# Deliberation

# Deliberation of the French Energy Regulatory Commission (CRE) dated 19 April 2011 deciding on GRTgaz's proposal to experiment a market coupling mechanism on its transmission network

Attending the session were: Philippe de LADOUCETTE, Chairman, Olivier CHALLAN BELVAL, Frédéric GONAND and Jean-Christophe LE DUIGOU, commissioners.

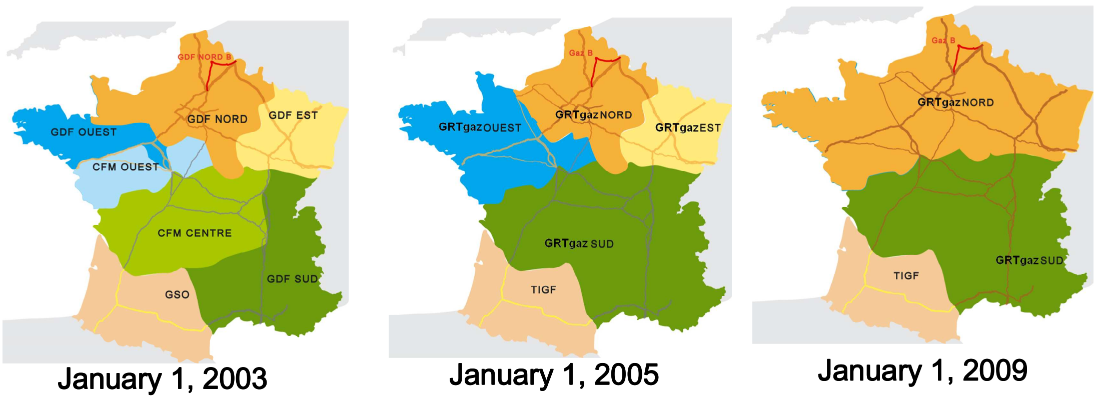
## 1. Background

### *1.1. Contractual structure of gas transmission in France*

Article 19 of Regulation No. 715/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the natural gas transmission networks, provides for an entry-exit system for setting gas transmission tariffs. It means that the transmission system operator sells entre capacities to network's users separately from exit capacities.

In accordance with this principle, the gas transmission tariffs in France are based on a contractual division of the territory into balancing zones that reflect physical congestions on the network. Within each zone, each gas supplier has to ensure each day that its gas supply is the closest possible than its gas delivery.

The number of balancing zones has reduced from 7 in 2003 to 3 today for H gas (two zones, North and South, operated by GRTgaz and one zone operated by TIGF):




Since the end of 2008, discussions have been led within the framework of Concertation Gaz under the leadership of CRE to pursue the streamlining of access to gas transmission networks in France.

Two alternatives to reduce the number of marketplaces have been analysed:

- the merging of the North and South balancing zones of the GRTgaz network. This merging was impossible in the short term because of the major congestion between the north and south of France and the major physical investments required to lift it;

- the convergence of GRTgaz and TIGF south balancing zones. Following the congestion study of the French network conducted by the two operators and further to a public consultation, CRE considered, in its tariff proposal of 28 October 2010, that the measure could not be proposed at that stage and that discussions had to continue.

Since the end of 2010, work has been conducted within the framework of Concertation Gaz on a market coupling mechanism to improve in the short term access conditions and the functioning of the gas market in the South zone, with a view to merging the North and South zones on the GRTgaz network.

The market coupling is a mechanism that confronts on one or several market places supply and demand of the coupled markets and simultaneously and implicitly allocates interconnection capacities between these zones. It could enable to benefit of some of the advantages resulting of a merging of the balancing zones without making significant infrastructures investments.

### *1.2. European work on the gas market target model*

At European level, the gas market coupling mechanisms can be a relevant mean of improving wholesale market integration.

Nevertheless it appears that their characteristics has to be adapted to the transaction methods used by the players of the gas market, which can vary from those used by the electricity markets.

The implementation of the third European legislative package is based on the drafting of network codes to develop market integration. The preparation of these codes requires the establishment of guidelines for the harmonisation of access rules for the European transmission network.

The 18th Madrid Forum (27 and 28 September 2010) therefore requested European regulators to consider a target model for the gas market in Europe, in particular with regard to access to interconnection capacity and the functioning of wholesale markets.

## 2. GRTgaz's proposal for a market coupling experiment between the North and South balancing zones on its network

### *2.1. General principles of the mechanism*

Following the work conducted with all market players as part of Concertation Gaz, GRTgaz proposes experimenting a market coupling mechanism between the North and South zones of its network from July 2011 to March 2012, with a view to the following:

- optimising the use of North/South capacities based on market conditions;
- increasing liquidity at the North and South gas exchange points (PEGs) by partially joining the order books of these two PEGs;
- strengthening price convergence between the North and South PEGs when possible, or making interconnection capacity market value emerge in the event of congestion.

This mechanism will be based on a PEG South - PEG North spread product, which corresponds to a gas swap between the two zones (purchase of gas in one zone and sale of the same volume of gas in the other zone).

GRTgaz will intervene on the Powernext Gas Spot exchange to respond to requests for the PEG South - PEG North spread product, which will enable North/South link capacity to be implicitly allocated (transaction simultaneously covering gas and capacity).

### *2.2. Technical terms proposed by GRTgaz*

The technical characteristics of the market coupling proposed by GRTgaz are as follows:

- 10 GWh/day of firm capacity on the North/South link, currently available for sale, will be dedicated by GRTgaz to the coupling mechanism in both the North to South and South to North direction;

- GRTgaz will intervene, based on objective and transparent criteria, every day for the following day (day-ahead product) between 4:30 p.m. and 4:45 p.m. (period in which the liquidity observed is highest) on the Powernext Gas Spot exchange, via an automated trading platform;
- for a given day, GRTgaz will propose firm capacity in one direction: from the zone where the price at the PEG is the lowest to the zone where the price at the PEG is the highest;
- GRTgaz will intervene several times in the 15-minute window responding on each occasion to the best offer from shippers (GRTgaz behaves as an aggressor). The maximum number of interventions will be set with a view to exhausting the capacities made available;
- GRTgaz will intervene only if the price difference between the ask price (sale) and the best bid (purchase) on the PEG South - PEG North spread market will be lower or equal to 0.1€ /MWh (bid-ask spread constraint). This mechanism enables GRTgaz not to be counterpart of order out of the market;
- once this bid-ask spread constraint is respected, GRTgaz responds to the best offer regardless of its price, even if it is nil;
- in the event of maintenance on the link between the two zones, capacity reserved for coupling will be reduced by the same reduction percentage applied to other firm capacity subscriptions of the North/South link.

## 3. Synthesis of contributions to the public consultation

From 22 March to 1 April 2011, CRE organised a public consultation on the market coupling mechanism proposed by GRTgaz. Eighteen players contributed to this consultation: 14 shippers, 3 industrial clients and 1 association.

All players that expressed their opinion were in favour of launching an experiment on market coupling between the North and South balancing zones of the GRTgaz network.

The great majority approved the terms proposed by GRTgaz. They requested:

- the launch of the experiment under the conditions proposed by GRTgaz;
- the organisation of quick and frequent feedback;
- the adjustment and improvement of the different parameters of the mechanism based on this feedback. Some players wished in particular for the widening of GRTgaz's intervention window and the relevance of a spread constraint to be quickly analysed.

Lastly, most of the market players recalled that this mechanism was the first step towards the merging of the North and South balancing zones of the GRTgaz network.

## 4. CRE's observations

### *4.1. Conditions for access in the south of France*

The full commercial operation of the Fos Cavaou LNG terminal as at 1 November 2010 significantly improved the market situation in the GRTgaz South zone:

- relief of stress on the North to South link. During the final sale of annual capacity in 2010, market players' demand was lower than the capacity proposed (the subscription rate was 80% in the North to South direction and 5% in the South to North direction). Moreover, the arrival of large volumes of gas by the Fos terminals led to a decrease in the flow of gas on the North/South link in the North to South direction (between November 2010 and February 2011, an average of 60% of the physical capacity available at this link was used);
- reduction of the average price difference between the day-ahead prices of the North PEG and those of the South PEG. In the first quarter of 2011, this was 0.08 €/MWh;
- steady continuation of the opening of the retail market in the South zone (the market observatory published by CRE shows that the market share of alternative suppliers represented 24.4% of the zone's consumption at the end of 2010 compared to 16% at the beginning of 2009).

Despite these improvements, liquidity at the South PEG remains low compared to that of the North PEG. The merging of the North and South balancing zones on the GRTgaz network is still requested by market players.

CRE considers that the coupling experiment will enable a gradual convergence of the wholesale markets of GRTgaz's North and South zones, with a view to the merging of these zones.

### *4.2. Mainstreaming of the particularities of the gas market*

Coupling of wholesale electricity markets has already been implemented successfully. It is a mechanism that confronts supply and demand of all the coupled zones and simultaneously and implicitly allocates interconnection capacity. In the electricity sector, day-ahead prices are determined by a fixing mechanism, i.e. each day the exchanges perform a single auction to determine the price for each hour of the following day. Within the framework of market coupling, the exchange algorithm will determine the hourly prices of the different coupled markets while implicitly allocating interconnection capacities.

The adaptation to gas market coupling must take into account the particularities of the functioning of the gas market. In particular, unlike the electricity market, the day-ahead prices of the gas market are determined continuously and not by fixing (each transaction is made at a specific price). As gas can be stored, the gas market is much more flexible than the electricity market. It doesn't require hourly planning of the supply/demand balance.

To impose a fixing process to the gas markets could induce an unnecessary rigidity which would undermine the effectiveness of the gas market to the detriment of consumers.

CRE considers that the market coupling experiment proposed by GRTgaz is in line with work in progress at the European level on the target gas market model.

Moreover, the mechanism proposed by GRTgaz, defined in consultation with market players (suppliers, traders and industrial customers…), takes into account the functioning of the gas market. In that regard, this experiment may fuel current European work to define a coupling mechanism adapted to the gas market.

### *4.3. Analysis of the technical terms proposed by GRTgaz*

The use of the PEG South - PEG North spread product appears to be adapted to the implementation of a gas market coupling mechanism:

- this product enables the implicit allocation of link capacity simultaneously with gas transactions on the Powernext Gas Spot exchange;
- it allows all market players to value their unused link capacities and more generally all of their flexibility resources within the two zones;
- it takes into account the continuous trading mode of the gas market.

The technical terms proposed are not fixed. They have been defined within the framework of a gradual approach, in which the different parameters may be adjusted or modified based on the feedback which will be regularly organised within the framework of Concertation Gaz.

Furthermore, making 10 GWh/day of firm capacity unsold on the North/South link available to the coupling mechanism has several advantages:

- the operating rules of the market coupling mechanism are simple and transparent for all players: the volume of capacity proposed by GRTgaz is guaranteed each day, except during maintenance; it is known beforehand and does not change based on external factors;
- the coupling mechanism will have no impact on the availability of capacity held by shippers, and in particular, on the functioning of the use-it-or-lose-it mechanism.

This however requires that GRTgaz departs by 10 GWh/day from the contract provision for automatic conversion of interruptible capacity into firm capacity (14.9 GWh/day of interruptible capacity in the North to South direction was concerned, therefore, only the balance of 4.9 GWh/day will be converted).

Lastly, this market coupling between North and South zones is a new means of making capacity available at the North/South link. In that regard, it will have to be taken into account in the work of Concertation Gaz on the rules for capacity allocation at the link between the two GRTgaz zones.

In order to ensure that the market can always benefit from capacity dedicated to coupling, GRTgaz will define, within the framework of Concertation Gaz and before 1 July 2011, the terms for making available to the market any firm capacity remaining at the end of the coupling period, in cases where the value of the PEG South – PEG North spread constraint is too high (reflecting a situation of stress) and where the bid-ask spread is not satisfied.

### *4.4. Effect on rates*

CRE wishes to ensure economic neutrality for GRTgaz in relation to tariff forecasts, of the market coupling experiment.

Making 10 GWh/day of firm capacity available for market coupling implies that GRTgaz must limit the volume of firm capacity sold at the regulated tariff and not convert 10 GWh/day of North to South interruptible capacity into firm capacity.

In both cases, the coupling mechanism therefore incurs a risk of income loss for GRTgaz in relation to tariff forecasts[1].

Moreover, the implementation of the coupling mechanism will generate costs for GRTgaz that are not taken into account in the tariff trajectory used by CRE:

- fixed costs related to the development and use of the automated trading platform;
- transaction costs related to GRTgaz interventions on the market.

### *4.5. Possible extension of market coupling to the TIGF zone*

CRE considers that the market coupling principle should be extended to the TIGF zone. Therefore, GRTgaz and TIGF should work jointly to study the extension of the mechanism to the interface between the GRTgaz South zone and the TIGF zone.

## 5. CRE's decision

CRE approves GRTgaz's proposal to experiment the market coupling mechanism from 1 July 2011. It requests that:

- the technical terms of the market coupling mechanism be adaptable as much as possible;
- feedback be organised quickly and regularly within the framework of Concertation Gaz in order to define the changes to be made to the mechanism. These changes may be implemented directly by GRTgaz, unless they modify the principles of the mechanism approved by CRE or if they require its arbitration.

CRE authorises GRTgaz to depart from the contract provision for automatic conversion of interruptible capacity into firm capacity, in order to dedicate 10 GWh/day of firm capacity on the North/South link to the coupling mechanism.

GRTgaz will define within the framework of Concertation Gaz, before the launch of the experiment, the terms for making available to the market any capacity remaining at the end of the coupling period.

GRTgaz's costs related to market coupling, as well as the loss of income due to the non-conversion of 10 GWh/day of interruptible capacity in the North to South direction will be covered when the tariff is updated at 1 April 2012. The difference in income between the tariff forecast and actual income from the sale of capacity at the North/South link (including through the coupling mechanism) will be 100% covered by the CRCP mechanism, if the sum of GRTgaz's upstream shipping income is lower than the tariff forecast.

[1] for an item covered only 50% by the expense and revenues clawback account (CRCP)

GRTgaz will submit to CRE in October 2011 an initial report on the experiment and a proposal for the subsequent action to be taken with regard to the mechanism.

CRE requests GRTgaz and TIGF to study the extension of the coupling mechanism to the interface between GRTgaz's South zone and TIGF's zone.

Paris, 19 April 2011

For the Energy Regulatory Commission,

The Chairman

Philippe de LADOUCETTE