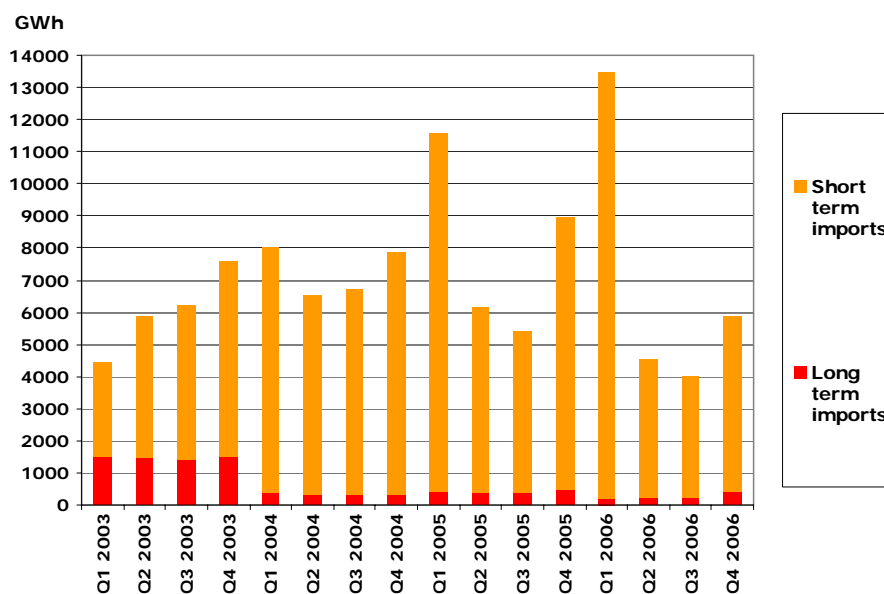


Sources: PWX, EEX – Analysis: CRE

4. Import and export volumes

Imports have increased in the 4th quarter of 2006. They were 47% higher than the volumes observed last quarter and 34% lower than the ones observed in the same quarter last year.

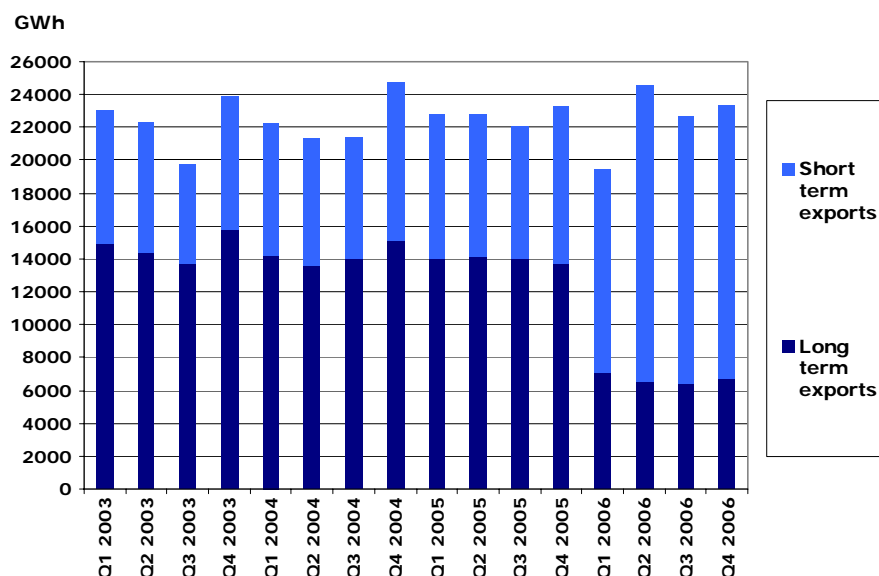
Total imports per quarter (including EDF)



Source: RTE – Analysis: CRE

Exports were stable in the 4th quarter of 2006 compared to last quarter. They were 3% higher than volumes observed in the same quarter last year.

Total exports per quarter (including EDF)



Source: RTE – Analysis: CRE

5. Concentration of the French electricity market

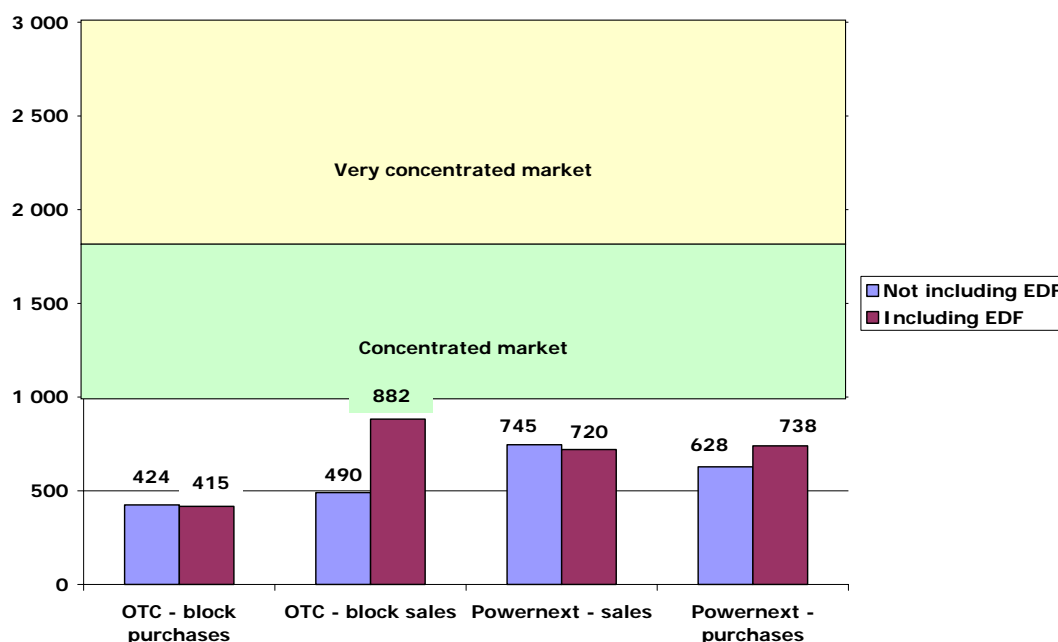
At the end of the 4th 2006 quarter, 102 balancing responsible entities were active on the French wholesale electricity market, of which 55 were active on Powernext *Day Ahead* and 25 on Powernext *Futures*. Over the period, 2 new balancing responsible entities have been registered by RTE. Two new members joined Powernext *Day Ahead* and 3 new members Powernext *Futures* during the 4th quarter of 2006.

A. Concentration of the different French wholesale market segments

The graph below shows the Herfindahl-Hirschman Index (HHI)³ which is used for the different French wholesale market segments.

Over the 4th 2006 quarter, purchases and sales on the OTC market as well as purchases and sales on Powernext appear to be moderately concentrated market segments, whether the EDF group is taken or not into account.

HHI concentration index – wholesale electricity market
- 4th 2006 quarter -



Source: RTE – Analysis: CRE

B. Concentration of the different upstream and downstream segments on the French wholesale electricity market

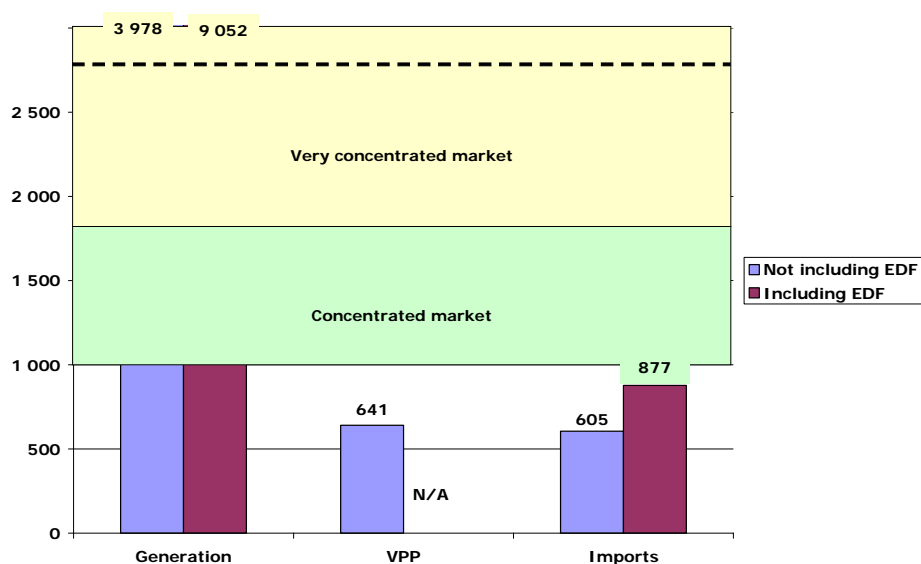
The following graphs show the concentration of the upstream (injections) and downstream (off-takes) markets.

³ The HHI equals the sum of the actors' market shares squared, and measures market concentration (the higher the index, the more concentrated the market). Generally, a market is considered to be weakly concentrated if its HHI is below 1,000, and highly concentrated if it is over 1,800.

Given the specificities of the electricity market, this index should only be used cautiously as an indicator of the competition level. Indeed, regarding the electricity market, concentration and competition are not as directly linked as in most markets.

In terms of injections, generation is particularly concentrated, whether EDF is included or not. This reflects the low number of generators in France. The other segments (VPP, imports) have a relatively weak concentration.

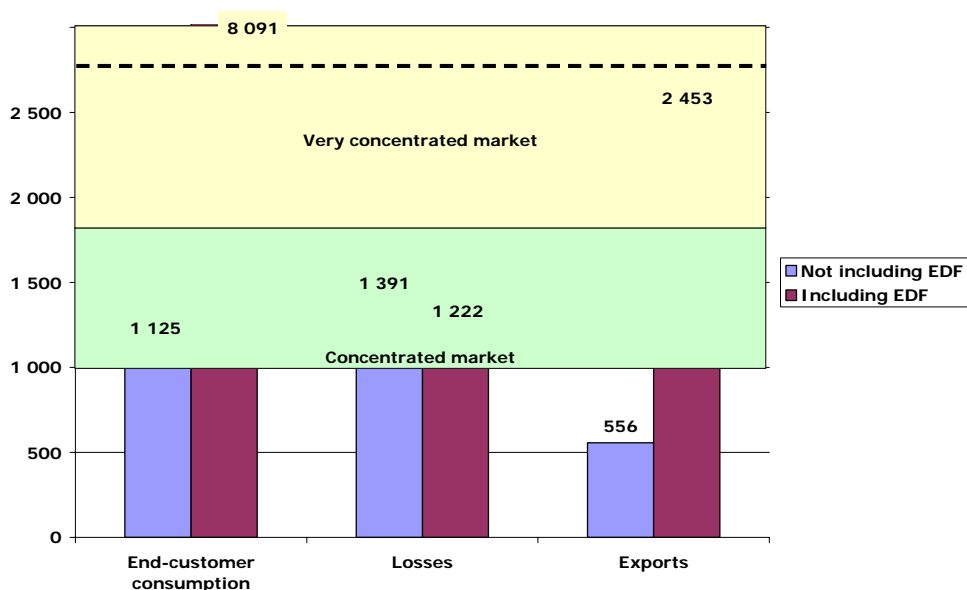
HHI concentration index – injections
- 4th 2006 quarter -



Source: RTE – Analysis: CRE

Sales to end customers and exports are highly concentrated when taking EDF into account, but are moderately concentrated when EDF is not included. Finally, the losses market is relatively concentrated, whether EDF is taken or not into account.

HHI concentration index – off-takes
- 4th 2006 quarter -



Source: RTE – Analysis: CRE

6. Striking facts of the 4th 2006 quarter

A. A decrease in prices due to soft temperatures

During the fourth quarter 2006, temperatures have on average been higher than normal levels for the season in most European countries. These climate conditions had a bearish impact on electricity prices:

- by limiting electric heating demand. Thus, this period, usually displaying a higher tension on the demand and supply equilibrium, has finally not been very tight.
- by provoking a price decrease of other energies (fuel, gas, coal) and by further pushing down the price of CO₂ emission quotas delivered in 2007.

B. The European blackout of 4th November

The power cut affecting several European countries on Saturday November 4 has had an impact on spot prices during the days that followed the incident. As the blackout was originated in the German system, traders deduced that the German market was under high tension, which has increased traders' appreciation of the risk premium included in German and French spot prices. This premium has then diminished with the publication of the first clarifications about what has caused the power cut, according to which the blackout has not resulted from a high tension on the demand and supply equilibrium, but from a grid problem.

C. The launch of Belpex

On Tuesday 21 November, Belpex, the Belgian power exchange and market coupling operator between France, Belgium and the Netherlands, has started its activity. Since then, the Belgian and French prices have been equal during more than 80% of the hours.

The gas market

The retail gas market

1. Introduction

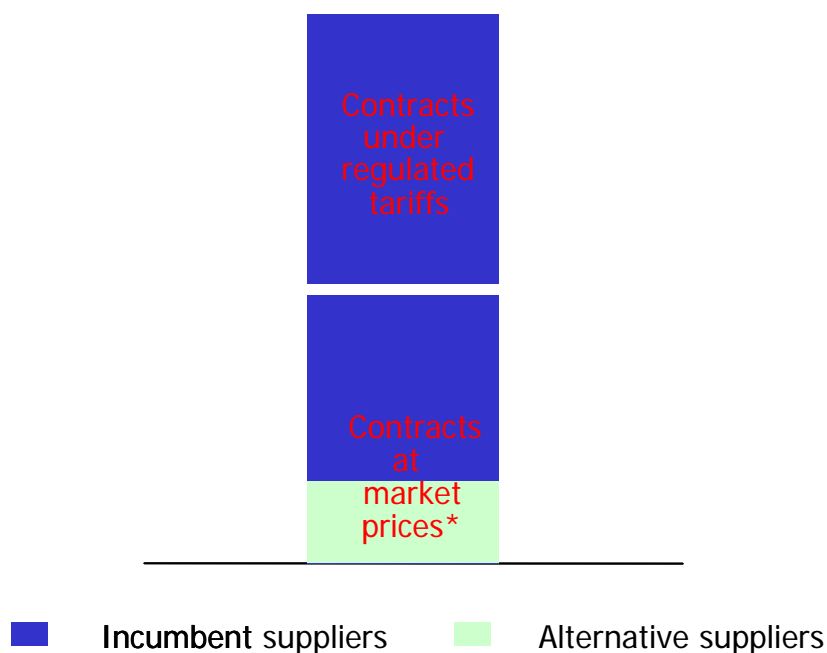
The deregulation of the French gas market took place in several stages:

- from August 2000, all sites with an annual gas consumption over 237 GWh and all electricity generators or simultaneous electricity and heat generators whatever their annual consumption level became eligible.
- from August 2003, all sites with an annual gas consumption over 83 GWh became eligible.
- from July 2004, all non-residential end consumers can choose freely their gas supplier. It accounts, at January 1st 2007, for 683,000 sites, with an annual gas consumption of approximately 380 TWh.

Each eligible client has the choice between two different types of contract :

- Contracts under regulated tariffs (offered by incumbent suppliers only)
- Contracts at market prices (offered by incumbent suppliers and alternative suppliers). A client has access to this kind of contracts provided he has exercised his eligibility.

Distribution of gas contracts for non-residential customers in France
- illustrative diagram -



* Sites that have exercised their eligibilities

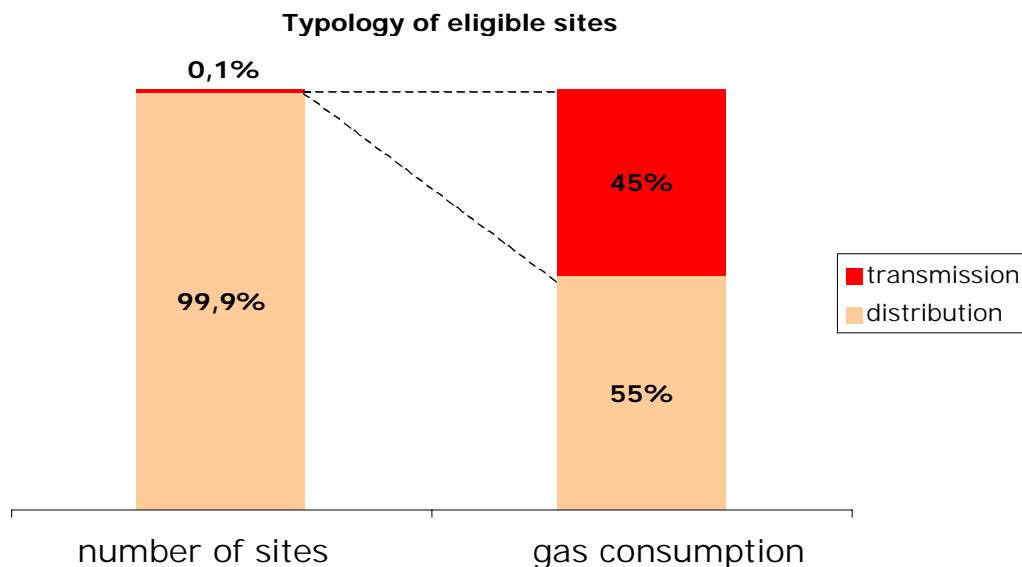
*N.B : CRE has redefined the terms of "alternative supplier" and "incumbent supplier". From now on, incumbent suppliers encompass Gaz de France, Tegaz and the local distribution companies (LDCs). The other suppliers are alternative suppliers.
Consequently, a supplier can not be an incumbent supplier AND an alternative supplier.*

The data sources of the observatory originate from transmission and distribution system operators (GRTGaz, Total Infrastructures Gaz France, Gaz de France-Réseau Distribution and the main LDCs), and the incumbent suppliers (Gaz de France and Tegaz).

By agreement, the data regarding the number of sites for month M (or quarter Q) will include:

- new site connections carried out during month M (of quarter Q).*
- supplier changes requested during month M (quarter Q) and brought into effect on the 1st of month M+1 (quarter Q+1).*

2. The eligible customer segments and their respective weights



Sources: TSOs, DSOs – Analysis: CRE

The eligible customers connected to the transmission systems are all big gas consumers. They represent less than 1% of sites in terms of number, but approximately half the consumption of eligible customers.

3. Status at January 1st 2007

A. Summary tables

Situation	January 1 st 2007	October 1 st 2006
(number of sites)		
- eligible sites	683,000	680,000
- sites with contract at market prices	105,000⁽¹⁾	90,276
- in Transmission	569	563
- in Distribution ⁽¹⁾	104,400 ⁽¹⁾	89,713
- alternative suppliers' market share within all eligible sites	6,7%	5,6 %

Sources: TSOs, DSOs – Analysis: CRE

(1) : the number of sites with contract at market prices connected to the distribution system and the total number of sites with contract at market prices are rounded.

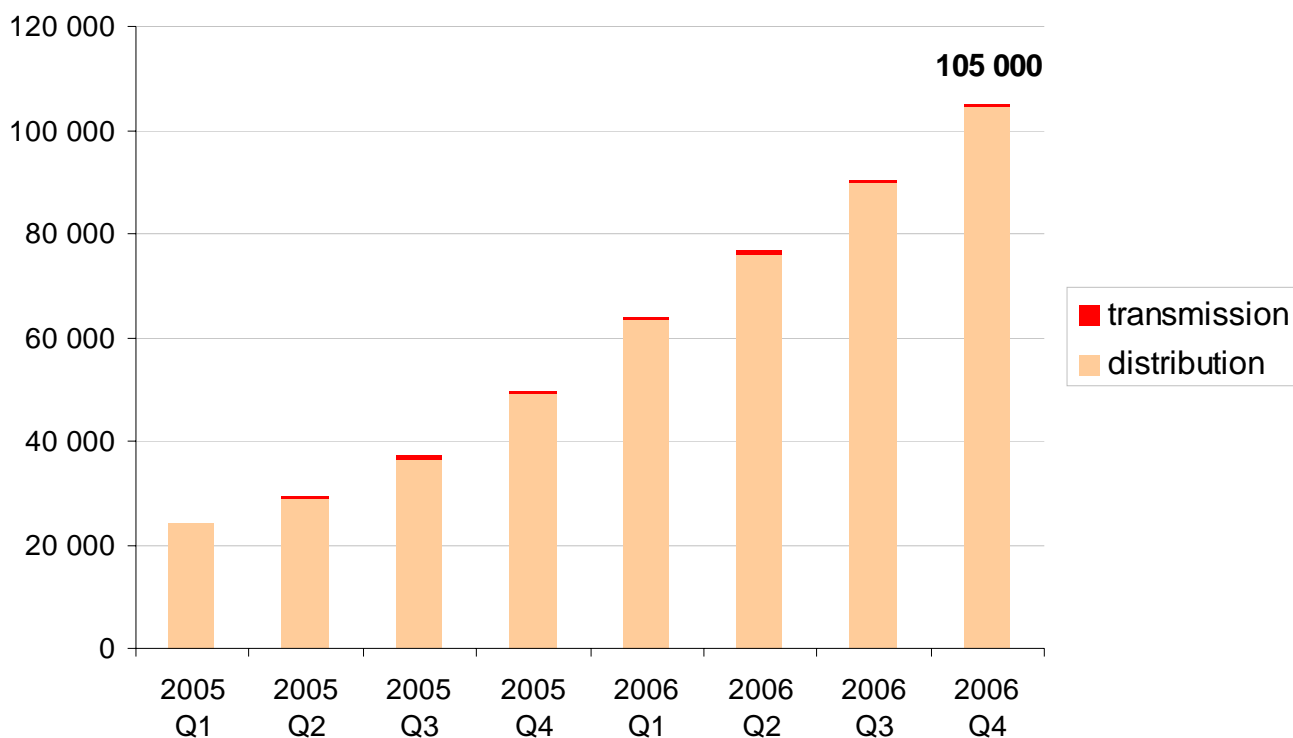
Situation (consumption, in TWh)	January 1 st 2007	October 1 st 2006
- eligible sites	380 TWh ⁽²⁾	375 TWh
- sites with contract at market prices	206 TWh	190 TWh
- in Transmission	139 TWh	134 TWh
- in Distribution	67 TWh	60 TWh
- alternative suppliers' market share within all eligible sites	16,2%	11,0 %

Sources: TSOs, DSOs – Analysis: CRE

(2) : for the sites connected to the transmission system, the Annual Reference Consumption as been updated at January 1st 2007.

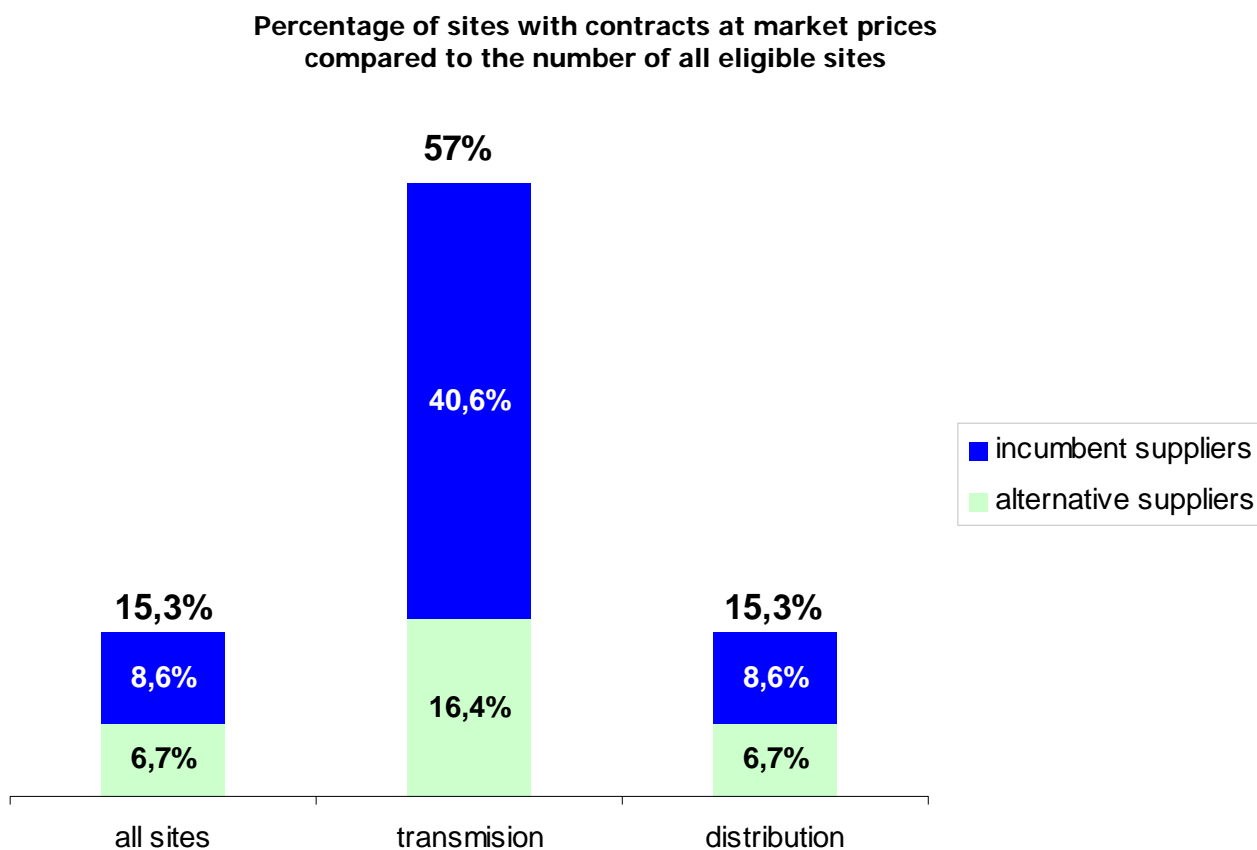
B. Evolution of number of sites with contracts at market prices

Total number of sites with contracts at market prices



Sources: TSOs, DSOs – Analysis: CRE

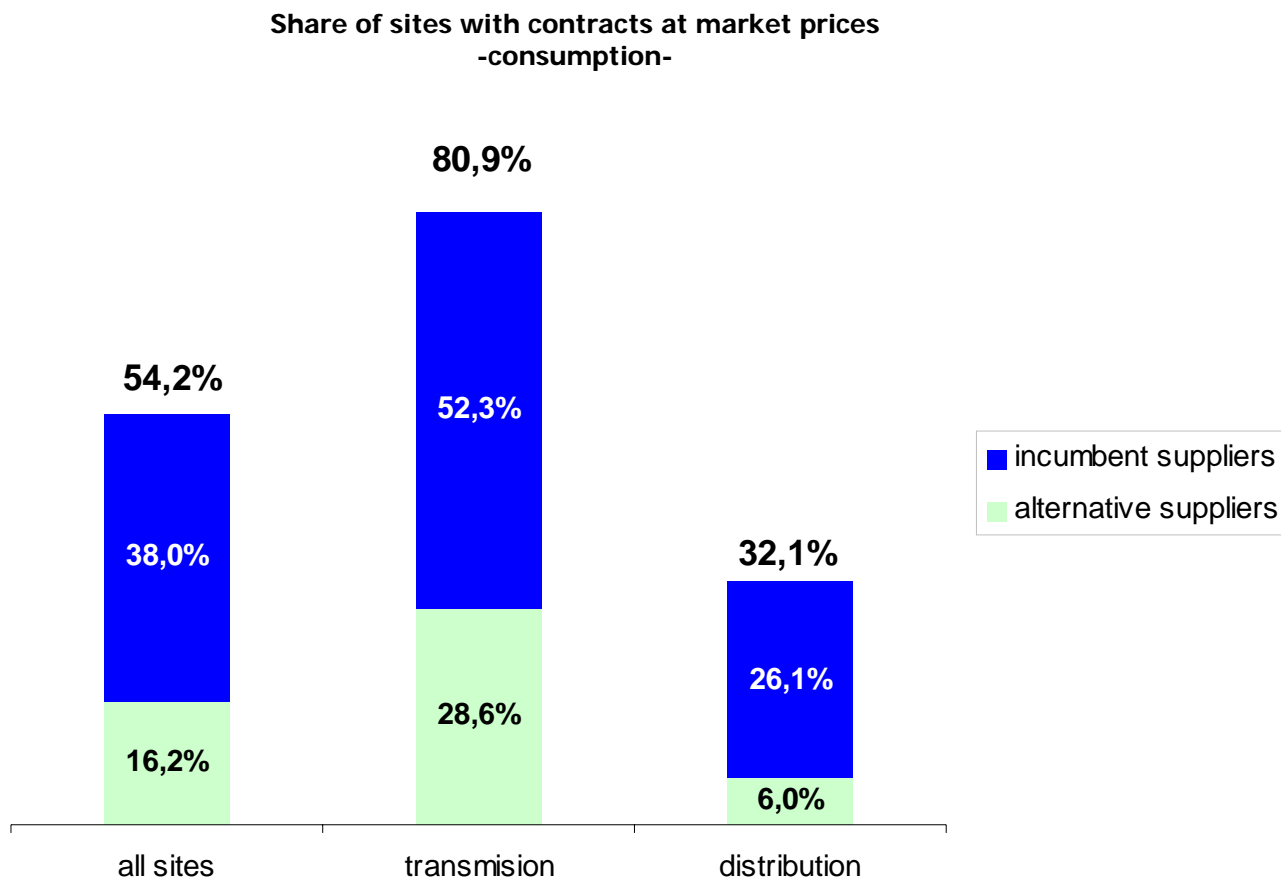
C. Eligibility's application rate and market shares on January 1st 2007, in number of sites



Sources: TSOs, DSOs – Analysis: CRE

The eligibility application's rate is equal to the number of sites with contracts at market prices compared with the number of all eligible sites within the corresponding segment.

D. Eligibility's application rate and market shares on January 1st 2007, in yearly consumption



Sources: TSOs, DSOs – Analysis: CRE

The eligibility application's rate is equal to the yearly consumption of sites with contracts at market prices compared with the yearly consumption of all eligible sites within the corresponding segment.

During the fourth quarter of year 2006, the alternative suppliers' market share sharply increased on the transmission system, from 19.2% at October 1st 2006 to 28.6% at January 1st 2007. On the contrary, on the transmission system, the incumbents' market share decreased significantly.

E. Number of active alternative suppliers at January 1st 2007

	All	Transmission	Distribution
Number of active alternative suppliers	15	12	9

Sources: TSOs, DSOs – Analysis: CRE

An alternative supplier is said to be active when it supplies at least one customer with gas.

At January 1st 2007, a new alternative supplier became active.

At January 1st 2007, six suppliers are actives in the transmission systems only, and three in distribution systems only.

The wholesale gas market

1. Gas pricing and gas markets in Europe

France and other continental European countries are mainly supplied under long-term contracts (between 15 and 25 years), agreed between the national companies in the gas-producing countries (Gazprom, Sonatrach, Statoil, Gasunie, etc.) and the incumbent suppliers. Fluctuation of gas prices under these long-term contracts are mainly linked to fluctuations in oil product prices (domestic heating oil and heavy oil), with a three to six months delay. In 2005, approximately 80% of the gas imported into France was purchased under long-term contracts (Russia: 21%, Algeria: 12%, Norway: 28%, Netherlands: 19%)⁴.

In addition, a wholesale or spot market is being developed in Europe, but only the NBP, in Great Britain, trades significant gas volumes. It represents the price driver for the markets in continental Europe, which are still at an early stage and only represent a very small share of total supplies. The Zeebrugge market in Belgium and TTF in the Netherlands are the most developed.

The NBP day-ahead gas prices follow trend patterns according to supply and demand.

Flows in the United Kingdom

Flows through the Interconnector

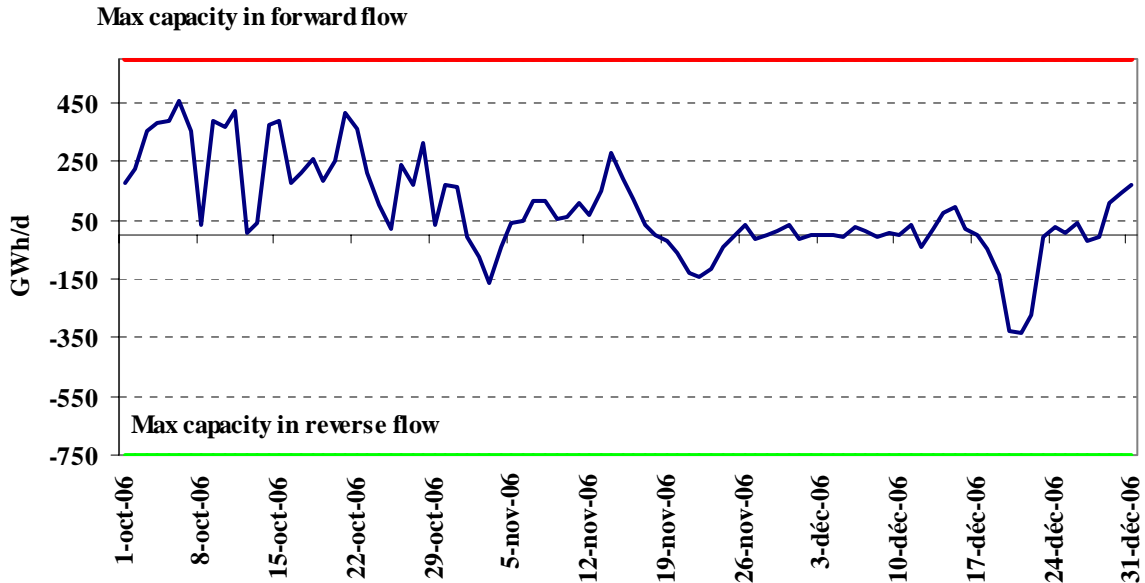
Since mid-november 2006, flows through the Interconnector (IUK) have been limited, due to the the entry into operation of the Ormen Lange et BBL pipelines and strong flows at the Isle of Grain LNG terminal.

- Flows from the Netherlands through the BBL pipeline, which entered into operation at the end of November 2006, stayed around 270 GWh/day during December 2006. These flows correspond to the 8Bcm/year contract signed between Centrica and GasTerra (formerly Gasunie Trade & Supply).
- Flows from Norway through the Ormen Lange pipeline, which entered into operation in October 2006, were very volatile (from a low of 220 GWh/day to a high of 660 GWh/day) and appear to have shifted in tune with British spot prices.
- Flows at the Isle of Grain LNG terminal were near the terminal's maximum send-out capacity of 140 GWh/day during all of Q4 2006.

The IUK pipeline worked in forward mode (from the UK to the continent) and in reverse mode. Despite a reverse capacity increase, gas flows to the UK remained low relative to technical capacity. The UK did not need to "physically" import any gas via the Interconnector to ensure a balance between demand and supply.

⁴ Source : "L'énergie en France-Repères", Ministry for the economy, finance and industry.

Daily flows at the Interconnector



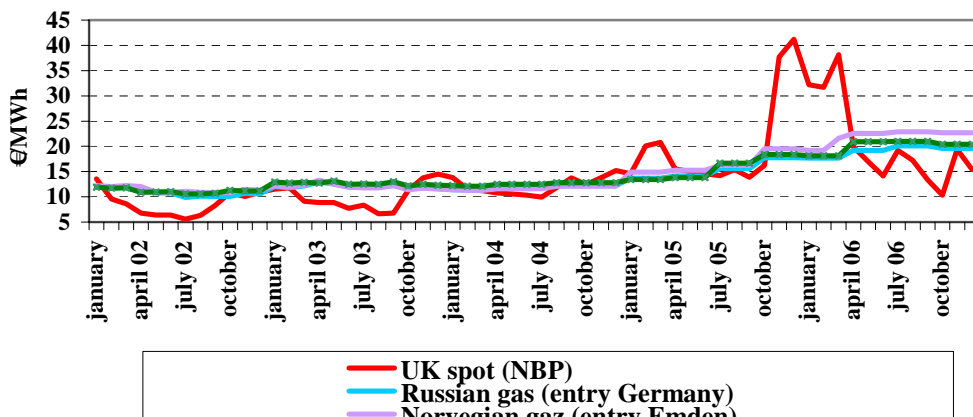
Comparison between long-term contracts prices and NBP spot prices

Since April 2006, long-term contract prices have been high and stable.

Price estimates provided by Heren for long term contracts are revised every 3 months. In December 2006, the price of these contracts amounted to about 21 €/MWh:

- the price of Algerian LNG (entry at Montoir) and Russian gas (entry from Germany) was 20 €/MWh;
- the price of Norwegian gas (entry at Emden) reached 23 €/MWh.

Long-term contracts and NBP spot prices



Since April 2006, the mean price of long-term contracts has remained above the NBP spot price. The average difference between long-term and NBP spot prices reached 5 to 6 €/MWh in December 2006.

In December 2006, NBP day-ahead prices averaged 15,4 €/MWh, a figure 20 % lower than in November 2006, three times lower than in December 2005, and equivalent to the average price for December 2004.

Comparison of spot prices in three European markets

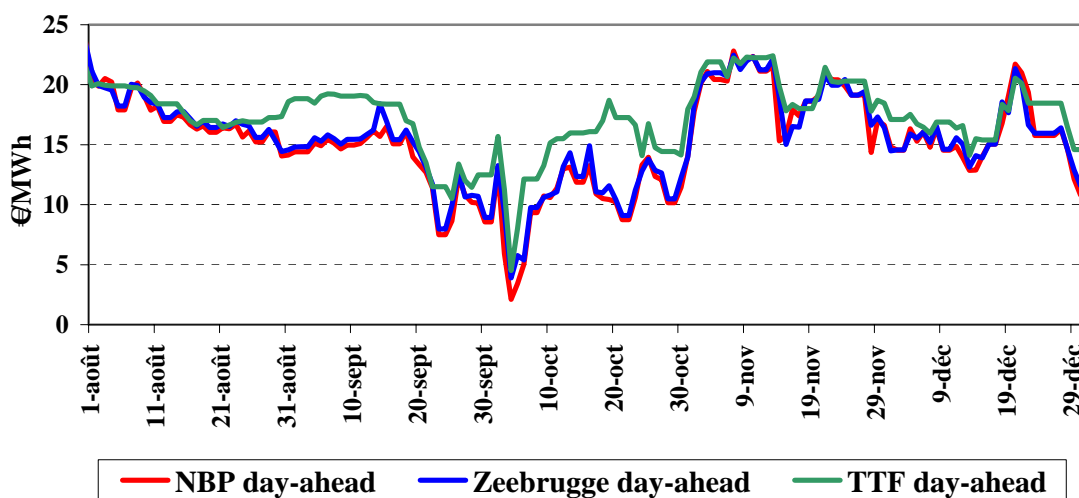
Spot prices have remained weak since the beginning of the winter, in particular in the UK, due to domestic and service sector demands generally under seasonal averages.

Because of Britain's weak demand and thanks to the increase in British gas imports following the entry into operation of the Ormen Lange and BBL pipelines, northern Europe's supply and demand balance was much healthier in the 4th quarter of 2006 than in 2005.

In November and December 2006, day-ahead prices on European markets oscillated between 11 €/MWh and 22 €/MWh.

TTF prices remained above NBP and Zeebrugge spot prices in November and December 2006. Zeebrugge prices are highly dependent on the UK's supply and demand equilibrium, whereas the TTF hub is supposed to reflect a more continental reality.

Day-ahead prices on 3 European spot markets



Note : Liquidity on the TTF hub is much lower than on the NBP and Zeebrugge hubs

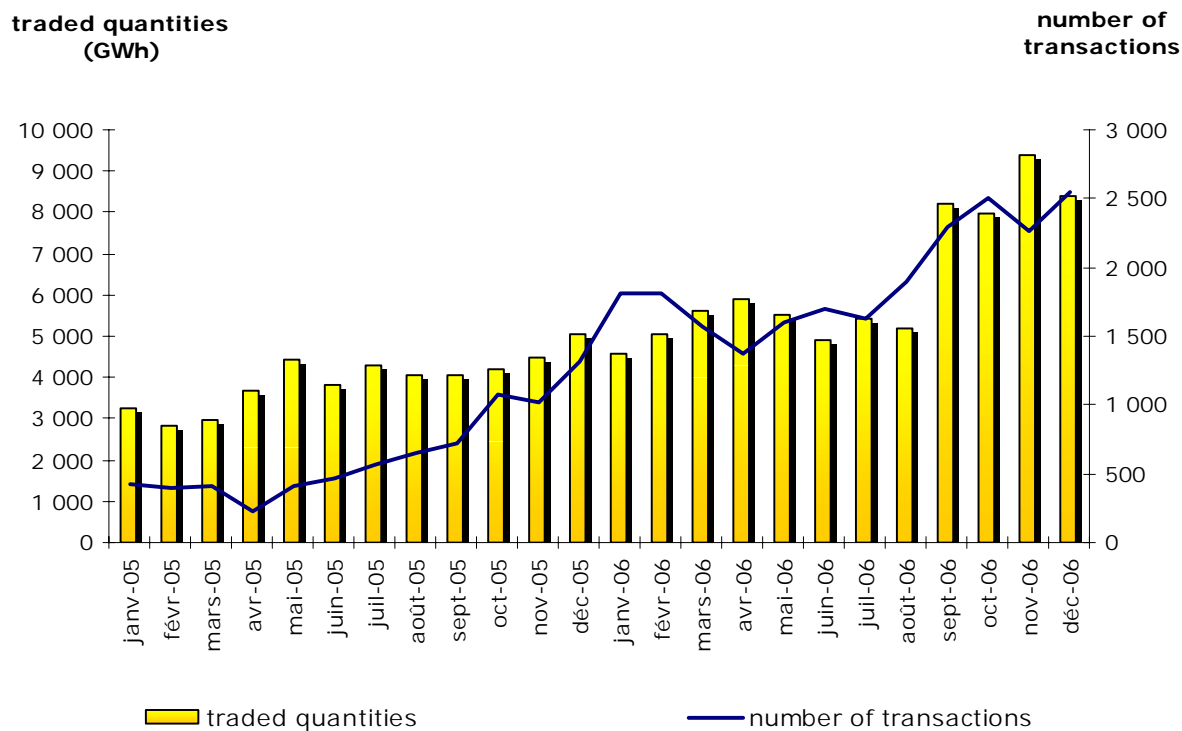
2. The wholesale market in France

Wholesale gas market trading is organized at the Gas Exchange Points (PEGs), which are virtual points within each balancing zone, where the following trading operations take place:

- *gas trading between suppliers, including supplies under the gas release.*
- *gas supplies to network operators, used for network management, for the balancing of daily shipper balances, for fuelling the compressors, or the creation of a line pack for new structures;*

The PEGs were set up in 2004.

The striking fact of the 4th 2006 quarter is the important increase of traded quantities at the PEGs in France (2,542 transactions and 8.4 TWh traded in December 2006). The monthly activity at the PEGs is, since September 2006, superior of more than 50% than the average levels observed during the 9 first months of year 2006.



Source: TSO – Analysis: CRE
Gas supplies to network operators are not included in this chart.

Electricity and gas market observatories combined glossary

Local Distribution Company (LDC): a non-nationalized distributor which distributes electricity and/or gas within a delimited territory.

Active supplier: a supplier which provides at least one site with electricity or gas.

Site: a gas or electricity consumption point for a given customer. One site may include several delivery points (meters). A given customer may have several sites.

Site with contracts at market prices: an eligible site which signed a contract at market prices with the incumbent supplier or with an alternative supplier. Exercising this right is irreversible.

Site which switched supplier: There are three possibilities :

- A customer who switched from the incumbent supplier to an alternative supplier.
- A customer who switched from an alternative supplier to another alternative supplier.
- A customer who switched from an alternative supplier to return to the incumbent supplier.

Site which reviewed its contract agreements with the incumbent supplier: a site supplied by the incumbent supplier which cancelled its regulated tariff contract in order to benefit from a new offer at market prices from the incumbent supplier.

Eligible site: a site which is allowed to choose its gas or electricity supplier.

Specific electricity market observatory glossary

Incumbent supplier : incumbent suppliers encompass EDF and Local Distribution Companies (LDC).

Alternative supplier : alternative suppliers encompass non-incumbent suppliers.

The companies which activity is followed through the observatory are:

- balancing responsible entities if the supplied sites have a transmission or a distribution contract
- suppliers if the supplied sites have a unique supply contract

Main electricity power exchanges in Europe (electricity):

- **PWX**: French Powernext power exchanges, non mandatory (www.powernext.fr).
- **EEX**: German European Energy Exchange power exchanges, non mandatory (www.eex.de).
- **APX**: Dutch Amsterdam Power Exchange power exchanges, mandatory for imports and exports to the Netherlands (www.apx.nl).
- **Omel**: Spanish pool, almost mandatory (www.omel.es).
- **NordPool**: Scandinavian power exchanges, non mandatory (one of the power exchanges in Europe, www.nordpool.no).

Wholesale products:

Spot: a contract agreement signed for delivery the day after

Future: a standard contract agreement for delivery of a given quantity at a given price, for a given maturity, requiring the payment of a premium and a deposit. The maturities may differ across power exchanges (weekly, half-yearly, quarterly, monthly, annually). Maturity Y+1 corresponds to the calendar year after the current year.

Baseload : 24 hours a day, 7 days a week (this is why sliding monthly averages for Baseload products are calculated on a 28-day basis, i.e. working days as well as weekends).

Peak (continental Europe): from 8 a.m. to 8 p.m., Monday to Friday (this is why the sliding monthly averages for Peak products are calculated on a 20-day basis, i.e. working days only).

Retail market segments: the eligible customer market is divided into three segments:

- **Large sites**: high voltage sites whose subscribed power level is at least 250 kW. These sites include large industrial sites, hospitals, hypermarkets, large buildings, etc. (with an annual consumption generally over 1 GWh)
- **Medium-sized sites**: high voltage sites whose subscribed power level is less than 250 kW and low voltage sites whose subscribed power level is at least 36 kVA. These sites correspond to SME premises, for example (with an annual consumption generally between 0.15 GWh and 1 GWh).
- **Small sites**: low voltage sites whose subscribed power level is below 36 kVA. These sites correspond to the professional mass market (private professionals, trades, etc.). Their annual consumption is generally under 0.15 GWh.

Wholesale market segments:

- **Generation**
- **VPP**: "Virtual Power Plant" or capacity auction sales set up by EDF as a result of a decision made by the European Commission (http://www.edf.fr/index.php4?coe_i_id=244)
- **Wholesale purchases and sales (OTC)**⁵: block trading notifications, i.e. quantities selected by RTE the previous day for the day after, excluding trading via Powernext
- **Imports and exports**:
http://www.rte-france.com/htm/fr/offre/offre_inter_1.htm

⁵ "Over the Counter" or private transactions

- **Purchases and sales via Powernext**, the French electricity power exchange: www.powernext.fr
- **Final consumption**: sales to sites as a balancing responsible entity or under block trading
- **Sales to network operators to compensate for their losses**: http://www.rte-france.com/htm/fr/offre/offre_perte.htm

Site connection: a customer which connects on a new site. There are two possible situations:

- **Connection on a new site:** a customer moves into a newly-built site, which involves that a meter must be installed and that premises should be connected. E.g. a mechanic which will move into a newly-built garage.
- **Connection on a current site:** a customer moves into a site, after that another customer has left it, which involves that the meter has already been installed. The connection must be made to allow the new customer to be supplied with energy.

Site cancelled: a customer leaves a site.

VPP – Products auctioned off by EDF:

- **VPPs baseload:** these are products which reflect a generator running in base mode. It runs on the principle that bidders pay a fixed premium (in Euros/MW) each month in order to reserve available capacity, and that they regularly send EDF a schedule for using these capacities. Then they pay an operating fee per MWh taken off, which is similar to the marginal cost of EDF's nuclear generators. The price structure is therefore "fixed cost + variable cost".
- **VPPs peak:** these are products which reflect a generator running in peak mode. The principle is the same as for the VPPs baseload, but the price paid for each MWh taken off is an estimate of the marginal cost of EDF's peak generators. Given this high variable cost, the fixed premium paid by bidders is lower than for VPPs baseload.

Specific gas market observatory glossary

Incumbent supplier : the incumbent suppliers include Gaz de France, Tegaz and the local distribution companies.

Alternative supplier : alternative suppliers encompass non-incumbent suppliers.

The observatory deals with :

- expeditors delivering gas to consumption sites connected to the transmission system
- suppliers delivering gas to consumption sites connected to the distribution system

Gas release: to introduce competition in the South of France, a gas release program was set up for a three year period.

Gaz de France puts on the market 15 TWh per year at the South gas exchange point, for a total, for the whole period, of 45 TWh through calls for tender and bilateral negotiations.

Gaz du Sud-ouest, now Total Infrastructures Gaz France puts on the market 1.1 TWh per year, for a total, of 3.3 TWh.

Gas exchange point – PEG: a virtual point, linked to a balancing zone, where a shipper can deliver gas to another shipper.

Consumptions : in transmission, the yearly consumptions takings into account are the consumptions of the sites in 2006.

In distribution, the yearly consumptions takings into account are estimations from yearly reference consumptions of the sites.

Market segments : the eligible customer market is divided into two segments:

- Customers connected to the transmission system
- Customers connected to the distribution system.

Balancing zone : a geographic gas transmission system zone within which gas injections and off-takes must be balanced.