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## COMMISSION FOR ELECTRICITY AND GAS REGULATION

### **STUDY**

**(F)060719-CREG-554**

on

*'the measures needed to improve the functioning and the liquidity of the Zeebrugge hub'*

carried out in application of Article 15/14, §2, subsection 2, 2°, of the law of 12 April 1965 on the transmission of gaseous and other products by pipeline

19 July 2006

**TRANSLATION FROM THE OFFICIAL FRENCH AND DUTCH VERSIONS  
NON-BINDING**

# STUDY

The COMMISSION FOR ELECTRICITY AND GAS REGULATION (CREG) conducted this study in order to form an up-to-date opinion of the situation at the Zeebrugge gas hub and to identify the priority measures needed to promote the future development of this gas trading platform.

An analysis of the current situation in the Belgian gas sector clearly falls within the areas of competence of the CREG, pursuant in particular to Article 15/14, §2, subsection 2, 2°, of the law of 12 April 1965 on the transmission of gaseous and other products by pipeline (hereinafter referred to as the Gas Act), which stipulates that the CREG is authorised to carry out studies on the gas market on its own initiative.

The CREG first suggested the subject of this study on 8 January 2004<sup>1</sup>. In the decision in question, the CREG asked FLUXYS SA/NV to determine the extent to which the routing of natural gas between the LNG terminal, the Interconnector terminal, the Zeepipe terminal, the rTr/vTn pipeline and the H-gas transmission network could be undertaken without reserving capacity, the only condition being that the gas fulfil the qualities required for the routing requested, and be nominated in accordance with the usual rules. This demand was repeated in the decisions of 3 June 2004<sup>2</sup> and 20 December 2004<sup>3</sup>.

This study originates in proposal (F)040923-CREG-360 of the “indicative plan for natural gas supplies” drawn up by the CREG on 23 September 2004. In this plan, the CREG announced that it intends to study the feasibility of a ‘notional balancing point’, covering the following elements: i) interaction between the hub and a national pool, ii) interoperability of H-gas qualities and mixed gas, iii) the consequences of treating transit and national transmission differently, iv) the LNG trade at the Zeebrugge hub and v) the commercial policy relating to the promotion of liquidity.

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<sup>1</sup> Decision (B)040108-CDC-244 on the request for approval of the main conditions for access to the FLUXYS SA/NV transmission network, Chapter on General Comments, page 10, paragraph 12.

<sup>2</sup> (B)040603-CDC-244/2 on the request for approval of the adapted main conditions for access to the FLUXYS SA/NV transmission network, Chapter on General Comments, page 13, paragraph 18.

<sup>3</sup> (B)041220-CDC-244/3 on the request for approval of the main conditions for access to the FLUXYS SA/NV transmission network, Chapter on General Comments, page 15, paragraph 20.

The result of this study is based on an analysis carried out by the firm *ILEX Energy Consulting Limited*, the final version of which was sent to the CREG on 28 November 2005.

In the meantime, between May and July 2005, the CREG organised a public consultation process among market players in the context of the liberalisation of the Belgian natural gas market. This consultation process, in which 28 companies took part, was designed to find out what the parties concerned thought about the way the natural gas market in Belgium operates, as well as their main expectations. The final report<sup>4</sup> contains the considerations included in this study, as a means of checking the observations made by *ILEX Energy Consulting Limited*.

The study is divided into four chapters. The introduction covers the definition of the hub and its importance for the liberalised natural gas market. The structure and activities of the Zeebrugge hub as a commercial market are then discussed. Factors that may be improved are identified in the discussion on liquidity on this market, as prepared by the international consultant on behalf of the CREG. In the final chapter, the CREG puts forward a solution to each priority problem and clearly states how, as the regulator, it plans to follow up the implementation of these solutions.

During its meeting of 19 July 2006, the Council-General of the CREG gave its advice of this study, which is included in the appendix. Further to this advice, the Management Board adapted paragraphs 97 to 99 and 133, so that the study could be approved by the Council-General.

This study was approved by the Management Board of the CREG at its meeting on 19 July 2006.



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<sup>4</sup> <http://www.creg.be/pdf/Opinions/2005/GT112005/GSD-051110-rapportdeconsultationv6-NL.pdf>.

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## **EXECUTIVE SUMMARY**

1. The hub is an essential complement for the natural gas exchange, given that on the gas market, it is necessary to specify where the gas exchanged will be made available.

2. The Zeebrugge hub was established in 1999 and has since been adapted a number of times. However, further to recent developments on the European natural gas market, which have followed one another in quick succession, and the continued development of the facilities in Zeebrugge, the Zeebrugge hub also needs to be developed if it is to confirm its position as a European trading platform.

3. Market liquidity (or liquidity) is a measure of the performance of a commercial market. To create a perfectly liquid market, all the following conditions have to be fulfilled, without exception:

- a. a large number and wide variety of buyers and sellers who need to trade with other market players;
- b. all the products exchanged are interchangeable, such that no company can monopolise the market in terms of a product that it offers;
- c. companies are free to come and go on the market;
- d. market information is transparent and freely accessible by all.

The study concludes that these conditions are fulfilled up to a certain point. However, a number of major initiatives are still very recent, such as the gas trade in Zeebrugge via the APX exchange. Much of the data required are not yet available. Even though there is still considerable room for improvement, it must be acknowledged that HUBERATOR SA/NV and more recently APX are accomplishing a substantial amount of work.

4. The indicators used to measure liquidity on mature commercial markets - the main ones being the bid-ask spread and the depth of the market - are virtually the same for electricity, gas and the financial markets. By quantifying these indicators, we learn that the Zeebrugge hub cannot yet be described as a mature market.

5. This study reveals a series of factors that are clearly hampering free trade on and around the hub. These factors are as follows:

- a. poor accessibility of the hub and access to the capacity that leads to the hub;
- b. the restrictions relating to gas quality;
- c. the link between long-term contracts and indexed oil prices;
- d. the market power of DISTRIGAZ SA/NV;
- e. the risk of interruptions owing to the limited physical storage capacity;
- f. the possibilities for arbitrage limited solely to trade with the United Kingdom;
- g. the organisation and availability of market information.

6. The market opinion that the Zeebrugge hub is considered the most liquid hub in Europe after the NBP in the United Kingdom, indicates straight away that the foundations are there to make Zeebrugge a reference hub. Given that a number of new hubs are being established in Europe, it will be necessary to continue the development of the Zeebrugge hub if its position is to be maintained. To this end, maximum advantage must be taken of its ideal geographic position and the availability of gas from various supply sources. If this chance for Zeebrugge is not to be missed, then structural measures must be taken to eliminate or offset the restrictive factors.

7. In order to improve liquidity and support the development of the hub in the future:

- a. it is recommended that the public authorities adapt the Gas Act so that regulation of the natural gas exchange can provide that the platform on which the market players negotiate gas blocks offers sufficient guarantees in terms of reliability, transparency, efficiency and smooth trading;
- b. FLUXYS SA/NV is requested to increase access to the hub:
  - i. by creating a separate transmission system for the Zeebrugge region<sup>5</sup> by amending its main conditions in accordance with Article 10 of the Royal Decree of 4 April 2003 on the code of conduct relating to access to the natural gas transmission networks (hereinafter referred to as the code of conduct) and after approval by the CREG and by means of regulated tariffs approved by the CREG;

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<sup>5</sup> Including the IZT, ZPT, LNG terminal and OKS entry points and the IZT and OKS exit points.

- ii. by drawing up and publishing, under the supervision of the CREG, rules applicable to the main access routes to and from the Zeebrugge region, defined in accordance with Regulation (EC) No 1775/2005 of the European Parliament and the Council of 28 September 2005 on conditions for access to the natural gas transmission networks (hereinafter referred to as Regulation 1775/2005);
- c. under the supervision of the regulators concerned, it is proposed that a technical-economic study be carried out to find a solution that is acceptable to the largest number of players for the conversion of quality so that the natural gas trade at the hub is standardised in accordance with Belgian quality specifications and the British market receives a guarantee that the gas can transit from Zeebrugge to England;
- d. FLUXYS SA/NV is requested to offer the existing back-up/back-down services in the form of regulated services and is also encouraged to offer short-term flexibility services accessible to players at the hub so as to support the firmness of trade within the separate transmission system in the Zeebrugge region;
- e. HUBERATOR SA/NV and FLUXYS SA/NV are requested to ensure the publication of public and transparent information adjusted to the needs of shippers for their natural gas transactions in the Zeebrugge region.

8. The CREG believes that these suggestions need to be acted upon to transform the hub into a truly liquid trading centre for the natural gas market in Western Europe. Natural gas exchange transactions and bilateral trade need to be backed up by the required services so that shippers and traders can fulfil their tasks with flexibility but certainty.

9. To support its policy, the CREG is establishing a consultation platform. Categories such as network operators, shippers and traders, as well as those European representative organisations that so desire will be represented in this group. It is being set up in order to assist the CREG in the context of the problems relating to the good functioning of the Zeebrugge hub and its economic, technical and legal aspects.

# 1. DEFINITION AND ROLE OF THE HUBS

## 1.1 Definition

10. Article 1, 52° of the code of conduct defines a hub as *any place where network users physically make natural gas available with a view to selling it, given that from a technical and commercial point of view, these operations receive logistic support from a services provider who ensures, amongst other things, the follow-up of the transfers of ownership*<sup>6</sup>.

11. A hub is therefore a physical place where the transfer of ownership of gas traded either on the public market (gas exchange) or further to a bilateral agreement actually takes place. The same gas exchange can organise gas trades (and quotations) at different hubs.

12. A distinction is usually made between 'local' hubs and 'notional' hubs. This distinction relates to the physical place corresponding to the hub. With a 'local' hub, the physical place where the gas is exchanged corresponds to a specific point or a limited and restrictive place on the transmission network. In principle, this is a gas reception and/or gas compression terminal connected to two or more major transmission pipelines, dedicated at least partially to the transit of gas between adjoining networks. With a 'notional' hub, the physical point at which the gas is exchanged corresponds to an entire transmission network. This means that the gas simply has to be present at any point in this transmission network to be exchanged at the corresponding notional hub.

13. The hubs in Zeebrugge and Emden (Germany) are local hubs. In the United Kingdom (NBP) and the Netherlands (TTF), the hub covers the entire national transmission network. These are therefore notional hubs.

14. One of the main functions of the hubs is to help network users achieve a balance between the gas they inject and the gas they withdraw. This may be done by means of intra-day transactions or an imbalances market. Local hubs have the disadvantage that operations

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<sup>6</sup> This definition is commented on by the "*Lexicon energiemarkt Nederland en België*" (*Energy Market Dictionary, Netherlands and Belgium*) (Lemma, 2003, page 227): *Hubs are essential for the spot trade in natural gas. Hubs become established at locations where there is a demand for physical natural gas transactions and where a number of natural gas pipelines cross. Such a pipeline crossing point makes it possible to send natural gas from one pipeline to another. First and foremost, a hub must have a measuring station to be able to carry out transactions properly. If the transmission network operates as a "pool" then the entire transmission network may be considered one hub. Hubs offer a growing range of services that facilitate buying, selling and transporting natural gas.*



on the hub have to be 'exported' to the network, by means of intra-day re-nominations. These re-nominations presuppose that the shipper has sufficient capacity. They require more demanding logistic follow-up than is the case with a notional hub. In this respect, it is in the interests of market liquidity to reduce the costs linked to re-nominations and other rigorous rules (periods, timetables, etc.).

## **1.2 Role of hubs in a liberalised market**

15. The gradual liberalisation of the gas market has led to an increase in short-term negotiations and gas price arbitrage transactions, for instance the opportunities created by differences between the spot price (in the short term) and the indexed gas price laid down in long-term contracts.

16. The CREG stressed the importance of the spot market in 2001, in the guidelines for the indicative plan, in the following terms: *The spot market and supply swaps are typical for an open market and are worthwhile supporting as they enable the development of an efficient gas market. They promote security of ship and supply, create a market for flexibility, make it possible to cut transmission costs as much as possible and result in fairer market prices. However, in the current market, which is in a transitional phase, it is not easy to achieve liquidity. The commercial activities and innovative instruments enabling this trade fully deserve public support*<sup>7</sup>.

17. The presence of efficient hubs at various points on the European network is essential to support this activity of gas trade among market players and therefore to achieve the objective of creating a single natural gas market in the European Union. As the CREG points out in its indicative plan, the results of activities at the hubs, provided they operate correctly, include (i) *the promotion of competitive pressure on the market*, (ii) *price transparency*, (iii) *savings on transaction costs*, (iv) *security of supply*, (v) *wider choice for buyers and producers* and (vi) *an increase in market liquidity, transparency and non-discriminatory access to the market*<sup>8</sup>.

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<sup>7</sup> Proposal (F)011018-CREG-054 of the indicative plan for the supply of natural gas 2001-2011, Appendix page 4, available at [www.creg.be](http://www.creg.be)

<sup>8</sup> Proposal (F)011018-CREG-054 of the indicative plan for the supply of natural gas 2001-2011, Appendix page 54

### **1.3 Role of hubs in Europe**

18. Europe currently comprises several nationally-oriented natural gas markets, but the ultimate aim is to develop into a single competitive market by means of the process of liberalisation. The advantages of this liberalisation have to be shared by all European consumers in the form of competitive prices, security of supply, innovation and choice. In addition, energy companies have the advantage of being able to attract new customers from all over Europe.

19. In this respect, the planned development of a single natural gas market has clearly demonstrated that the existing VAT rules, which were linked to the location of the place of delivery of the natural gas, needed to be adapted. Whereas before liberalisation the number of points of delivery was still limited to the off-take points of final customers, in a liberalised market, intermediary deliveries, that is deliveries made before the natural gas reaches the final consumer, can no longer be forecasted. Deliveries to hubs, where intermediary deliveries are concentrated in one place, were therefore liable for VAT.

20. In addition to this, there was the risk that natural gas intended for transit would be taxed twice. In fact, VAT would first be levied on the intermediary trade, and then abroad. To overcome this problem, special agreements had to be reached between the operator of the Zeebrugge hub and the Belgian authorities. The hub was considered a European transit port, which meant that the VAT rules did not apply. However, this regulation also had a restrictive effect as it prevented Zeebrugge from being considered solely a transit hub.

21. Following the amendment of the European regulations on 7 October 2003<sup>9</sup>, the basic rules were adapted and European regulations were put in place that rendered the Belgian measure superfluous. In order to be able to introduce intermediary gas trade without VAT obstacles, the place of delivery taken into consideration, before there is talk of a place of final consumption, is the registered office where the customer exercises their professional activities. In practice, supplies provided by Belgian companies such as DISTRIGAZ SA/NV, ELECTRABEL SA/NV and SPE SA/NV at the hub are subject to VAT levies, whereas for other companies, the VAT will be levied elsewhere in Europe.

22. The aforementioned VAT rules, which is unequivocal and practical, clarifies and simplifies the position of intermediary deliveries. This mainly promotes the creation of hubs

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<sup>9</sup> Directive 2003/92/EC of the Council of 7 October 2003 amending Directive 77/388/EEC regarding the rules on the place of delivery of gas and electricity. Official Journal of the European Union L260/8, 11 October 2003.

considered necessary in Europe in order to achieve a genuine internal market. Thinking along the same lines, the European regulators assert, through the “*European Regulators’ Group for Electricity and Gas*” (hereinafter referred to as ERGEG), a consultation body of the European Commission, that the development of regional gas markets is an important and practical step in the right direction. These regional markets therefore serve as an intermediary stage towards the development of a competitive European market.

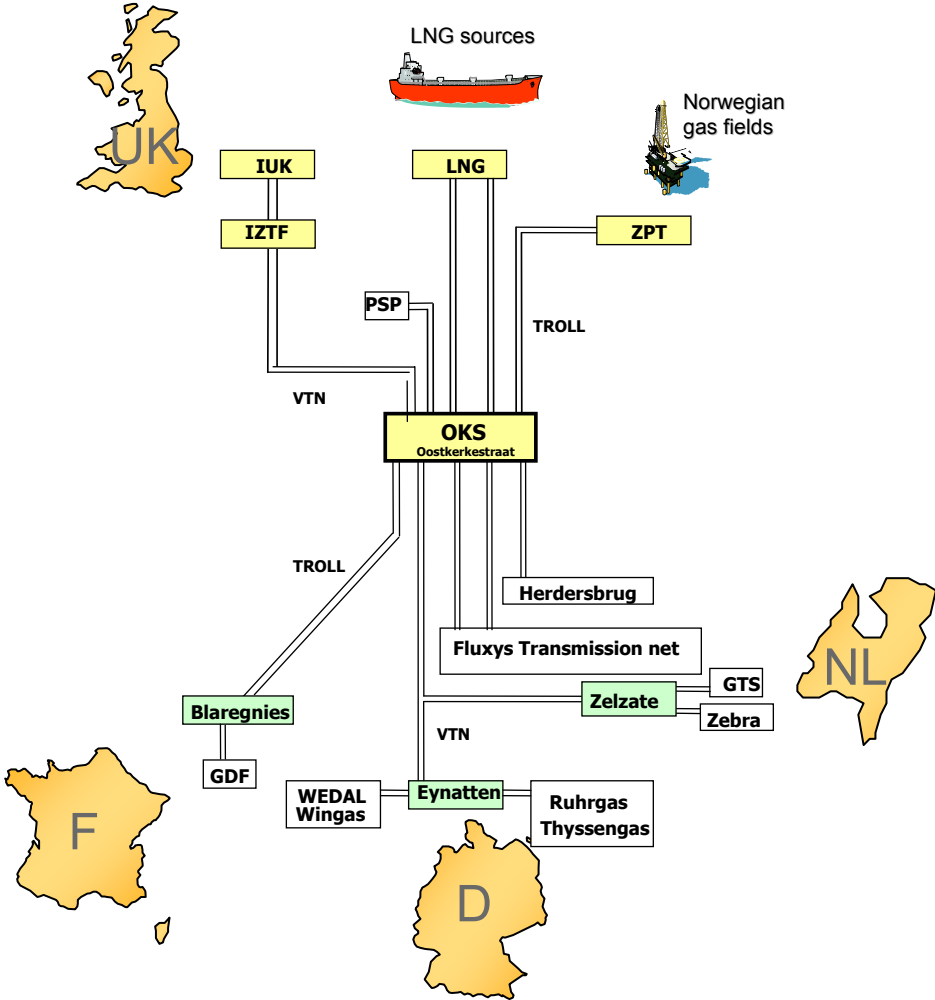
23. In this respect, the ERGEG stresses the practical elements that contribute most to the development of a regional market. These are factors such as transparency, the availability of information and access to the network, as well as methods of improving the organisation of the gas trade in Europe, such as liquid and competitive trading at and between the hubs.

# 2. THE ZEEBRUGGE HUB: PRESENTATION

## 2.1 Stakes and potential of the Zeebrugge hub

24. Figure 1 shows the main pipelines running from or to the Zeebrugge zone in diagrammatic form. All these pipelines cross one another at the Oostkerkestraat station (OKS), which is located on the territory of the commune of Zeebrugge, a few kilometres from the other terminals in the region (IZTF, IUK, LNG, ZPT).

**Figure 1: Diagram of the Zeebrugge zone**



25. Figure 1 clearly illustrates the key role played by this zone in supplying Belgium and the neighbouring countries. The annual physical natural gas transmission capacity in the Zeebrugge zone currently amounts to almost 42 billion cubic metres of natural gas. This represents two and a half times the volume of gas used in Belgium, or 10 to 11% of consumption in western Europe. In a few months' time, following the extension of the LNG

terminal currently underway and the planned increase in the capacity of the Interconnector submarine pipeline linking Zeebrugge and Bacton in the United Kingdom, the transmission capacity of the Zeebrugge zone will amount to almost 50 billion cubic metres a year.

26. Zeebrugge combines its numerous assets which today make it the focal point of natural gas transmission in Western Europe: numerous interconnections, a variety of gas sources, substantial transmission capacity and considerable operational flexibility. This position as the most important hub on the European continent is the result of an ambitious policy that has attracted substantial investment in Belgium.

Hubs are appearing spontaneously to support the liberalisation of the market in continental Europe. The hubs that serve as references for the market will attract considerable investment in new infrastructure, which will in turn enhance the central role of these hubs for the market.

For the reasons set out above, the Zeebrugge hub has a number of very important assets to maintain and strengthen its role as Europe's leader. However, it is generally accepted that other hubs are developing rapidly and could provide serious competition for Zeebrugge, or even challenge its current status.

27. The purpose of this study is to analyse the current structure and operation of the Zeebrugge hub, and to suggest improvements designed to promote its development.

## **2.2 The origin of the hub**

28. In contractual and physical terms, the current Zeebrugge hub is located in Zeebrugge, within the Interconnector Zeebrugge Terminal FLUXYS (IZTF), close to the flange between the installations of Interconnector (UK) Limited and of FLUXYS SA/NV<sup>10</sup>. This is illustrated in diagrammatic form in Figure 2.

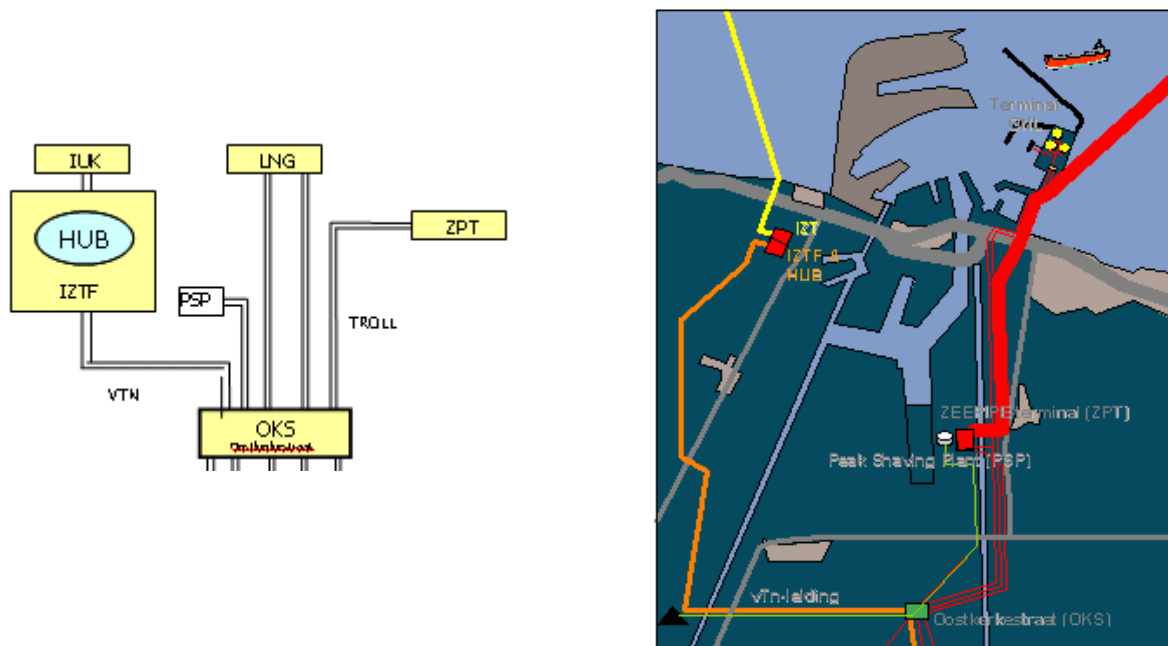
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<sup>10</sup> The relevant contractual definitions are:

**'Zeebrugge Hub'** shall be a point market as such within the IZTF located downstream of the metering facilities within IZTF when the Natural Gas flows the Interconnector terminal at Zeebrugge.

**'Interconnector Zeebrugge Terminal Fluxys' (IZTF)** shall mean the terminal, part of the Fluxys Transmission System, immediately downstream of the Interconnector when the Natural Gas flows from the Interconnector to the Fluxys Transmission system.

**Figure 2: Location of the hub in the Zeebrugge zone**



Source: FLUXYS SA/NV

29. The hub was established in 1999 by the former DISTRIGAZ SA/NV, which at the time was still an integrated gas company. The hub was the result of informal, short-term *over the counter* (OTC) trade in gas which had grown up in Zeebrugge further to the completion of the Bacton-Zeebrugge Interconnector pipeline in 1998 (hereinafter referred to as the Interconnector). Today, FLUXYS SA/NV owns 90 % of the hub through its subsidiary, HUBERATOR SA/NV<sup>11</sup>, the hub operator.

30. Short-term OTC gas trading in Zeebrugge was started up chiefly to overcome the initial physical uncertainty of the Interconnector. A number of established companies had signed long-term contracts. Gas from the United Kingdom was brought over via the Interconnector to industrial customers and gas companies in Belgium, the Netherlands and Germany. However, during the first few years of service, Interconnector users suffered numerous interruptions in their gas supply<sup>12</sup>. This is why these sellers had to find substitute gas in the short term to fulfil their sales contracts on the continent. The former DISTRIGAZ

<sup>11</sup> The remaining 10 % are held by DISTRIGAZ & Co, through TRANSFIN SA/NV, a full subsidiary of DISTRIGAZ SA/NV.

<sup>12</sup> These interruptions were originally the consequence of the compressor problems and the contractual differences as regards the hydrocarbon dew point level between the Belgian and British systems.

SA/NV had the gas and was interested in this type of short-term trading. Thus it was that commercial liquidity became established on the basis of supply and demand.

31. The former DISTRIGAZ SA/NV facilitated the trade in which it was one of the stakeholders, but also trade between third parties. This type of trading took place mainly at the Zeebrugge flange of the Interconnector (the interconnection between the facilities owned by Interconnector (UK) Limited and those of the current FLUXYS SA/NV).

32. This initial service, which was somewhat improvised, created a considerable workload for the dispatching services of the transmission network operator. They had to use faxes to ensure that numerous company nominations corresponded to one another and cope with the unforeseeable nature of the interruptions linked to the Interconnector using spreadsheets, often within a very short space of time.

The combination of increasing demand for short-term trade at this point and the need to introduce a more formal process prompted the former DISTRIGAZ SA/NV to set up a formal gas hub in Zeebrugge.

33. From the outset, the former DISTRIGAZ SA/NV decided to develop its hub services in conjunction with its customers, the shippers. To do this, a general meeting of all the interested parties was convened. Potential customers of the hub selected a limited group of companies to represent them and joined forces with the hub operator to develop the gas hub. This group was later to become known as the *Zeebrugge Hub Focus Group*, a concept and structure which still exist today (even though other companies concerned also take part in it).

The current Zeebrugge Hub Focus Group includes BP, GAZ DE FRANCE, E.ON/RUHRGAS, RWE, CENTRICA through its subsidiary British Gas Trading Ltd, and the present-day DISTRIGAZ SA/NV<sup>13</sup>.

34. This *Focus Group* drew up a *Hub Services Agreement* (HSA 99) which had to be signed by all members. In addition, standard commercial terms and conditions were negotiated and put forward for bilateral trade at the hub (ZBT 99). Progress was made at subsequent meetings "of the industry". These two basic agreements have since been amended on two occasions using the same process and the most recent versions are respectively HSA 2005 and ZBT 2004. These two documents are available on the HUBERATOR SA/NV Internet site ([www.huberator.be](http://www.huberator.be)).

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<sup>13</sup> In the remainder of this study, all references to DISTRIGAZ SA/NV will relate to the new Distrigaz, unless otherwise stated.

## **2.3 Gas trading at the hub**

### **2.3.1 The gas trade**

35. Before being able to trade at the hub, each of the parties has to become a member. The membership costs are comparable to those of nearby hubs, such as the NBP in the United Kingdom and the TTF in the Netherlands. Reduced costs promote access to the market for newcomers. To be a member, the parties have to sign the joint code, register in the country in question, cover the IT costs to be able to use the commercial platforms and meet the requirements in terms of credit.

36. Bilateral trade takes place at the Zeebrugge hub when two members of the hub conclude a deal and hence agree on the price, the quantity and the timing of a commercial transaction under terms and conditions ZBT2004, with actual delivery at the hub (cf. also paragraph 34). This type of agreement is very often concluded by telephone between the two parties concerned and is confirmed by means of a fax, a copy of which is available in ZBT2004. However, this fax is not obligatory, as the telephone deal recorded is contractually binding.

37. On day D-1<sup>14</sup>, the two parties examine their transactions at the Zeebrugge hub for day D and calculate their net trade for each hour of day D. They then separately nominate their hourly figures for each hour of day D with HUBERATOR SA/NV by means of the Edig@s protocol. The initial nominations are passed on to HUBERATOR SA/NV at 2.00 pm on day D-1.

38. HUBERATOR SA/NV ensures that the net nominations and the relevant customers/party nominative code correspond and informs the two parties of the success or otherwise of the transaction, at the latest by 3.00 pm on day D-1. If a problem arises, the transaction is rejected and the two parties try again before 4.00 pm. on day D-1.

Any transaction can still be nominated after 4.00 pm on day D-1, even on day D. However, in this case the general condition is observance of a period of two hours as of the submission of a nomination before the transaction takes effect.

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<sup>14</sup> D-1 refers to the day before the relevant gas day D. A gas day extends from 6h00 AM to 6h00 AM the following calendar day.



39. The *Day Ahead* market is the most important market at the hub. However, all the other standard products can also be negotiated directly between the parties, independently of HUBERATOR SA/NV. These products are well defined and can be traded as discrete products.

The various products are interchangeable. For instance, an annual contract may be replaced by a series of monthly contracts or the purchase of successive *day-ahead* contracts.

### **2.3.2 The exchange**

40. In February 2005, the Dutch exchange operator APX B.V. launched a new commercial platform for natural gas at the Zeebrugge hub. This exchange, known as “APX Gas ZEE”, operates parallel to the “APX Gas NL” exchange in the Netherlands, integrated into the existing gas exchange in the United Kingdom (APX Gas UK) which enables fully cleared and anonymous on-line transactions. It offers *Day-Ahead* market products, including *Individual Day*, *Balance of The Week*, *Working Days*, *Next Week* and *Weekend Strip*.

41. This new platform forms an integral part of the existing screen, enabling traders to move from NBP to Zeebrugge and to TTF at the click of a mouse. Even though originally, only Day Ahead products were available, Within-Day-Block contracts, which can be traded 24 hours a day, began to be offered in October 2005.

42. The aim is to create transparency on the market and to provide price indexes that can be used as a benchmark. APX Gas Zeebrugge B.V. is a limited liability company belonging to APX B.V. and HUBERATOR SA/NV. APX provides the integrated, screen-based commercial platform and the clearing, while HUBERATOR SA/NV is the link between the platform and the HUBERATOR system for physical trading at the Zeebrugge hub.

43. The Zeebrugge exchange platform has only been used sporadically since it was launched. When this study was drawn up, APX had recorded 22 transactions on the *Day Ahead* market and 21 on the *Within-Day* market, most of which were the result of transactions with HUBERATOR SA/NV.

The following traders are members: DELTA, EDF TRADING, ELECTRABEL, ESSENT, GASELYS, HUBERATOR, DONG, GAZPROM MARKETING & TRADING and VITOL.

### **2.3.3 The information available**

44. HUBERATOR SA/NV has its own Internet site giving access to the current version of the Hub Service Agreement (HSA2005) and the commercial terms and conditions (ZBT2004). However, the services provided are only briefly described on this site, which means that potential customers have to contact HUBERATOR SA/NV directly.

A full list of members and their addresses is available. However, no data are published about the use of the hub and price trends, other than those presented at the annual “*Flame*” congress and those circulated at the industrial forum usually held in the autumn.

45. It may be deduced from the HUBERATOR SA/NV presentations that in 2005 the average ratio between the traded net volumes and the actual volumes at the hub (also known as *churn*) was 4.3. However, this *churn* does not take account of underlying volumes, which two trading partners may have traded before reaching their net volume. This underlying trade cannot be measured as only net nominations are passed on.

46. HUBERATOR SA/NV does not provide information about long-term trading as the gas is only nominated on a “Day-1” basis. It may be expected that the APX commercial platform will take on this task when the time comes, that is when the market is liquid.

The hub itself has an electronic platform that governs access to the hub, even though no data relating to prices are available.

The Internet site of the APX exchange ([www.apxgroup.com](http://www.apxgroup.com)) publishes data on the *Day Ahead* market and the *Within Day Block* market on a daily basis.

47. In terms of liquidity, the Zeebrugge hub is generally considered the second-largest hub after NBP but ahead of TTF.

### **2.3.4 Price indexes**

48. Originally, the only price indexes available were those published by the specialised press on the basis of data obtained from traders by telephone. Despite the fact that this method may be subject to manipulation and that there is a potential lack of general confidence, these indexes still exist. However, some of them, such as those from Heren Energy, have proved to be sources of reasonably reliable information.

These natural gas price indexes cover the entire range of products, from the short to the long term, for the market in Zeebrugge.

49. At the Zeebrugge hub, Dow Jones has concluded a formal agreement with the main traders concerning the daily electronic transmission of data files on volumes and prices. This means that Dow Jones is in a position to publish a daily index (ZIG). Market confidence in this index means that HUBERATOR SA/NV can use it to set the prices for the various services (such as the automatic back-up service) and traders can use it as a basis to determine the price of the loss suffered if gas is not delivered. However, the ZIG is only accessible in return for payment.

50. The creation of the “APX Gas ZEE” exchange may lead to the development of a number of other, more reliable indexes, including *futures* and *within-day* indexes. However, it remains to be seen when this exchange will become a liquid exchange.

### **2.3.5 The main players**

51. When this study was drawn up, HUBERATOR SA/NV had 48 members. This figure has increased steadily since the hub was first established, with the exception of two occasions on which it slipped back. The first of these occurred during the ENRON affair, when American traders withdrew from Europe in December 2001. The second took place in October 2004, when the former HSA 2001 contract was terminated and the new HSA 2005 contract signed. A number of non-active members took advantage of the situation to withdraw.

Traders enter a market in order to make the most of the possibilities for arbitrage on this market and to act as brokers between parties with complementary requirements. The fact that this development is continuing is a good sign.

52. Moreover, no published information is available on who trade what volumes. On the basis of Figure 3, it is possible to demonstrate that the ten main members account for approximately 50 to 60 % of the trade. The Herfindahl-Herschman Index (HHI)<sup>15</sup>, which gives a value of 445 on the basis of figures for the 2004 financial year, indicates that the market is competitive.

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<sup>15</sup> The HHI index is expressed as the sum of the squared market share of each market player. An HHI of less than 1000 indicates a competitive market, while a value higher than 1800 worries the authorities.

**Figure 3: Trade at the Zeebrugge hub in 2004**

<i>Company</i>	<i>% of trades</i>	<i>Volume of trades (M Therms)</i>
1	9.41	1,439
2	7.57	1,157
3	6.53	998
4	6.40	979
5	5.85	895
6	4.64	710
7	4.63	708
8	4.31	659
9	4.19	641
10	3.53	540
Others	42.94	6,565
<b>Total</b>	<b>100.00</b>	<b>15,289</b>

There is no sign of any dominance by one or more players.

53. DISTRIGAZ SA/NV is a member of the hub, in the same way as the other members. It plays an active role in the Focus Group, concludes bilateral transactions and nominates with HUBERATOR SA/NV in the same way as the other members. The two organisations have a “*Chinese Wall*” and undertake their activities in different buildings in Brussels. However, the relationship between HUBERATOR SA/NV and DISTRIGAZ SA/NV differs from that between HUBERATOR SA/NV and the other customers at the hub in two important respects. First of all, as regards access to the hub (as indicated in paragraph 61 of this study) and secondly as regards the automatic back-up service (cf. paragraph below).

54. Until the end of December 2004, DISTRIGAZ SA/NV had a contractual agreement with HUBERATOR SA/NV with a view to assuming automatic back-up for a period of five hours in the event of an incident. Under the terms of this agreement, DISTRIGAZ SA/NV supported trade at the hub on reasonable endeavours for the first five hours following the recording of a curtailment in available gas. The five-hour period was chosen so that the following measures can be taken:

- a. HUBERATOR SA/NV notes the curtailment and informs its customers;
- b. each customer analyses their portfolio separately;
- c. each customer determines the sources with which he can continue his trade after five hours;
- d. nominations by customers have to comply with the two-hour notification period.

The initial price that customers had to pay to benefit from this service was the ZIG D-1 without *uplift*, or in other words the market price before the incident. This agreement was concluded before the integrated DISTRIGAZ SA/NV was split up. It offered good protection for customers at a reasonable price and helped create liquidity, which is of benefit to everyone.

55. HSA2005 replaced this agreement by a structure in which HUBERATOR SA/NV requests offers to provide back-up gas following a procedure that is open to competition. However, HUBERATOR SA/NV has to make a few modifications first, before competitive offers can be made. In the meantime, with the consent of the Focus Group, HUBERATOR SA/NV has concluded another agreement with DISTRIGAZ SA/NV that is valid until 1 January 2007, the date on which the second phase of the compression at the Zeebrugge Interconnector is scheduled for completion. HUBERATOR SA/NV and DISTRIGAZ SA/NV have agreed a new price, with a ceiling at 1.5 x ZIG D-1. Although the Focus Group was aware of this price increase, HUBERATOR SA/NV did not have time to consult all the members of the hub.

56. Once the first five hours have passed, if the curtailment carries on, all active traders have to have a back-up gas source available to deal with the curtailment. This gas may be contracted from another party. However, neither the seller nor the purchaser of this back-up gas knows what quantity of gas is needed and for how long. This uncertainty causes an imbalance for the seller of back-up gas which extends to the border point with the neighbouring transmission network. However, the system has proved that it works. Nevertheless, it can be improved if the network operator takes charge of the fluctuations (by monitoring the entry and exit flanges) so that the take-up at the point of supply presents a flat profile. In any case, this would reassure potential suppliers of back-up gas.

57. If a shipper fails to cover his normal *back-up/back-down* gas requirements, then since the introduction of HSA2005, HUBERATOR SA/NV has had the option of providing back-up gas itself. To do this, it uses the *within-day* market on the APX Gas ZEE exchange. The system has been operational since October 2005 and seems to be working properly. This additional *back-up/back-down* service proved inadequate on just one occasion. This was due to the fact that the level of cover of the shipper concerned with HUBERATOR SA/NV was not high enough to cover the cost of the total quantity of additional back-up gas required. HUBERATOR SA/NV therefore decided not to take the commercial risk and extended the curtailment on the market. It seems that the level of this cover has been increased so that this incident cannot arise again.

## **2.4 Main obstacles to the development of the hub**

### **2.4.1 Access to the hub**

58. As indicated in paragraph 28 of this study, the current Zeebrugge hub is situated at a unique physical location within the FLUXYS SA/NV system, close to the link with Interconnector to Bacton in the United Kingdom. From the Belgian interconnected transmission network, this point is only physically accessible via the rTr/vTn pipeline. The rTr/vTn pipeline (“*Renforcement Transmission/Transit Réseau*” – “*Versterking Transport/Transit Net*”) came into operation on 1 October 1998. It establishes a direct interconnection between the Interconnector Zeebrugge Terminal in the Zeebrugge region (with INTERCONNECTOR (UK) Ltd), Zelzate on the Dutch border (with N.V. ZEBRA and GASUNIE TRANSPORTSERVICES) and Eynatten on the German border (with E.ON/RUHRGAS AG and WINGAS GmbH).

59. Although the Belgian transmission network has about 18 interconnections with neighbouring networks and also has a high level of internal meshing (including with the rTr/vTn pipeline), the following discussion shows that the hub can only be accessed from a limited number of these interconnections.

60. Only network users with capacity rights on the rTr/vTn pipelines described above have the right to supply gas to and take gas from the Zeebrugge hub, as this was a sort of stop for their transmission activities. However, this right is not always defined in contractual terms. It would appear that there are old contracts that have never been adapted along these lines and for which this possibility of withdrawal is therefore agreed by mutual consent.

61. Owing to its location, all the primary rights to capacity that can be used to carry natural gas to and from the hub are in the hands of S.C.A. DISTRIGAZ & Co, a subsidiary controlled entirely by DISTRIGAZ SA/NV, through TRANSFIN SA/NV. All right of access to the hub must therefore result from a bilateral agreement between the potential hub customer and DISTRIGAZ SA/NV, and not between the hub customer and FLUXYS SA/NV, which is the operator of the Belgian transmission network.

Other parties wishing to access the hub only and who do not want to go any further than the Zeebrugge region still have to obtain a capacity right by means of an *entry/exit* agreement with DISTRIGAZ SA/NV. All negotiations take place on a bilateral basis, without the slightest

transparency. Like the primary market, there are no transparent rules for transfers of capacity on the secondary market.

Access to the hub is therefore dominated by DISTRIGAZ SA/NV, for both the primary and the secondary market. As DISTRIGAZ SA/NV is a competitor (actual or potential) of the other market players at the Zeebrugge hub, its central and monopolistic role on the capacity market in the Zeebrugge region poses a real problem in terms of access to the hub. Amongst other things, legitimate questions may be asked about confidentiality and the non-discriminatory treatment of information.

62. Potential gas suppliers also cite the lack of rapid access to capacity as an access threshold. When they have gas available at one of the Belgian border points, they are not able to obtain the additional capacity needed quickly enough to carry this gas instantly as far as the hub. Only capacity contracted in advance can be used to its maximum limit.

63. Recently the hub has come to be considered an entry and exit point for supplies to final customers in Belgium. Under current circumstances, the use of the hub as an exit point for the Belgian market risks remaining very limited owing to the lack of adequate interoperability (cf. below).

#### **2.4.2 Interoperability**

64. The interoperability of natural gas between existing networks is of high importance for a hub with an international dimension so that trading in natural gas from various sources can be reliably assured. It is therefore advisable to make very sure that the quality of the natural gas complies with the quality specifications accepted by neighbouring operators at the interconnection points.

65. Given the current location of the Zeebrugge hub on the rTr/vTn pipeline and the lack of quality conversion facilities, the quality constraints in force on the networks interconnected to the rTr/vTn pipeline also apply at the Zeebrugge hub.

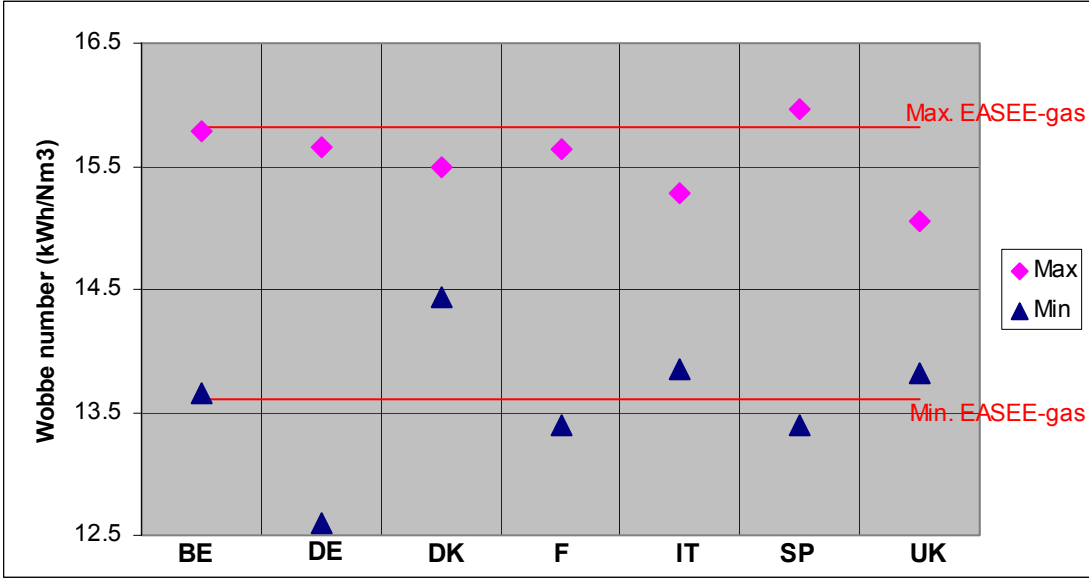
66. The specifications applicable in the United Kingdom, known as *GS(M)R*<sup>16</sup>, are the most restrictive. The main problem as regards the *GS(M)R* specification is the limit on the maximum authorised Wobbe index. Figure 4 also shows the limits recommended by the

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<sup>16</sup> Gas Safety (Management) Regulations of 1996.

EASEE-gas association<sup>17</sup> in the *Common Business Practices (CBP) 2005-001/01* which were approved by its executive committee on 3 February 2005, after years of discussion. Clearly, the British specifications are far more restrictive than the EASEE-gas recommendations. However, the margins of variation authorised in Belgium are already very close to these recommendations.

**Figure 4: Wobbe index: Comparison of EASEE-gas recommendations and the limits in force in various European countries**



*Source: TRANSCO / CREG*

67. The fact that specifications are defined as widely as in Belgium can be explained as follows. The Belgian public authorities quickly adopted a policy aimed at allowing all types of gas to enter freely, whereas final customers were requested to invest in appliances that accepted a wide spectrum, unlike in neighbouring countries, where the gas had to be adapted to the existing appliances. This line of reasoning is reflected in Figure 4 above by a narrow spectrum for the Wobbe index. This approach is characteristic for the gas producing countries that did not seek to diversify their gas sources.

Logically, a country such as Belgium, which has invested in high-performance gas appliances, cannot now be expected to invest in gas conversion as well.

<sup>17</sup> Thanks amongst other things to the support of the European Commission and the European regulators through the Madrid Forum, the “European Association for the Streamlining of Energy Exchange-gas” or EASEE-gas was set up on 14 March 2002. This organisation intends to support the introduction of an efficient and effective European natural gas market by developing *common business practices (CBP)* which simplify and streamline the processes between natural gas companies. Any natural gas company may become a member. The CREG follows the activities of this organisation as an associate member.



68. Natural gas meeting GS(M)R specifications is perfectly in line with the margins applicable in Belgium, but conversely, no gas of other origins, such as LNG, can be injected into the rTr/vTn pipeline as most of the sources of LNG have a Wobbe index between 15.1 and 15.7 kWh/Nm<sup>3</sup>. Consequently, the rTr/vTn pipeline and therefore the hub are isolated from the rest of the transmission network in Belgium.

69. During a recent consultation exercise with the British public authorities, it became clear that no changes in this area may be expected in the course of the next decade. In the United Kingdom, new LNG terminals are therefore fitted with nitrogen injection units in order to bring the Wobbe index down below the required level. Nevertheless, it should be noted that the recommendations of the *EASEE-gas* CBP only concern interconnection points between neighbouring networks. Each country remains free to define different specifications on its national territory. So there is nothing to prevent the United Kingdom from maintaining its current specifications, provided that the necessary means are implemented to ensure that all natural gas that meets the *EASEE-gas* specifications can be accepted at the entry points to its transmission network.

70. In addition to the difference as regards the maximum Wobbe index between continental Europe and the United Kingdom, other issues linked to gas quality have an impact on liquidity.

71. At the Eynatten border point, there is a limitation on the superior calorific value<sup>18</sup> or SCV of natural gas. This limitation is based on a bilateral trade agreement which, owing to the gas chain, has repercussions to the position of certain parties to trade gas at the hub. This constraint also complicates the operational management of the transmission network in Belgium. A consensus was found within *EASEE-gas* aimed at overcoming such problems, which are purely administrative or contractual in origin<sup>19</sup>, by 1 October 2006.

72. There are other differences relating to natural gas quality specifications between the United Kingdom and continental Europe. Examples include the rules on the hydrocarbon dew point and the presence of dust or liquids. Although there are contractual differences, these are levelled out in operational terms by technical measures. It is difficult to quantify the extent to which liquidity at the hub is affected by this. However, the importance of these differences in terms of quality is declining as the Interconnector is increasingly becoming an import pipeline for the United Kingdom.

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<sup>18</sup> The superior calorific value  $H_s$  is the quantity of heat released at the time of the complete combustion of a quantity of dry gas with oxygen when the combustion products are brought down to 0°C. After cooling, the water produced is in its liquid state.

<sup>19</sup> *EASEE-gas* Common Business Practices 2005-001/01, "Harmonisation of Gas Qualities", point 6, approved 3 February 2005.

73. The only physical entry point on the Belgian transmission network which is not on the rTr/vTn pipeline but where British and SCV quality restrictions are met as much as possible is the Zeepipe terminal (ZPT). This terminal is the landing point for the upstream installation carrying gas from the Norwegian continental plate to Zeebrugge, for the Belgian market on the one hand and for transit to neighbouring countries on the other. The ZPT is integrated into the Belgian transmission network and is directly connected to the rTr/vTn pipeline by means of a pipe to the “Oostkerkestraat” natural gas station. Generally speaking, Norwegian natural gas can be injected into the rTr/vTn pipeline via “Oostkerkestraat” to be traded at the hub.

In contractual and physical terms, the gas from the ZPT may exceed the quality limits in force at the hub. In this case, if it is intended for the hub, the gas would have to be interrupted. At the moment, the Norwegians are managing to bring the specifications of gas intended for the ZPT into line with the specifications applicable at the hub, thanks to the flexibility they have from their production fields and their network of gas pipelines. However, in the relatively near future, it will be increasingly difficult for them to meet the current quality constraints at the hub, owing amongst other things to the gradual drying up of certain production wells.

74. There are no interconnections between the hub and the pipelines with low calorific natural gas, also known as *Slochteren* gas, which goes from the Netherlands to France by transiting through Belgium. The Zeebrugge hub is therefore not accessible to Slochteren gas. Given the structure, size and gradual shrinking of this market, overcoming this constraint or creating a specific hub for L gas are not matters of priority.

### **2.4.3 Security and means of flexibility**

75. Since the hub is, so to speak, physically attached to the Interconnector, trade at the hub is particularly sensitive to physical interruptions that may be attributed to the inversion of the physical flow in this pipeline. The automatic back-up services provided by HUBERATOR SA/NV usually make it possible to ensure the transactions concluded at the hub. However, these services are only offered on the basis of ‘*reasonable endeavours*’, i.e. without a total performance guarantee. Given the lack of transparency of the filling-in of this back-up, this results in a negative perception of the market in terms of the lack of firmness of transactions concluded at the hub, even though service interruptions are becoming increasingly rare. Recent investments in additional compression in Zeebrugge, which speed up inversion, as

well as the continued development of back-up services at the hub are contributing, as far as is possible, towards stabilising commercial trade.

76. However, the means of flexibility are limited. Physical storage facilities in the vicinity of Zeebrugge are limited. In addition, the allocation rules applicable to the existing storage facilities in Belgium are subject to a public-service obligation which grants priority access to suppliers operating on the distribution networks in Belgium. However, access to storage would make it possible to cope with interruptions, but also take advantage of the price difference between short- and long-term products. For instance, a high spot price (compared with the “*month-ahead*” price) during the summer may lead to the use of gas from storage facilities. The additional gas then makes it possible to limit the rise in the spot price. Issuing storage gas to supply the spot market is offset by an injection later in the season.

## **2.5 Conclusion of Chapter 2**

77. The Zeebrugge hub was born of the market’s need for a physical transfer point and it has a number of characteristics that contribute towards its smooth running:

- a. standardised contracts (HSA 2005) and terms and conditions for trade (ZBT 2004);
- b. the central location of Zeebrugge in Western Europe;
- c. the international nature of the hub;
- d. an electronic trading system that facilitates access to trade;
- e. a gas exchange that efficiently controls the credit risk of participants in the market (for example by means of clearing);
- f. the existence of natural gas price indexes, established by brokers for the fully interchangeable range of products and published in the written press;
- g. a large number and wide range of registered participants;
- h. an independent operator;
- i. the low level of costs, which promotes access to the market for newcomers.

78. Nevertheless, certain aspects of the current structure at the Zeebrugge hub have a disruptive effect:

- a. the isolation of the hub, as regards both the location of the rTr/vTn pipeline and the narrow range of quality specifications, making LNG trading impossible and interaction with the local market non-existent, and complicating trading in Norwegian gas;
- b. the lack of transparency on the primary and secondary capacity markets to and from the hub;
- c. the high degree of sensitivity of the trade to physical interruptions, including those caused by the Interconnector;
- d. the lack of physical storage facilities in the immediate vicinity of the hub;
- e. the length of time it takes to obtain capacity to and from the hub;
- f. the market power of DISTRIGAZ SA/NV in terms of control of the pipelines leading to the hub, enabling the company to obtain details of the positions of all the other parties;
- g. the market power of DISTRIGAZ SA/NV in terms of support and pricing of the automatic back-up service. Parties with a market power can unilaterally influence prices, which may undermine confidence in the market and hence have a negative impact on the willingness of other parties to develop commercial activities on this market;
- h. the limited trade on APX Gas Zee ;
- i. the limited information about the market.

The impact of these elements on liquidity at the hub is discussed in the following chapter.

## **3. PRESENTATION OF LIQUIDITY**

### **3.1 Liquidity on the commercial market**

79. Markets on which products such as gas, electricity and financial products are traded exist in numerous countries throughout the world. These markets meet the same need as all product markets: they provide a meeting place where buyers and sellers can trade and where a transparent price for a product can be defined.

80. Market liquidity (or liquidity) is a measurement of the performance of a commercial market. On a liquid market, buyers and sellers can negotiate volumes, without this having a significant effect on market prices. However, on a market lacking liquidity, buyers and sellers are under the impression that market prices are developing against their interests and that the final price set differs considerably from the price they had noted on the market before the negotiations began. Of course, it cannot be denied that even on a liquid market, obtaining the best price is an art in itself.

81. Liquidity is the direct result of activity on the market, which may be supported by market regulations and appropriate legislation or which, on the contrary, may be impeded by the overly invasive rules of a planned economy. However, fluctuations in liquidity do not necessarily mean that there is a problem. Nor is there any objective measurement of the lack of liquidity on a market.

Even a market that is liquid under normal circumstances may experience difficulties during periods of stress. At times like this, the bid-ask spread will increase and prices may vary considerably within limited volumes.

82. To ensure a perfectly liquid market, all the following conditions must be fulfilled:

- a. a large number and wide variety of buyers and sellers who need to trade with other market players. No company may exercise a significant influence on the market. All the market participants are “price takers” (as opposed to “price setters”);

- b. all the products traded are interchangeable, with the result that no company can monopolise the market in terms of a product that it offers (given that there are possibilities for arbitrage between the different products). For instance, in gas trading, the four success quarterly products are equivalent to the annual product;
- c. companies are free to come and go on the market. There are no technical, legal or institutional thresholds preventing a potential member from joining the market. Institutional thresholds include regulatory thresholds and linguistic barriers;
- d. information is transparent and all companies have access to information coming from the market relating to products, prices and quantities exchanged. This means that companies are on an equal footing as regards making the most of commercial opportunities.

83. In actual fact, no market is perfectly liquid. However, there are a number of factors that are likely to stimulate liquidity and make it possible to comply with the criteria set out above.

84. Generally speaking, it may be said that small, short-term contracts tend to favour the emergence of a liquid market. It may be observed, amongst other things, that the short-term *day-ahead* market in Zeebrugge has attained a certain level of liquidity, whereas trading in products in the longer term is relatively sporadic<sup>20</sup>.

85. The indicators used to measure liquidity on mature commercial markets are virtually identical everywhere<sup>21</sup> :

- a. tightness<sup>22</sup>, measured by the bid-ask spread<sup>23</sup> ;

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<sup>20</sup> To publish prices indexes that can be used for products traded sporadically nevertheless, a volume weighted average of the price from all the transactions concluded during a given period is usually used. This period will never be longer than the frequency of publication of the index in question. The advantage of this solution is that it overcomes the concern that the price index may be influenced by one single major transaction or one major player.

<sup>21</sup> A different proposal was put forward by the CEER Position Paper "The development of gas hubs and trading centres in Europe" presented at the 7<sup>th</sup> meeting of the Madrid Forum on 24-25 September 2003, available at [http://europa.eu.int/comm/energy/gas/madrid/doc-7/29\\_ceer.pdf](http://europa.eu.int/comm/energy/gas/madrid/doc-7/29_ceer.pdf), page 7 :

*"It seems that the two main parameters to be taken into consideration for the appreciation of the liquidity of the market are:*

- *the share of the physical spot gas trades delivered– on a daily, weekly, monthly or quarterly basis– in the total basket of gas supplies in the area; and*
- *the ratio between the net quantity of all trades between counterparties (the "churning" factor).*

*Transparency and liquidity, that are the two fundamental criteria to the success of any gas hub, can be defined as follows:*

- *transparency means that the price quoted on the spot market is electronically published in real-time;*
- *liquidity means that no dominant player may manipulate spot prices."*

<sup>22</sup> In French: *l'étroitesse*. In Dutch: *strakheid*

- b. the traded volume and, as regards trading in raw materials, the “*churn*” (the relationship between the traded and physical volume on a given day);
- c. volatility;
- d. the depth of the market;
- e. the increased use of possibilities for arbitrage;
- f. the perception of liquidity on the market among traders.

It may be supposed that the two main indicators of market liquidity are the tightness and the depth of the market. Tightness is the capacity of the market to reconcile supply and demand. If the market lacks tightness, a player buying a product is not sure of being able to sell it later on at a fair price. The depth of the market concerns the market’s capacity to absorb substantial commercial flows without this having a significant impact on prices.

86. However, even in the United States, where they come closest to a perfectly liquid market and where a “churn” of 250:1 may be observed, a regulator is needed to keep an eye on the market. The possibility of manipulating prices, no matter how closely this is linked to liquidity, is in fact more closely associated with market concentration and market power.

A recent case concerned EL PASO traders who were passing on false information to try and influence the FERC gas index<sup>24</sup>. This example illustrates that even on a liquid market, it is possible to manipulate supposedly reliable indexes. Consequently, all indexes based solely on the communication of transactions are open to abuse. This type of index should always be used with appropriate caution in commercial contracts.

### **3.2 Assessment of liquidity at the Zeebrugge hub**

87. The analysis of the indicators used to measure liquidity, as indicated in paragraph 85 of this study, is as follows for the Zeebrugge hub:

- a. the bid-ask spread: analysis of the *day-ahead* and *quarter-ahead* indicates, on the basis of confidential information provided by Heren Energy, that there is a spread within a narrow band. Even though the number of variances compared with this

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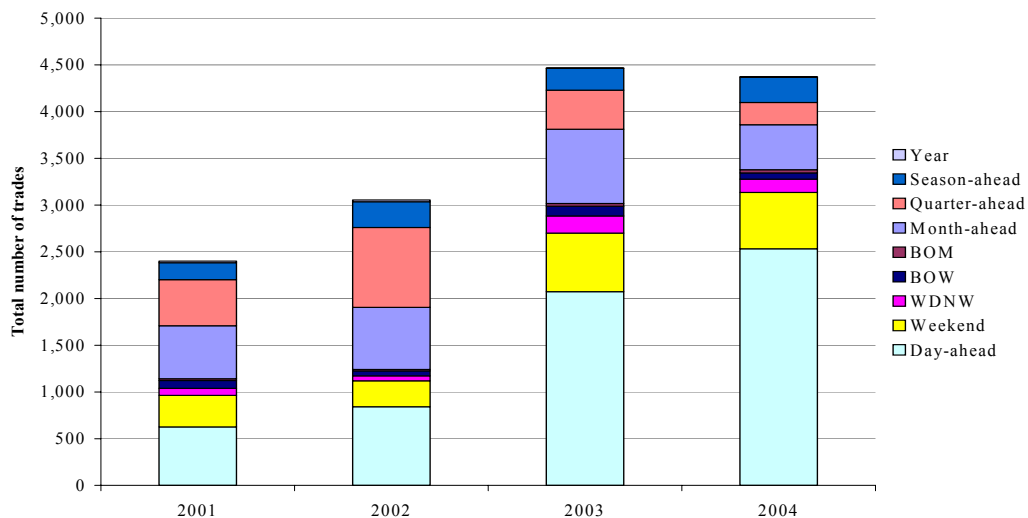
<sup>23</sup> In French: *la différence entre le prix de l’offre et de la demande*. In Dutch: *het verschil.tussen de bied- en laatprijis*.

<sup>24</sup> The *Federal Energy Regulatory Commission* or *FERC* is an independent American agency that regulates the transmission of natural gas, oil and electricity between states. The FERC also regulates LNG and hydraulic projects.

band usually proves to be very limited in time (since the year 2000), an increase was observed in 2005. This may be linked to the (constant) rise in prices; it is typical, on a market that is clearly rising, to see the spread increase (in other words, the selling price rises more quickly than the price offered, which follows slowly).

- b. traded volumes: the volumes on the short-term market have risen steadily while those on the long-term market have fallen over time.

**Figure 5: Development of trade over the complete range of products**



Source: ILEX Energy Consulting Limited

Stagnation, or even a fall in volumes may be observed. This indicator provides a reflection in figures of the disquiet felt on the market, which is also illustrated by other indicators.

It is difficult to determine a precise “churn” because only net nominated positions are nominated at HUBERATOR SA/NV. However, HUBERATOR SA/NV does note a significant increase for 2005 on its Internet site;

- c. price volatility: no information is available relating to intra-day movements. One estimate suggests that the level of volatility lies between 50 % and 150 %, which is comparable with the NBP in the United Kingdom;
- d. depth of the market: no information is available on the depth of the market. The APX exchange usually provides this information, but owing to its limited activity, it does not yet have any relevant information.



- e. arbitrage: price differences on the short-term market between NBP and the Zeebrugge hub dictate the direction of flow within the Interconnector. An analysis of the gas year 2005 reveals that at the end of each gas day, there was no longer any opportunity for arbitrage between the various products on the two exchanges, considered individually and jointly.

The lack of storage, which could lie behind the lack of possibilities for arbitrage between spot and long-term products, does not emerge clearly. Nevertheless, major differences must be pointed out here between the Zeebrugge hub and the TTF in the Netherlands. However, this situation may be explained by the lack of interconnection capacity and not of storage facilities.

The NBP, TTF and Eurohub are competing hubs located relatively close to the Zeebrugge hub. Financial trading will tend to focus on a limited number of hubs, in particular those offering the greatest liquidity. However, this scenario has not yet occurred. The limited transmission capacity, or access to this capacity, coupled with the problems in terms of gas quality, have a decisive impact on trade between hubs. As long as this is the case, a price risk will be associated with gas supplies in various places. For instance, during the winter of 2005-2006, on some days the price of natural gas on the spot market was over twice as high in Zeebrugge (and at NBP) as at the TTF in Holland. A company replacing gas from one hub by gas from another faces an unknown price difference (i.e. variable). Consequently, the gas market tends to be more local, and this leads to a greater number of hubs. The area of interest for the Zeebrugge hub is therefore limited to the market it serves;

- f. opinion of market players: traders consider the short-term market to be liquid and the long-term market non-liquid. The long-term market has shrunk, mainly over the past 12 months. Participants are optimistic about the increase in liquidity over the next 12 months. Their main concern relates to the structure of the market.

88. Analysis of the indicators referred to above therefore produces a twofold image of the market in Zeebrugge. The fact that data are not available to assess certain indicators shows that the market cannot yet be considered mature. In addition, the recent widening of the bid-ask spread, the stagnation of volumes exchanged and the concern expressed by market players reflect the delicate situation as regards liquidity. However, a distinction should be made between liquidity on the short-term market, which remains respectable, and liquidity on the long-term market, which is declining.

### **3.3 Conclusion of Chapter 3**

89. The result of this examination of the indicators, together with the negative factors put forward in the previous chapter (cf. paragraph 78 of this study), identified further to the analysis of the structure of the Zeebrugge hub, lead to the conclusion that structural measures need to be taken to support liquidity at the Zeebrugge hub.

90. None of the conditions set out in paragraph 82 of this study, which need to be fulfilled to obtain a perfectly liquid market, is in fact fulfilled unconditionally:

- a. even though a large number and wide range of market players have been identified, the market power of DISTRIGAZ SA/NV cannot be denied, and there is no doubt that this undermines confidence in the market and hence has a negative influence on the willingness of other parties to trade;
- b. even through all the products traded are interchangeable and all the possibilities for arbitrage have at first glance been used, the relationship between the hub and the NBP in the United Kingdom is as pronounced as the gap that has appeared with the TTF in the Netherlands;
- c. owing amongst other things to the isolated position of the hub, access problems, the exclusion of certain sources, the dominant position of DISTRIGAZ SA/NV and the limited interoperability, the organisational structure of the hub is the main obstacle to liquidity at the Zeebrugge hub;
- d. there is a lack of transparent information, which can partly be attributed to the immaturity of the market, as illustrated by the limited activity on the APX Gas ZEE exchange.

91. Further adaptations to the structure of the market are the only way to ensure the development of the Zeebrugge hub into a mature market. The liquidity indicators show that there is no time to be lost. The most obvious structural adaptations therefore need to be taken without delay.

92. The main factors are:

- a. the deficient access and limited availability of capacity, which require a more transparent and non-discriminatory structure;

- b. the lack of interoperability in Zeebrugge which prevents trade in LNG at the Zeebrugge hub;
- c. the lack of “firmness” of trade at the Zeebrugge hub and the dependence on DISTRIGAZ SA/NV for the *back-up/back-down* service;
- d. the lack of sufficient information for newcomers to the market;
- e. the lack of flexibility services.

## **4. MEASURES TO IMPROVE LIQUIDITY AND SUPPORT THE DEVELOPMENT OF THE GAS MARKET**

### **4.1 Regulation**

93. As was said in Chapter 2.2 of this study, the Zeebrugge hub was set up by the former DISTRIGAZ SA/NV following the entry into service of the Interconnector between Zeebrugge and Bacton. The hub is therefore the result of an initiative taken by the former Belgian gas monopoly in response to market demand from shippers operating on the Interconnector.

The hub's role in terms of the gas trade can scarcely be underestimated. As was said in Chapter 1.2 of this study, the hub is an extremely important trading point within the liberalised market, at which shippers, traders and suppliers meet to trade gas.

94. The Zeebrugge hub has the advantage of a unique situation. The current hub has a significant head start over all other initiatives, and in addition to this, the Zeebrugge region has the best strategic position in Belgium in terms of natural gas flows in North-Western Europe. In fact, it seems to be very difficult, if not impossible, to set up a competing hub in Zeebrugge or elsewhere in Belgium.

95. Even though a large number and wide variety of market players have been identified and the commercial platform in question is considered the second most liquid in Europe after the NBP in the United Kingdom, the market power of the present-day DISTRIGAZ SA/NV cannot be denied, and this irremediably undermines confidence in the market and hence has a negative impact on the willingness of other parties to trade. This market power is most flagrant as regards:

- a. control of the gas pipelines leading to the hub, which means that the company is aware of the positions of all the other parties;

- b. the provision of services at the hub, such as the automatic back-up service, which means that it can determine unilaterally the way this service operates and the price charged..

Chapter 3.1 of this study refers to the United States, where the market today is the closest there is to a perfectly liquid market. Even with a “*churn*” of 250:1, it is considered necessary for the regulator to keep an eye on the trade. The ability to manipulate the price, no matter how closely linked to liquidity, depends more on the level of concentration on the market.

When it comes to creating liquidity, market confidence is an important factor, making independent control essential.

96. Two separate markets co-exist at the Zeebrugge hub, an OTC market and an anonymous, public market based on the APX platform. The first has existed since the hub was first established and is far more developed than the second. However, in order to promote transparency and liquidity at the hub and to foster the arrival of smaller traders (such as certain final customers wishing to manage all or part of their supplies themselves), ideally the public exchange should gain importance or even supplant the OTC market.

97. Neither the hub nor the gas exchange is subject to specific regulations or independent monitoring. The CREG considers that these trading platforms constitute monopolies. Bearing in mind the difficulty of creating liquidity, it is difficult to envisage another hub or another gas exchange in Belgium. Generally speaking, it would seem to be advisable to convert the monopoly into a legal monopoly, or at least submit it to public control. Moreover, the hub and the gas exchange constitute essential links in the smooth running of the gas market and efficient competition on a level playing field. Initially, the CREG is advocating the appropriate regulation of the gas exchange.

98. As regards the hub, the CREG is asking HUBERATOR SA/NV to (i) expand its market consultation processes, by including the regulator and all the players concerned, even if they are not members of the hub, (ii) to implement the measures recommended in this study which concern them, (iii) take any initiatives which would improve the working of the market and liquidity at the hub. The CREG will assess the working of the hub in the light of the above before making practical recommendations aimed at the possible regulation of the hub.

99. The CREG is examining the status as regards gas flows to the hub compared with regulated access to the Belgian transmission system. On the basis of this examination, the required measures will be taken or proposed.

100. As regards the gas exchange, the CREG refers to its study (F)040408-CDC-268 of 8 April 2004 on the regulatory measures needed for the creation of a Belgian electricity exchange, which was used as a basis for the implementation of regulation for the BELPEX electricity exchange recently set up. Even though there are differences between the gas and electricity markets, the CREG feels that most of the measures proposed in this study are also valid for the natural gas exchange, although some adaptations will have to be made to take account of the specific features of this market.

The main measures proposed in this study are designed to:

- a. stimulate transparency;
- b. increase the supply of electricity on the exchange;
- c. bring down the transaction costs;
- d. specify the role of the transmission network operator in the management of the electricity exchange;
- e. define the conditions of access and the functioning of the exchange, including the choice of a system of designation and authorisation for the exchange operator, the corporate governance rules (independence of the exchange operator in respect of its customers) and the importance of monitoring of the exchange's operating rules by a regulator.

Like the reasons for regulating the electricity exchange, where concentration in terms of the generation of electricity does not favour liquidity, there is therefore a need for the platform on which the market players negotiate blocks of gas to offer sufficient guarantees in terms of reliability, transparency, efficiency and smooth trading.

101. In accordance with Article 18, paragraph 1, 3°, of the law of 29 April 1999 on the organisation of the electricity market (hereinafter referred to as the Electricity Act), the CREG recommends the adaptation of the Gas Act.

## 4.2 Facilitating access to the hub

### 4.2.1 Creation of a special transmission system

102. In the interests of simplicity, the more gas can be carried easily to and from the Zeebrugge hub, the more probable it is that the quantity of gas exchanged will be high. At its most recent meeting on 18 and 19 May 2006, the Madrid Forum stressed the need for market-oriented balancing mechanisms. Suppliers must still be able to act within the balancing period balance in order to overcome imbalances. The hub is the ideal place to buy 'balancing gas'.

103. First of all, accessibility to the hub must be improved. At the moment, in physical terms the hub is only accessible via the rTr/vTn pipeline. Even though this situation is historically justified, the result is that the natural gas on offer in the Zeebrugge region via any other infrastructure cannot directly support the trade.

104. The special position of shippers on the rTr/vTn pipelines can no longer be tolerated. It is time to listen to the complaints of shippers operating at the Zeepipe terminal, who feel that the way in which access to the hub is organised is rather unfair<sup>25</sup>. The intermediary stage via the rTr/vTn pipeline to reach the hub, while necessary, must be organised by an independent party and not - as is the case at the moment - under the control of a dominant supplier.

105. However, discussion cannot focus solely on these two categories of shippers. The LNG shippers and suppliers of the Belgian market must not be forgotten when developing access to the hub. All these target groups use the infrastructure available in the Zeebrugge region. Although these facilities were set up in the context of different systems and at different times (since the 1980s and still underway, such as the extension of the LNG terminal and the additional compression in the Interconnector Zeebrugge Terminal), they are linked to one another and, even if this is to a limited extent and in exceptional cases, they are used operationally to support one another.

106. The CREG believes that a new underlying market structure is required. By analogy with the Henry Hub in the United States, it advocates the introduction of a transparent access model, customised for the Zeebrugge region. An analysis carried out for the European

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<sup>25</sup> See the CREG consultation report on the working of the Belgian natural gas market, page 9, <http://www.creg.be/pdf/Opinions/2005/GT112005/GSD-051110-rapportdeconsultationv6-FR.pdf>.

Commission by the Brattle Group in 2002<sup>26</sup> stresses that the definition of an access model may be based on three types of contracts, namely:

- 1° the postage stamp – where a network user is authorised to inject gas at any entry point and take up gas at any exit point. In a system based on this type of contract, the network user can change entry point and exit point without having to conclude new contracts;
- 2° *entry-exit* – where a network users is contractually bound to inject their natural gas into the system at previously determined entry points, but have access to all exit capacity at any exit point. If a network user wishes to inject natural gas into the system at a new entry point, a new contract has to be concluded;
- 3° *point-to-point* – where a network user is authorised to inject gas at a specific entry point and take up gas at a specific exit point.

107. The postage stamp model, applied to the small region of Zeebrugge and independently of the national system, seems realistic and constitutes the model that offers network users the greatest freedom. The entry points for this model are the IZT, the ZPT, the LNG terminal and OKS, while the IZT and OKS can also be used as exit points. The regulated price covers any costs incurred to support the system. Such costs relate to the construction of support infrastructures and/or the purchase of existing infrastructure.

This scheme does not prevent the hub from operating differently during a transitional period. For instance, the hub's activity can be based on a wheeling service (cf. § 110) between a number of terminals, which is directly applicable, and which does not in any way modify the existing long-term transmission contracts, applied on the pipeline system of Zeebrugge.

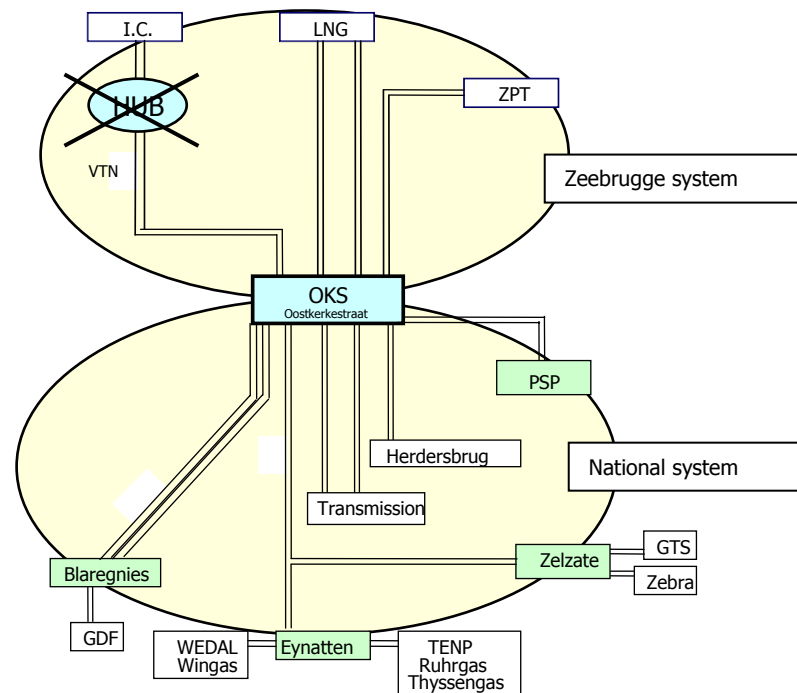
108. The new structure is presented visually in Figure 6. In Belgium, two systems will operate side by side on the interconnected transmission network, each with their own specific features and the OKS station as the common point.

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<sup>26</sup> Convergence of Non-Discriminatory Tariff and Congestion Management Systems in the European Gas Sector, September 2002, The Brattle Group, Chapter 5.1, page 56.



**Figure 6: System for the Zeebrugge region**



109. The network can be divided into two separate zones by FLUXYS SA/NV immediately, on the basis of the current code of conduct, by means of an amendment to its main terms and conditions in accordance with Article 10 of this code of conduct. Article 6, points 5° and 6°, of the code of conduct set practical objectives for the network operator in this respect:

**“Article 6.** The transmission company manages its transmission network, organises the transmission of gas and offers transmission services so as to meet the reasonable needs of network users.

To this end:  
(...)

5° the transmission company takes account of the needs of network users who have recourse to an exchange for natural gas;

6° the transmission company refrains from hampering natural gas trade, in particular via a hub;”

The clear need to link the terminals available in the Zeebrugge region to one another in a functional manner and to overcome the restrictions of access to and from these terminals in Zeebrugge clearly shows the need to make the modifications called for.

110. At the 23<sup>rd</sup> World Gas Conference organised in Amsterdam by the International Gas Union from 6 to 9 June 2006, FLUXYS SA/NV announced the gradual introduction of a new service that will make it possible to have access to the hub from any terminal in Zeebrugge.

The CREG considers the introduction of this new service a first step towards the transformation of the Zeebrugge zone into a separate transmission system. It has the advantage of being able to meet market aspirations in the short term. This service will have to be introduced on the basis of specific rates that will need to comply with the provisions of the Gas Act and will have to be approved by the CREG.

In the longer term, it will be necessary to look in more detail at the impact of the creation of a specific transmission system in Zeebrugge on existing long-term transmission contracts. In the meantime, FLUXYS SA/NV has been requested not to make any new commitments that are likely to hamper the introduction of a separate Zeebrugge system for a long period of time.

#### **4.2.2 Application of TPA rules to transit**

111. If we compare all the major pipelines that carry gas to and from the hub, it has to be noted that those located on Belgian territory are less accessible to third parties. Pipelines such as the Interconnector, the Zeepipe and the LNG terminal have a short-term secondary market, organised by the network operator who acts with total transparency as regards the availability of capacity, contractual conditions and price. On pipelines linking the Zeebrugge region to the Netherlands, Germany and France, shippers who have gas intended for the hub are left to themselves as regards their attempts to buy capacity from DISTRIGAZ & Co or from other shippers with transit capacity. This situation clearly illustrates the consequences of a restriction of regulatory competence.

112. Measures are urgently needed. Long-term transit contracts apply to these “Belgian” access routes to and from the Zeebrugge region or the hub. In order to increase the level of use of capacity contracted in the long term, the first measure is the introduction of short-term capacity. The availability of short-term capacity makes it possible to introduce greater flexibility into gas movements to and from the hub. A secondary market for short-term capacity, stimulated by “*use-it-or-lose-it*” rules, seems to be the solution. The possibility of contracting capacity in the short term results in an increase in volume and hence greater liquidity for short-term products at the hub.

113. Strictly speaking, this structural modification is a transposition of the rules laid down in European Regulation No 1775/2005 which comes into force on 1 July 2006. Thanks to this European regulation, transit in Belgium is subject to rules that promote transparency and non-discrimination, including the compulsory introduction of a secondary market.

The CREG intends to ensure that the network operator complies with this regulation and has taken steps to this end. The CREG plans to organise a public consultation process on the basis of the proposal put forward by the network operator.

### **4.3 Interoperability**

114. The quality of natural gas has a significant impact on liquidity at the Zeebrugge hub because the current specifications limit the quantity of gas that can be traded. To attain adequate liquidity, it is essential to widen the specification margins regarding the quality of natural gas that can be traded at the hub.

115. The CREG respects the competence of the British authorities to define the specifications they require on their territory, but considers that these specifications cannot be exported to the Zeebrugge hub, which must, first and foremost, be an instrument serving the Belgian market. In agreement with the other competent Belgian authorities and/or interested parties, the CREG is planning to impose the specifications recommended by *EASEE*-gas on the Belgian market. As regards interconnections between neighbouring countries, the agreement concluded within *EASEE*-gas stipulates that all natural gas that meets the specifications recommended by *EASEE*-gas (cf. Chapter 2.4.2 of this study) must be able to circulate freely. What is more, the CREG believes that the rTr/vTn pipeline must be integrated into the Belgian network. There is an urgent need to take all the necessary steps to lift the severe quality constraints currently in force on the rTr/vTn pipeline and at the Zeebrugge hub and that come from Germany and the United Kingdom.

116. As regards the constraint on the SCV in Eynatten, the CREG has contacted the contracting parties and urged them to comply with §6 of the CBP 2005-001/01 of *EASEE*-gas, which they approved within the organs of this association. This article calls for the lifting

of contractual provisions on the SCV that hamper free trade in gas, which is clearly the case of the constraint in Eynatten<sup>27</sup>.

117. As regards the limitation of the Wobbe index and the other constraints linked to *GS(M)R*, investments in the gas conversion facilities are needed. Given that several system operators are involved<sup>28</sup> and that the coordination between all these parties was not all it might have been, the CREG has decided to coordinate the feasibility study on these investments.

118. The reduction of the Wobbe index with a view to export non-conform gas to the United Kingdom can be achieved by injecting nitrogen into the natural gas (known as *ballasting*), or by mixing natural gases from several different sources (known as *blending*), such that the gas resulting from this blend complies with *GS(M)R* specifications.

An initial analysis suggests that it would be wise to undertake the final conversion of the gas as close as possible to the market concerned, i.e. in Bacton. Before the natural gas enters the United Kingdom, maximum use can be made - in Bacton amongst other places - of the capacity for blending with natural gas from Belgium (via the Interconnector), the Netherlands (via the Balgzand Bacton pipeline) and upstream installations located on the British continental shelf. Conversion facilities established in Bacton can be optimally adjusted in accordance with the quality requirements of the British market, or in other words at a lower cost for the British consumer. This does not prevent that some of the gas will nevertheless be converted in Zeebrugge.

An optimal solution may require the adaptation of the quality specifications in the Interconnector.

119. As regards supplementary investment in Zeebrugge, the CREG is adopting the principle that the conversion of quality should be undertaken in just one direction, that is towards the level in force in the United Kingdom. All the gas imported from the United Kingdom complies with the “*EASEE-gas*” quality and may be traded directly at the hub. This means that any conversion costs can only be passed on in the natural gas trade to the United Kingdom. Gas intended for France, the Netherlands, Germany and Belgium is not affected.

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<sup>27</sup> See also the letter from the CREG to EASEE-gas, available on <http://www.easee-gas.org/common%2Dbusiness%2Dpractices/approved%2DCBPs/CommentsonCBPs.htm>.

<sup>28</sup> Fluxys, Fluxys LNG, IUK, National Grid-Transco, GASSCO.

120. The adaptation of the quality specifications in the Interconnector does not seem to be insurmountable. A recent initiative was taken with a view to try raising the maximum Wobbe limit by  $0.25 \text{ MJ}/(\text{n})\text{m}^3$ , as well as the total sulphur quantity, and hence remove the margin that was included in the conditions for importing gas to Bacton and applying GS(M)R specifications directly on the Interconnector<sup>29</sup>. An initial procedure should be followed with a view to adapting the quality specifications sufficiently so that “EASEE-gas” quality can be exchanged at the Zeebrugge hub.

121. There are other differences relating to natural gas quality specifications between the United Kingdom and continental Europe. Examples include the rules on the hydrocarbon dew point and the presence of dust or liquids. Although there are contractual differences, these are levelled out in operational terms by technical measures. It is difficult to quantify the extent to which liquidity at the hub is affected by this. However, the importance of these differences in terms of quality is declining as the Interconnector is increasingly becoming an import pipeline for the United Kingdom.

## **4.4 “Firmness” of the trade**

### **4.4.1 Back-up**

122. Any physical interruption linked to the Interconnector immediately affects the physical balance at the hub. This is why back-up gas has to be available instantly. HUBERATOR SA/NV organises back-up services lasting different lengths of time (cf. paragraphs 54 to 57 inclusive). Experience has shown that they are not enough candidates offering back-up gas to be able to refer to a competitive market.

According to Article 6, part 2, 2°, of the code of conduct, transmission companies have to help network users with a view to maintaining the balance between deliveries and off-take of natural gas by developing flexibility services and organising access to and use of any storage facilities.

In accordance with paragraph 99, the organisation of this service is therefore entrusted to the network operator as a regulated service. Consequently, in future, the CREG will monitor this service from this point of view, as well.

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<sup>29</sup> Letter from Ofgem dated 7 February 2006, Ref.: UNC/Mod/069: “Uniform Network Code modification proposal 069”.

#### 4.4.2 Access to storage

123. Given the current situation as described in paragraph 76 of this study and the comments the CREG was able to gather during its consultation process in 2005<sup>30</sup>, the development of the hub also involves improving the supply of flexibility. To meet this need in particular, further to the modification of the Gas Act by the law of 1 June 2005<sup>31</sup>, the CREG proposed adapting the rules on the allocation of storage capacity in Belgium, so that part of this - albeit a very limited part - can be reserved for hub customers, either directly or indirectly, by means of the implementation by FLUXYS SA/NV or HUBERATOR SA/NV, of a range of *parking and lending services*<sup>32</sup>.

124. Rather than following the line of reasoning favoured by the CREG, the legislator preferred to return to the text preceding the Gas Act (Article 15/11, §2) through the law of 27 December 2005<sup>33</sup>, which grants priority access for all storage to those holding a supply licence in Belgium on the distribution market, without prejudice to the capacity reserved by the transmission operator to cover their operational needs<sup>34</sup>. This rule makes it impossible to allocate any stored gas to hub customers.

125. On the basis of the new structure as presented in Chapter 4.2.1 of this study, all the storage resources (including Belgian) lie outside the Zeebrugge transmission system, which acts as the new hub location. This is why it is impossible to offer flexibility in the Zeebrugge region. Resources have to be found in neighbouring systems, namely the Norwegian system, that of Interconnector (UK) Limited and the LNG terminal, as well as the Belgian national system.

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<sup>30</sup> See the CREG consultation report on the working of the Belgian natural gas market, page 9, <http://www.creg.be/pdf/Opinions/2005/GT112005/GSD-051110-rapportdeconsultationv6-FR.pdf>.

<sup>31</sup> Law of 1<sup>st</sup> June 2005 amending the law of 12 April 1965 on the transmission of gaseous and other products by pipeline (*Moniteur belge* (Belgian official journal) of 14 June 2005).

<sup>32</sup> CREG press release of 15 July 2005: <http://www.creg.be/pdf/Presse/2005/compress15072005fr.pdf>.

<sup>33</sup> Law of 27 December 2005 comprising various provisions (*Moniteur belge* of 30 December 2005).

<sup>34</sup> CREG press release CREG of 2 February 2006: [In July 2005, the CREG had asked FLUXYS SA/NV to modify its storage capacity allocation rules in order to make stored gas more accessible to all suppliers \(see press release of 15 July 2005 on this issue\)](#). However, an amendment of the Gas Act confirms that the existing storage capacities need to be allocated to distribution customers as a priority.

## 4.5 Transparent information

126. It is important to distinguish between information about the products traded, the prices and the quantities at the hub on the one hand and information concerning the underlying system and the access routes to the hub on the other. New developments are needed across the board.

127. The APX Group, in conjunction with the specialised press and a number of brokers, has undertaken to pass on the first type of information. Everything is in place at APX to provide the market with sufficient information, but these services are not yet in operation owing to the limited activity on this exchange.

Consequently, hub customers are dependent upon data available in the United Kingdom for market information relating to the OTC trade. This partly explains the link between activities at the Zeebrugge hub and the NBP in the United Kingdom.

128. Market information on the underlying system and access routes to the hub are not sufficient if the aim is to supply *within-day* transactions at the hub. Since the CREG now has competence for transit thanks to European Regulation No 1775/2005, it will be able to require greater transparency from the network operator(s).

129. A comparison with the achievements of the network operator in the United Kingdom, NATIONAL GRID Plc, proves very revealing<sup>35</sup>. Daily data on natural gas supply and demand, natural gas flows at the entry and exit points in the Zeebrugge zone, the *linepack*, the risk of interruption, the price index, the impact of weather conditions and the use of storage gas are passed on with complete transparency. FLUXYS SA/NV urgently needs to adapt the information published to the needs of all network users and not solely to those with wide experience of the natural gas sector and a good level of own resources.

## 4.6 The consultation platform

130. With a view to continuing the integration of the Zeebrugge hub in the liberalised market and to support the changes needed to achieve this, the CREG intends to create an *ad hoc* consultation platform, which will facilitate market consultation in the context of

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<sup>35</sup> <http://www.nationalgrid.com/uk/Gas/Data/dsr/>.

problems relating to the smooth running of the Zeebrugge hub and the economic, technical and legal aspects.

The CREG habitually organises public consultation processes when it is called upon to approve or develop new market rules. However, the complexity of this project, aimed at increasing liquidity at the Zeebrugge hub, indicates that an on-going consultation process will be necessary. This is why the formula of a consultation platform seems more appropriate.

131. When this “Zeebrugge platform” is set up, care must be taken to ensure that the market players concerned are adequately represented. The CREG will invite the following institutions or companies:

- a. the public authorities concerned: the Federal Public Service for the Economy, small and medium-sized enterprises, small businesses and energy, the *Department of Trade and Industry* (DTI) and OFGEM;
- b. the operators: FLUXYS SA/NV, HUBERATOR SA/NV, FLUXYS LNG SA/NV, INTERCONNECTOR (UK) Ltd., NATIONAL GRID TRANSCO, GASSCO and APX Group;
- c. a group representing members of the Zeebrugge hub;
- d. shippers/non-members who operate on the major Belgian axes to and from the Zeebrugge region;
- e. European representative organisations such as *Gas Infrastructure Europe* (GIE) for the network operators, the *European Federation of Energy Traders* (EFET) and Eurogas for the supply companies, EASEE-gas and the *Organisation of Gas Producers* (OGP) ;
- f. the *Council of European Energy Regulators* (CEER) owing to the link between this project and the wider process of stimulating the integration of the regional market (*Gas Regional Initiatives*).

132. With the aid of this platform, the CREG wishes to promote a collaborative approach among all the parties, so that the transition to the “new hub” is as efficient as possible and meets expectations as closely as possible. Drawing up, monitoring and following up the measures put forward in this fourth chapter aimed at stimulating liquidity and supporting the development of the hub will be its first mission. The work will be done by e-mail correspondence as far as possible. However, the CREG is planning a meeting in September 2006. The CREG has learnt from past experience, including when coordinating the study on



interoperability as referred to in paragraph 117, that a meeting can bring added value, especially during the initial stage.

## **4.7 Conclusion of Chapter 4**

133. Chapter 4 sets out measures designed to improve liquidity and support the continued development of the gas exchange and hub. An initial measure involves adapting the Gas Act so that the Belgian natural gas exchange is regulated in accordance with the comments made by the CREG as expressed in its study (F)040408-CDC-268 of 8 April 2004 on regulatory measures needed to create a Belgian electricity exchange. This regulation represents a permanent guarantee for the future of reliability, transparency, efficiency and smooth trading. As regards the hub, which is used by the exchange as the place physical transactions, the CREG asks to be consulted by HUBERATOR SA/NV when new measures are planned there. It will assess the need for possible regulation in the light of this experience.

134. Measures are also necessary to improve access to the hub. On the one hand, there is clearly a need to link the terminals in the Zeebrugge region operationally and to overcome the limitation on access to and from all these terminals in Zeebrugge. This is why FLUXYS SA/NV has been asked to introduce a specific transmission system for the Zeebrugge region<sup>36</sup> by means of a modification of their main conditions in accordance with Article 10 of the current code of conduct and their approval by the CREG.

On the other hand, accessibility on the major access routes to and from the hub must be increased. Rules drawn up and published by FLUXYS SA/NV, in accordance with European Regulation No 1775/2005, including the introduction of a market for short-term capacity, are already promoting transparency and non-discrimination.

135. Moreover, the quality of the natural gas has a major impact on liquidity at the Zeebrugge hub because the current specifications limit the quantity of gas likely to be traded. Even though Belgium is evolving towards the specifications recommended by EASEE-gas, Great Britain continues to maintain a stricter standard in the long term. Consequently, gas conversion services will have to be provided somewhere between Zeebrugge and Bacton. At the initiative of the CREG, a proposal has been made to carry out a technical and economic study, under the supervision of the regulators concerned, the final results of which will need

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<sup>36</sup> Including IZT, ZPT, LNG terminal and OKS entry points and IZT and OKS exit points.

to enable the implementation of a physical quality conversion solution so that the exchange of natural gas at the hub is standardised on the basis of Belgian quality specifications;

136. Market analysis reveals concerns regarding the ‘*firmness*’ of the trade. All the services provided by the system operator need to be reformed and expanded to be able to offer the back-up requested under acceptable conditions. In accordance with the legal provisions, the preparation of *back-up/back-down* services must be considered a regulated task undertaken by the network operator. The CREG is requesting that appropriate agreements be concluded so that the hub can have at its disposal the operational resources available at Fluxys, without jeopardising the Belgian network. For the rest, short-term *parking and lending* services must be available before long. These services are necessary to ensure that a hub and an LNG terminal operate efficiently.

137. Finally, it may be observed that most of the players active at the Zeebrugge hub have to seek their information elsewhere, such as on the Internet site of the NATIONAL GRID plc. Market information concerning the underlying systems and the access routes to the hub is inadequate if the aim is to support *within-day* transactions on the hub. HUBERATOR SA/NV and FLUXYS SA/NV need to harmonise the publication of public and transparent information more efficiently in order to meet shippers' needs for trading natural gas at the Zeebrugge hub.

138. To support its policy, the CREG is creating a consultation platform. This “Zeebrugge platform” will consist of the following categories:

- a. the public authorities concerned;
- b. the Belgian and foreign market and network operators concerned;
- c. shippers and traders who may be members of the hub; and
- d. the European organisations representing the gas sector.

The platform's first mission will be to draw up, monitor and follow up the measures put forward in this fourth chapter designed to stimulate liquidity and support the development of the hub.



For the Commission for Electricity and Gas Regulation:

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# **APPENDIX TO STUDY (F)060719-CREG-554**

OPINION OF THE COUNCIL-GENERAL CG190706-031 on study (F)06XXXX-CREG-XXX on the measures needed to improve the functioning and liquidity of the Zeebrugge hub (three pages).



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# COMMISSION FOR ELECTRICITY AND GAS REGULATION

## COUNCIL-GENERAL

### **Advice**

**CG190706-031**

on

*“study (F)06XXXX-CREG-XXX on the  
measures needed to improve the functioning  
and liquidity of the Zeebrugge hub”*

given in application of article 24, § 3, 3°, of the law of  
29 April 1999 on the organization of the electricity  
market

19 July 2006

# Advice

1. The Council-General recognizes the great importance of the hub and the different gas terminals in the Zeebrugge port for the Belgian and European gas market. They make an actual and substantial contribution to the natural gas security of supply of the Belgian and European market, especially by stimulating a greater diversity of supply sources. The Council-General also recognizes the importance of the effective functioning of the hub for the development of the gas market and to stimulate competition. The hub does not work properly on this point yet and additional measures should be taken.
2. The Council-General thanks the Management Board for its study and agrees in general with its conclusions and recommendations in order to improve the functioning of the hub. He notices that Huberator SA/NV and Fluxys SA/NV have already implemented some of the proposed measures and that for some others concrete projects in the same direction exist. At this stage, the Council-General calls on these two companies to carry on their efforts.
3. Relating to the hub, the Council-General does not insist on a regulation by the CREG. However, he invites Huberator SA/NV to consult the regulator and all parties interested and concerned when new measures are considered in the future. The Council-General resolves to proceed to a regular assessment (in particular with regard to the implementation of the proposed measures and the consultation of the parties concerned) and to keep on insisting on measures needed to improve the functioning and liquidity of the hub, via regulating actions where relevant.
4. On the other hand, the Council-General insists on the need for a regulatory framework for the natural gas exchange. He encourages the authorities and the Management Board to organize the creation of a proper framework at short notice.

5. Moreover, the Council-General notices that at present, the access to the hub faces problems due to congestion. On this, the Council-General calls on Fluxys and the Management Board to provide the measures needed.
  
6. At last, the Council-General would like to consider the functioning of the hub in a broader perspective. He invites the Management Board to conduct a study relating to the functioning of the Belgian natural gas market, that would deal, amongst others, with market concentration, possible barriers of access, liquidity, security of supply, working of the interconnectors, role of transit, importance of natural gas quality, and other factors that could influence the functioning of the market.

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