

# **Monitoring Report 2010**

on the regulatory oversight  
of natural gas hubs

**Ref: E10-GMM-11-03**  
**10 October 2010**

## INFORMATION PAGE

### Abstract

This document E10-GMM-11-03 is an ERGEG document on Monitoring report 2010 on regulatory oversight of natural gas hubs.

This document presents the findings from monitoring of regulatory oversight mechanisms at selected European natural gas hubs is carried out by ERGEG.

The aim of this monitoring exercise was twofold: (i) to take stock with regard to the different oversight regimes being in place and (ii) to develop an ERGEG view and recommendations for best practice approaches to the regulatory oversight of gas hubs.

### Target Audience

Energy suppliers, traders, gas/electricity customers, gas/electricity industry, consumer representative groups, network operators, Member States, academics and other interested parties.

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### Abbreviations

CEGH	Central European Gas Hub
EREG	European Regulators' Group for Electricity and Gas
GVP	Gasunie's Virtual Trading Point
MS-ATR	Mercado Secundario - Acceso de Terceros a la Red
NBP	National Balancing Point
NGC VP (H-Gas)	Netconnect Germany Virtual Point (H-gas)
NRA	National Regulatory Authority
PEG North	Point d'Echange de Gaz North (GRTgaz)
PEG South	Point d'Echange de Gaz South (GRTgaz)
PEG South-West	Point d'Echange de Gaz South-West (TIGF)
PSV	Punto di Scambio Virtuale
TSO	Transmission System Operator
TTF	Title Transfer Facility
HHI	Herfindahl-Hirschman Index
HSO	Hub Service Operator

## 1. Preface

In its 2009 Work Programme (WP2009), ERGEG has committed itself to examine regulatory oversight regimes of natural gas hubs in Europe in order to promote a better understanding of what natural gas hubs actually are and how regulatory oversight currently works.

The role of gas hubs as well as the services they offer is expected to increase not at least with the increasing short term trade but also with the implementation of market-based balancing systems. Services provided by gas hubs, i.e. title tracking, wheeling and matching, can lower transaction costs for gas trading and can thus be an important tool for the development of liquid trading points. The creation of and the non-discriminatory and fair access to the services provided by hubs is key in order to create opportunities for short-term trade in the gas market.

The monitoring of regulatory oversight mechanisms at selected European natural gas hubs is carried out by ERGEG's Gas Market Monitoring (GMM) task force (TF). The aim of this monitoring exercise is twofold: (i) to take stock with regard to the different oversight regimes being in place and (ii) to develop an ERGEG view and recommendations for best practice approaches to the regulatory oversight of gas hubs.

The monitoring exercise is carried out from 17 July till 18 September 2009, for a total period of 9 weeks. ERGEG has presented preliminary findings at the workshop on "The Regulation of Gas Hubs" at the Florence School of Regulation on 4 March 2010. The findings from the monitoring work and any additional comments are used as input to the underlying ERGEG report with recommendations for best practice.

## 2. Executive Summary

To assess the best practices in regulatory oversight of natural gas hubs and to identify the need, if any, for more guidance, ERGEG has performed a survey based on a questionnaire in relation to 12 European natural hubs<sup>1</sup>. Responses were received from 9 national regulatory authorities, 11 natural gas hub operators and 14 stakeholders.

Prior to asking in-depth questions about natural gas hubs, ERGEG has sought to establish a coherent picture of what actually a natural gas hub is. From the 32 visions being provided by all participants in this survey, a common working definition, adopted for the analysis in this report, has been developed:

*“A natural gas hub is a point - physical (local) or virtual (notional) – on the gas transmission system where the transfer of natural gas can take place logistically supported by a body (not always the TSO) by offering the follow-up of the transfers of ownership (i.e. title tracking), standardized contracts for trade at freely negotiated prices and other services.”*

This definition does not suggest that all hubs should be equal. The tasks of a hub differ according to its function in the local natural gas system. A distinction is to be made between physical and virtual hubs. Trading at virtual hubs does not require physical access to the hub. Especially when moving towards an entry-exit system, trading should take place at virtual rather than physical trading point.

There will always be plenty of different hubs and hence hubs with different functions. ERGEG does not want to define what a hub can and cannot do, but ERGEG wants to ensure that hubs can be identified and meet minimum conditions to reassure market participants face no hurdles to trade.

Gas hubs are being initiated because of commercial interest, with emphasis on trading, or as part of the regulatory system design, where the hub serves as a reference point for balancing or other system services.

Based on an overall more than 85 percent support, ERGEG concludes that whilst multiple trading points may exist on a system, only one natural gas hub on the same balancing zone is desirable. Where different answers are provided, reference is made to situations where more than one hub exists on the same transmission system, but not on the same balancing zone. The explanations provided are that only one transmission system operator can operate the same hub, because hubs have a de-facto monopoly or because the hub is part of the system design that covers the total transmission system. This conclusion is recommendable, not only due to the *de facto* or system design monopoly situation of a hub, but also to prevent fragmentation of liquidity in the market and to enhance competition.

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<sup>1</sup> CEGH, Zeebrugge Hub, Danish Hub, PEG North, PEG South, PEG South-West, NCG VP, (H-Gas), GVP, NBP, PSV, MS-ATR and TTF.

Having detected a support for the conclusion that only one hub on the same balancing zone makes sense, the need for non-discriminatory access conditions, as stated in the findings coming out of the exercise; show an overall acceptance of regulatory oversight on hubs by the energy regulator. The only limit being that this oversight does not hamper trade activities. Access to the natural gas hub is predominantly a problem where the gas hub is physical. Virtual trading points do not have any of the aforementioned capacity problems.

New regulation has to be developed. The best practice recommendation for implementing regulatory oversight concerns the following topics: the powers and responsibilities to guarantee fair and continuous functioning of the hub and the delivering of information. Guidance to work out these two topics is being given during this survey as summarized below.

Heterogeneity exists in the provision of services. Generally, services like title tracking, balancing and matching are offered. As a recommendation for a best practice, the offer of storage services in relation to the hub should be highlighted. Where differentiation is made between a TSO and a hub operator, and a recommendation is to be given who is best placed to offer what service, the impact of the service concerned on the management of the network should be the main trigger. Title tracking and matching, as linked to commodity trade, can be classified as services offered by a hub operator, while balancing and storage services are typically TSO related services.

Further guidance is needed in the field of transparency and the publication of information related to gas hubs. Data on the transmission system should be offered to and accessible for all hub members equally, especially where differentiation is made between hub members or service subscribers and other transmission system users. The possibility of becoming hub member, service subscriber or other type of user should be opened to all market players under the same conditions.

Not being able to provide a standard definition on liquidity, the following obstacles to liquidity have been identified:

- the lack of capacity to get access to the hub;
- the major supplier that refuse to participate;
- the absence of certain traded products;
- the lack of counterparties to trade with;
- the presence of separate virtual compartments to trade;
- the small size of a hub.

The document ends with a chapter to define an outlook for future activity and next steps.

### ***Disclaimer***

***ERGEG would also like to thank all participants in the survey. ERGEG would like to stress that full confidentiality has been ensured when analysing the data. Therefore, neither information on individual respondents' answers nor their names will be made available. ERGEG will invite all stakeholders and participants in the survey to comment on the findings at a later stage.***

***Where applicable, the reported percentage figures relate to the number of responses received for an individual question, not the total number of respondents. This is to ensure that different number of responses is being taken care of, especially in cases where there are more than just one natural gas hub in one jurisdiction. ERGEG feels that this is the most appropriate way of representing responses received in an aggregate way and at a glance, where appropriate.***

### 3. Introduction

#### 3.1. Scope and Method

The scope of this report is to

- Assess the status quo of regulatory oversight of natural gas hubs by carefully examining what natural gas hubs are, how there are currently being regulated, what kind of activities are carried out at these hubs and what the link is between the physical and financial side, where applicable, of natural gas trading;
- Identify the need for more detailed monitoring requirements and/or modification of existing provisions of the Gas Regulation<sup>2</sup>.

For the analysis, three distinct group of stakeholders have been surveyed, namely

- National regulatory authorities (NRAs),
- Natural gas hub operators, both transmission system operators and other natural gas hub operators, and
- Natural gas hub users.

Key findings from this monitoring exercise are presented in section 4. Responses to every single question are presented in order to ensure that all information being collected has been taken into account. Based on these findings, ERGEG's recommendations are presented in section 5.

#### 3.2. Countries and natural gas hubs covered

The NRAs of nine European countries took part in this monitoring exercise. The natural gas hubs covered for each country through responses from the respective NRA is specified in Table 1.

**Table 1: NRA participation in this monitoring exercise**

AUSTRIA	CEGH
BELGIUM	Zeebrugge Hub
DENMARK	Danish Hub
FRANCE	PEG North, PEG South, PEG South-West
GERMANY	NCG VP (H-Gas), GVP
GREAT BRITAIN	NBP
ITALY	PSV
SPAIN	MS-ATR
THE NETHERLANDS	TTF

Source: ERGEG Gas Market Monitoring Report 2010

ERGEG would like to stress that in some cases, there is more than just one natural gas hub in one jurisdiction. ERGEG has taken this fact into consideration when the responses are being analysed. However, where sensible, answers have been treated separately since they could potentially differ for different natural gas hubs in the same jurisdiction.

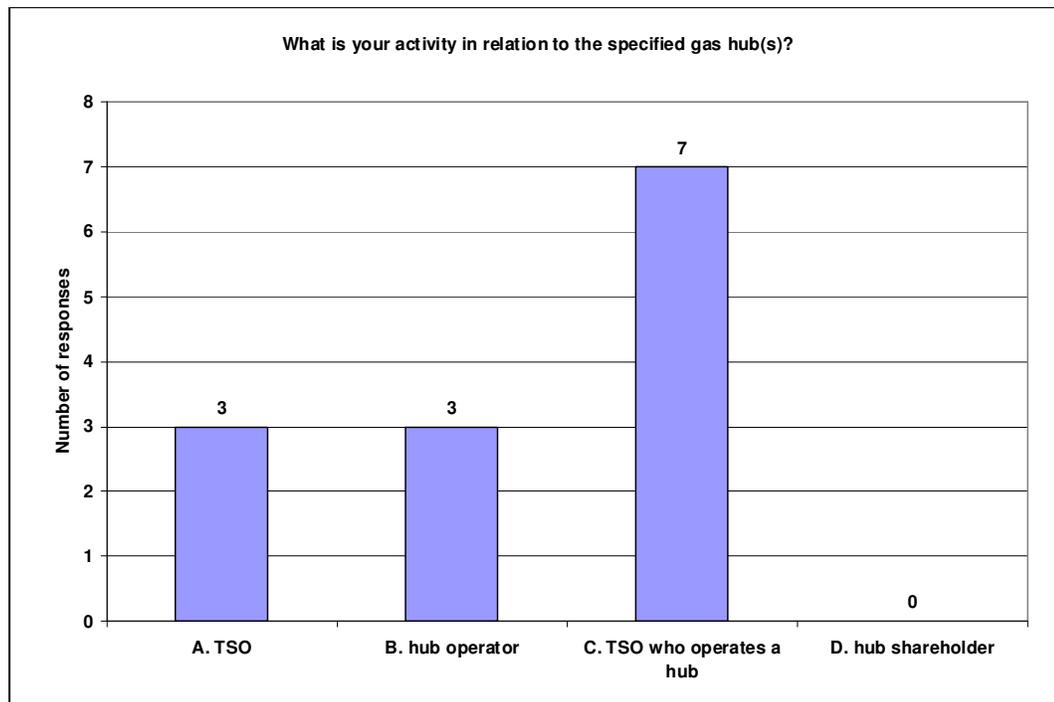
Detailed responses from NRAs are provided in Annex 1.

### 3.3. Transmission system operators' and natural gas hub operators' participation in this monitoring exercise

Based on the selection of natural gas hubs (see previous section), ERGEG invited transmission system operators and natural gas hub operators operating the hubs or the underlying system to participate in this survey. ERGEG received 11 responses either from TSOs or hub operators with operations in one of the nine countries involved.

Being asked what their role and responsibility in relation to the gas hub under consideration is, respondents gave the answers as shown in Figure 1.

Figure 1: What is your activity in relation to the specified gas hub(s)?



Source: ERGEG Gas Market Monitoring Report 2010

Most of the respondents to this ERGEG survey responded as TSO operating a hub. An equal share responded as pure TSO or as pure hub operator. ERGEG recognises that at least more than one of the TSOs could have filled in the questionnaire as a shareholder

of a hub. Results show they did choose not to do this. Respondents will not be named throughout the survey to ensure confidentiality. All responses are being treated equally.

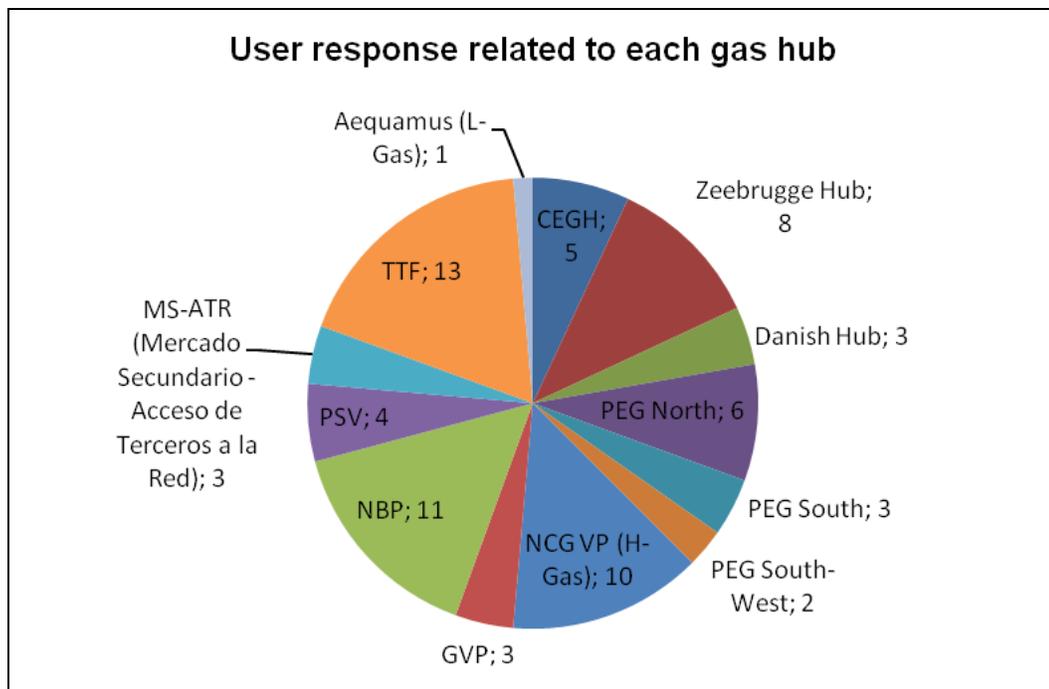
In relation to the coverage of the gas hubs mentioned in previous section, responses from transmission system operators and natural gas hub operators do tackle all 12 hubs plus one. The one that is being mentioned on top off the hubs in the initial list is the Eon.GT (L-Gas) hub in Germany. ERGEG has taken this fact into consideration when the responses are being analysed.

Detailed responses from TSOs/hub operators are provided in Annex 2.

### 3.4. User/other stakeholder participation in this monitoring exercise

14 natural gas hub users have responded to the monitoring exercise by filling in the questionnaire 72 times in combination with an individual gas hub. The amount of user feedback per gas hub is being shown in Figure 2.

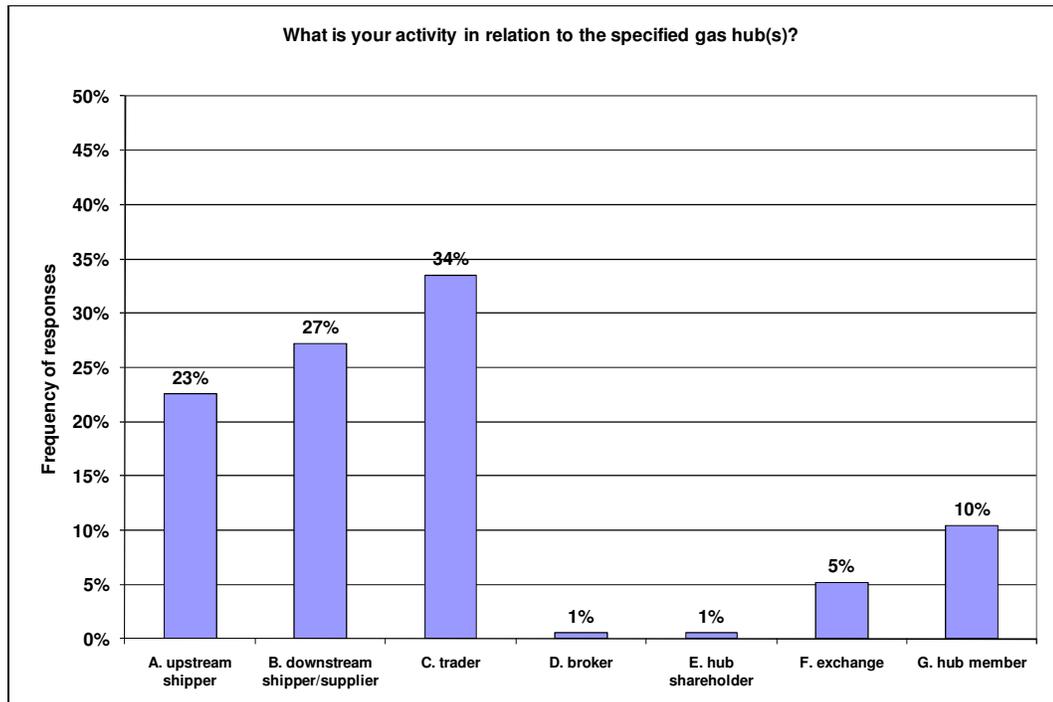
**Figure 2: Users response per natural gas hub**



Source: ERGEG Gas Market Monitoring Report 2010

In line with the NRA responses but contrary to the responses of TSOs and gas hub operators, users do not mention the Eon.GT (L-Gas) hub in Germany. However one user mentions another gas hub, Aequamus (L-Gas), not mentioned by NRAs nor by TSOs and gas hub operators. Respondents will not be named throughout the survey to ensure confidentiality. All responses are being treated equally.

**Figure 3: What is your activity in relation to the specified gas hub(s)?**



Source: ERGEG Gas Market Monitoring Report 2010

ERGEG notes that most respondents are traders, followed by downstream shippers and then upstream shippers.

Detailed responses from hub users are provided in Annex 3.

### 3.5. Update of information and actuality, presentation of findings and inclusion of additional stakeholder comments

ERGEG is committed to adequately incorporating stakeholders' views and maintaining and ensuring transparency whilst at the same time respecting confidentiality.

To ensure that this is the case, ERGEG has presented its preliminary findings from this monitoring exercise in a joint workshop with the Florence School of Regulation<sup>3</sup>. At this conference type workshop, the present stakeholders exchanged their views and ERGEG has taken into account these views while drafting its monitoring report.

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[http://www.florence-school.eu/portal/page/portal/FSR\\_HOME/ENERGY/Policy\\_Events/Workshops/2010/Gas%20Hubs](http://www.florence-school.eu/portal/page/portal/FSR_HOME/ENERGY/Policy_Events/Workshops/2010/Gas%20Hubs).

#### 4. **Comparative assessment: ERGEG findings from the monitoring exercise**

The purpose of this section is to assess ERGEG's findings from this monitoring exercise in a comparative manner. This means that the responses from NRAs, hub operators and hub users will be compared and conclusions will be drawn from the received responses.

ERGEG has assessed all responses received in a comparative manner. Based on the responses submitted by NRAs, TSOs/Hub Operators and users/representative organisations, ERGEG concludes that the empirical base both in terms of quantitative and qualitative responses is sufficient for meaningful conclusions and recommendations regarding the future of regulatory oversight of natural gas hubs. However, ERGEG would like to stress that responses from stakeholders do not necessarily relate to the same hub or hubs, hence extra caution has to be carried out when comparing the results directly.

Findings from the comparative assessment are presented in the following sections. Detailed response for each of the questions by respondent type, i.e. for NRAs, TSOs/hub operators and users/representative organisations are included in the appendices.

##### 4.1 **Hub definition**

Prior to asking in-depth questions about natural gas hubs, ERGEG has sought to establish a coherent picture of what actually a natural gas hub is. From the 32 visions being provided by all participants in this survey, some common aspects can be detected.

From all the text and terms that are being used and specified in the annexes of this document, a gas hub can be defined as a point - physical (local) or virtual (notional) – on the gas system. In a local hub, the contractual place where the gas is delivered/exchanged corresponds to a specific and well identified geographical point on the transmission system. While in a notional hub, the contractual place where the gas is delivered/exchanged is being defined as a group of entry and exit points to a whole transmission system or balancing zone. This means that the gas to be exchanged at the hub can be present at any point in the transmission system or balancing zone. Although differentiation is being made between physical (local) or virtual (notional), ERGEG defines its best practice recommendations in this report applicable for both types. The difference is taken on board in the definition of the gas hub.

As to the activity that takes place on these hubs, there is a broad consensus that it is related to the exchange/transfer of natural gas. This implicitly relates to the buying and selling of gas. However, according to the answers received to questions 1.7 and 1.8, a clear difference has to be made between a gas hub and other trading places. While multiple trading places may exist, only one gas hub is likely to exist within one transmission system or balancing zone. The difference being the presence of a body (not always the TSO) logistically supporting the natural gas trading activities through at least the follow-up of the transfers of ownership (i.e. title tracking), the offer of standardized contracts at freely negotiated prices and other services. There is probably no limit to the amount of services that can be offered by a TSO or hub operator but ERGEG recommends an attempt to define best practice for clarification.

It is probably worthwhile to highlight that no further differentiation is being made in the responses to the kind of trade that can take place, i.e. bilateral or cleared. The existence of a full range of additional services to facilitate trading of natural gas is being identified, but clearly differentiated from broker platforms or exchanges. These platforms are trading systems that refer to the hub as a delivery point/area. They are not identical to the underlying hub.

ERGEG's conclusion based on the responses provided can be summarized as follows:

The range of responses received indicates that there seems to be brought agreement on the above mentioned findings as to what constitutes a natural gas hub. A common definition, adopted for the purposes of the analysis in the following sections of this report, could hence be as follows ("working definition"):

*"A natural gas hub is a point - physical (local) or virtual (notional) – on the gas transmission system where the transfer of natural gas can take place logistically supported by a body (not always the TSO) by offering at least the follow-up of the transfers of ownership (i.e. title tracking), standardized contracts for trade at freely negotiated prices and other services."*

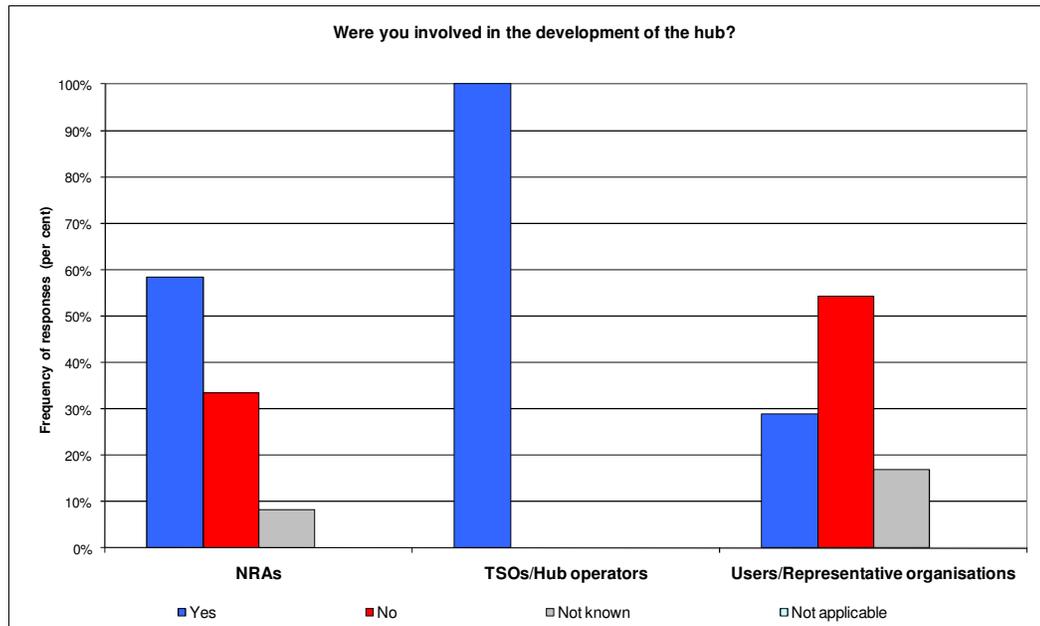
Details can differ from hub to hub under consideration and remains to be subject to a more in depth analysis. A distinction is to be made between physical and virtual hubs. Trading at virtual hubs does not require physical access to the hub. Especially when moving towards an entry-exit system, trading should take place at virtual rather than physical trading point.

## 4.2 Question set 1: History of the hub

Based on the received data, ERGEG assessed the history of the hub, the involvement of all parties when setting up the hub, the initial trigger for the set up, the age of the hub and fee payments to be made for trading at the hub (in particular the composition of the fees). ERGEG also assessed whether there are any other hubs or trading points on the same transmission system or balancing zone and if there is exchange based trading at the hub going on.

Being asked if their organisation was involved in the development of the hub, ERGEG received the following responses as shown in Figure 4:

**Figure 4: Was your organisation involved in the development of the hub?**



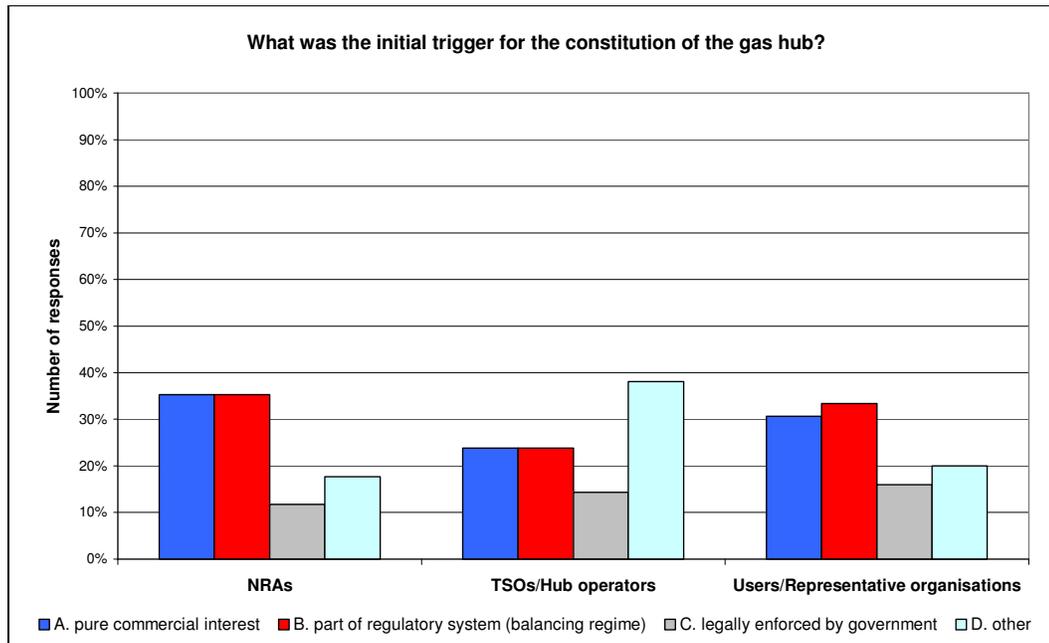
Source: ERGEG Gas Market Monitoring Report 2010

Based on the data received, ERGEG states that involvement and participation from NRAs is more common (more than 50% of answers) than for users/stakeholders. On those places where involvement is being established, the way how participation is organized, differs from direct involvement (mostly as former incumbent or one of the biggest players), through a European stakeholder organisation or public consultation of NRA.

ERGEG concludes that the development of gas hubs in Europe is not being processed in a standardised way. However, involvement of users/stakeholders is seen as the proper way to ensure that the hub in place meets both technical requirements and users' demands. ERGEG could recommend some guidance to reassure participation and involvement of all stakeholders in a transparent and non-discriminatory way.

Being asked what the initial trigger for the development of the hub was, ERGEG received the following responses as shown in Figure 5:

**Figure 5: What was the initial trigger for the constitution of the gas hub?**

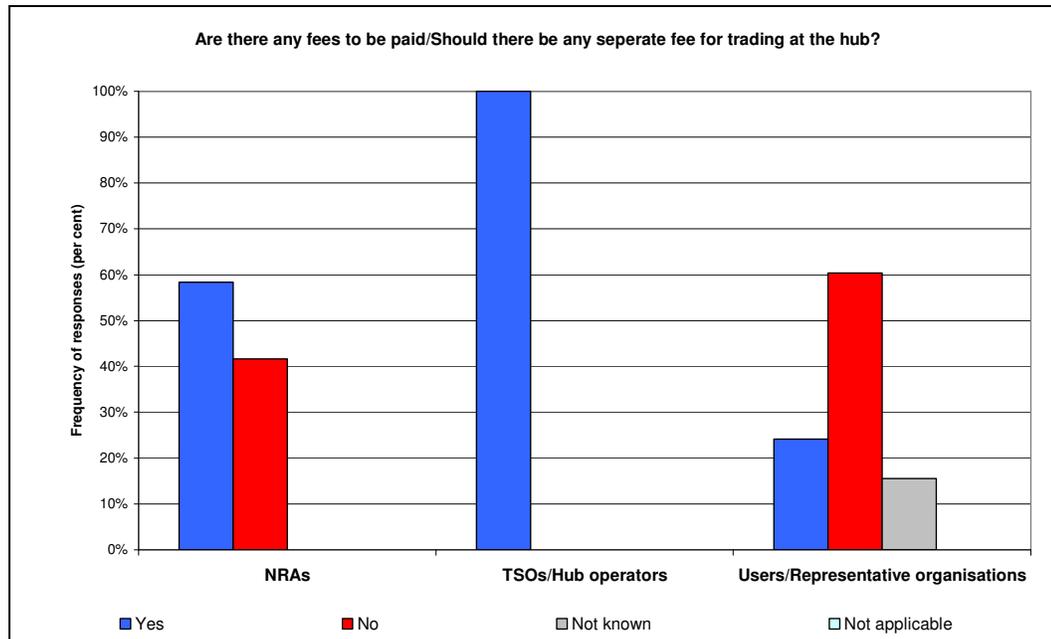


Source: ERGEG Gas Market Monitoring Report 2010

Responses reveal that hubs have in all respondents' views been set up due to purely commercial interest and/or as part of the regulatory system, such as the balancing regime. Legal enforcement is clearly seen by all three categories of respondents as less common. As a result, ERGEG concludes as common practice that the hub development is equally triggered due to purely commercial interest, with emphasis on trading, as well as part of the regulatory system design, where the hub serves as a reference point for balancing or other system services.

Being asked if there are any fees to be paid for trading at the hub, respondents provided the following answers as shown in Figure 6:

**Figure 6: Are there any fees to be paid? (question for NRAs and TSOs/Hub operators)  
/Should there be any separate fees for trading at the hub? (question for users/stakeholders)**

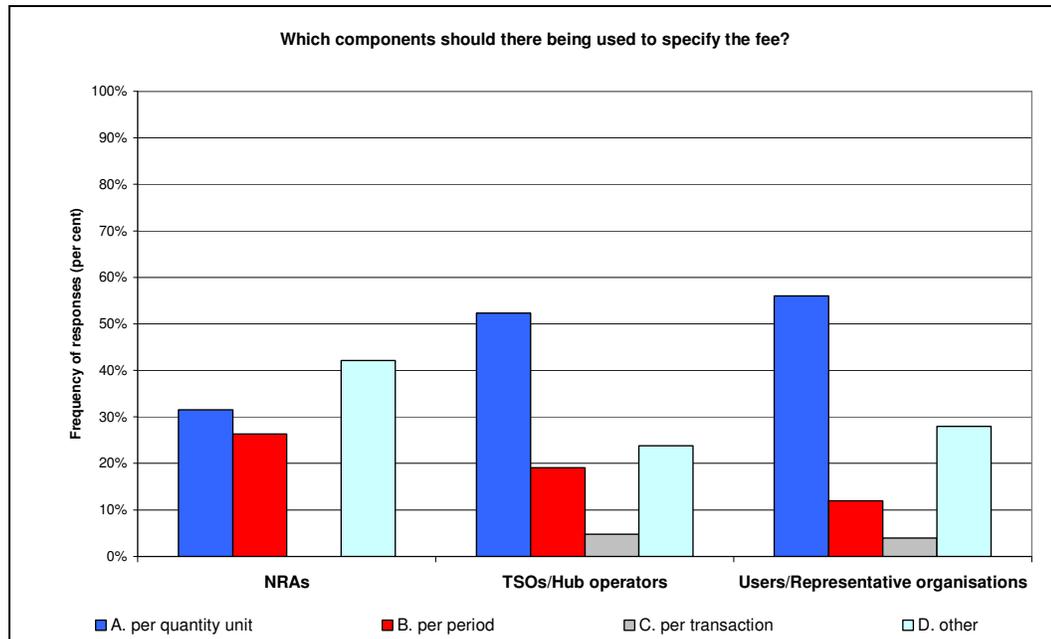


Source: ERGEG Gas Market Monitoring Report 2010

ERGEG's analysis shows clear difference in responses of different groups. From the responses of NRAs and TSOs/hub operators can be seen that it is common practice to ask a fee (direct or indirect through transmission tariffs) for the provided hub services. However, being asked if a separate fee should be paid, users indicate that they are against such a fee (about 60 percent of the responses). Combined with answers being provided under the next question as shown in Figure 7, ERGEG concludes that users have been willing to make a statement against arbitrary fees and not against fees as such. Therefore, where provided, hub services should be charged in a transparent way and in a cost-reflective and fair manner, just like with any other services or products provided. Hub services are therefore *per se* not different. However, it still needs to be assessed how to categorise them (e.g. as monopolistic activities or not) and whether they should be subject to regulation.

Being asked which components are being used to specify the fee or should be used to specify the fee, respondents gave the answers as shown in Figure 7:

**Figure 7: Which components are being used? (question for NRAs and TSOs/Hub operators)  
/should there be used to specify the fee? (question for users/stakeholders)**



Source: ERGEG Gas Market Monitoring Report 2010

The analysis of fee regimes in place reveals that tariffs consist in most cases of

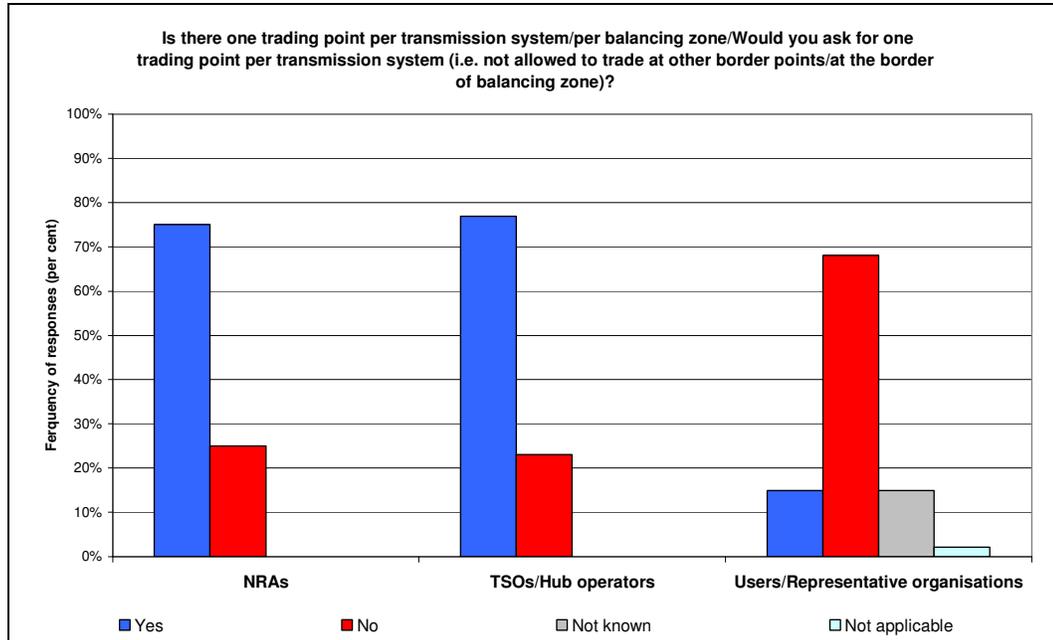
- a fixed part (most often related to either a period or another component) and
- a variable part, related to a quantity.

Remarkably, this convenes with the even more explicit view and expectations of the users/stakeholders. Linked to the previous conclusion, ERGEG concludes that a fee per quantity unit is the most recommendable component to set up a fee. However, it is not straightforward how this relates with the cost-reflectiveness linked to the previous conclusion. A fixed part is only recommended to cover fixed costs when they exist.

On top of this, ERGEG's analysis has revealed that the degree of complexity of these fees can vary considerably. This emerges from all received responses. Even if it remains to be examined whether such fees provide an obstacle to trading and a barrier for new traders to access trading at the natural gas hub, ERGEG concludes that given the complexity of these fees, there is some potential in transparency of fees being charged and there is a need for further analysis to assess the possibility of simplification for all natural gas hubs in Europe.

Being asked, if there are other points of trading on the same transmission system/on the same balancing zone (e.g. at different border points/borders of balancing zone) or if there should be any such points, respondents gave the answers as shown in Figure 8:

**Figure 8: Are there other trading points/? (question for NRAs and TSOs/Hub operators)**  
**Would you ask for one trading point per transmission system? (question for users/stakeholders)**

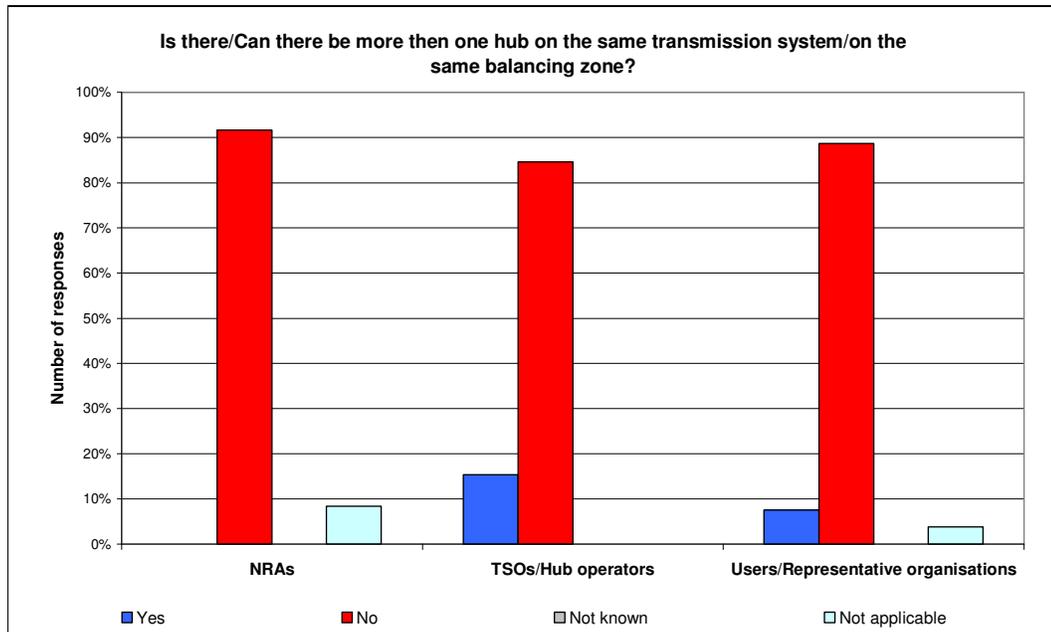


Source: ERGEG Gas Market Monitoring Report 2010

ERGEG's analysis shows that while NRAs and TSOs/Hub operators report that there exist more than one trading point, users are pleased with this situation. Such trading points can either be on the same transmission system or balancing zone. Examples being given are "different border points" and "borders of balancing zones". This shows that trading can be carried out on multiple points of the system, not necessary all being referred to as "hubs" (see next question).

This becomes clear when respondents are asked if there can be more than one hub on the same transmission system/on the same balancing zone at all. ERGEG received the following responses as shown in Figure 9:

**Figure 9: Is there more than one hub? (question for NRAs and TSOs/Hub operators)  
/Can there be more than one hub? (question for users/stakeholders)**



Source: ERGEG Gas Market Monitoring Report 2010

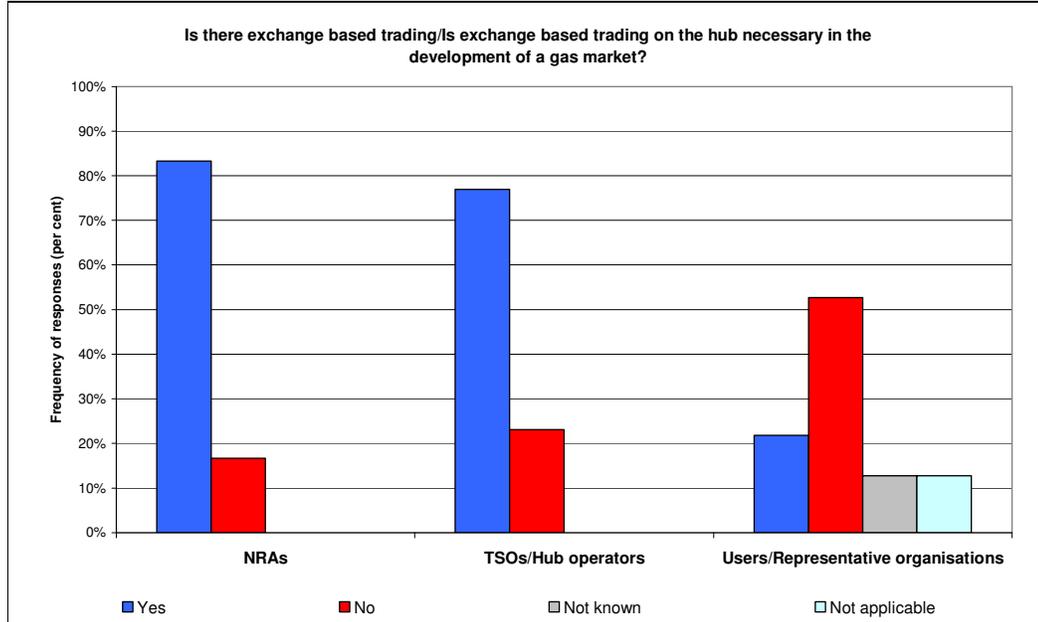
The outcome of an overall more than 85 percent of “no” replies, meaning that there is broad consensus, is that there cannot be more than one hub on the natural gas transmission system/balancing zone. Where different answers are provided, reference is made to situations where more than one hub exists on the same transmission system, but not on the same balancing zone. Although in a number of cases there is no legal limitation on the number of hubs, the market agrees on having one single natural gas hub on a given natural gas balancing zone. This situation is due to a *de facto* or legal monopoly or because it is part of the system design. Whilst trade of natural gas can take place on several points, fragmentation of liquidity should be prevented by having only one hub per balancing zone, as defined in section 4.1.

ERGEG concludes that whilst multiple trading points may exist on a system, only one natural gas hub on the same natural gas transmission system/the same balancing zone is desirable.

Having asked the NRAs and the TSOs/Hub operators if there is exchange based trading going on at the hub, and to the users/stakeholders if exchange based trading on the hub is necessary in the development of a gas market, ERGEG received the following responses as shown in Figure 10:

**Figure 10: Is there exchange based trading on the hub? (question for NRAs and TSOs/Hub operators)**

**/Is exchange based trading on the hub necessary in the development of a gas market? (question for users/stakeholders)**



Source: ERGEG Gas Market Monitoring Report 2010

ERGEG's analysis shows that while exchange based trading is established on most of the hubs, users feel that it is not a prerequisite for the development of the natural gas market. In line with these findings, participants state also that there are no obligations or no obligations are needed to trade via exchanges. Therefore ERGEG concludes that differentiation in the kind of trade is not a *condition sine qua non* for the regulatory oversight of a natural gas hub. The issue of OTC versus Exchange trading shall be further addressed, especially w.r.t. information provision (quantities, products trades), transparency in general and price formation (price signalling).

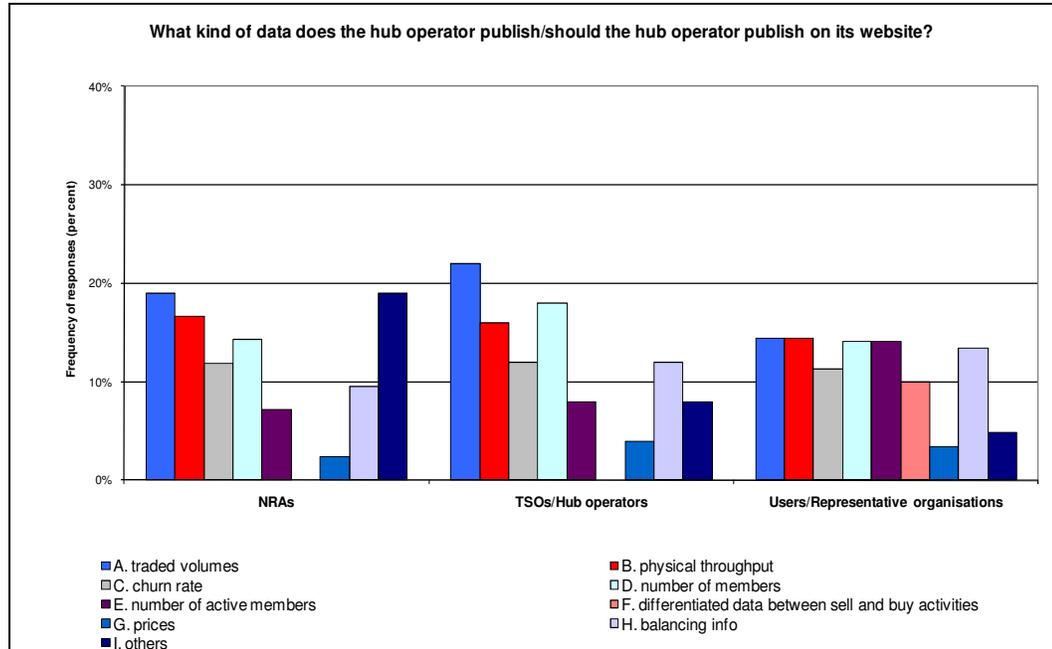
#### 4.3 Question set 2: Development of the hub: transparency and publications

Question set 2 relates to the development of the hub and particularly to transparency related issues and publication of relevant information, services provided by TSOs and hub operators (i.e. distribution of roles and functions) as well as questions regarding maturity and liquidity of the hub, and the parameters used to assess these two fundamental concepts.

Being asked what kind of data the hub operator publishes or should publish on its website, respondents provided ERGEG with the following answers as shown in Figure 11:

**Figure 11: What kind of data does the hub operator publish on its website? (question for NRAs and TSOs/Hub operators)**

**/ What kind of data should the hub operator publish on its website? (question for users/stakeholders)**



Source: ERGEG Gas Market Monitoring Report 2010

The aforementioned graph shows that for NRAs and TSOs/hub operators, a variety of data is being made available, namely:

- A. traded volumes,
- B. physical throughput,
- C. churn rate, as being calculated from A/B,
- D. number of members/traders, and
- H. balancing info.

Besides the data of the number of active members and differentiated data between sellers and buyers, this set of data corresponds to the wishes of users/stakeholders on what should be published. It is worthwhile to mention that concerning price data, little is being published by hub operators, but also little is expected from them by the hub users.

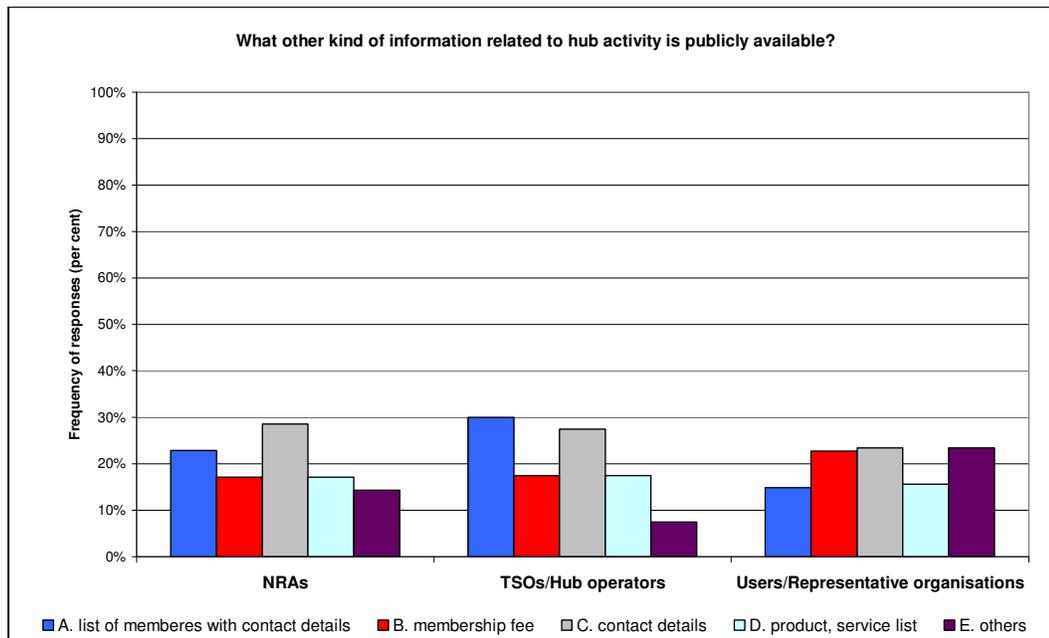
ERGEG's analysis reveals that not only the amount of information varies considerable across hubs, also the details like type, frequency, historical period and unit differ a lot. For example, daily, weekly and/or monthly data is being provided in m<sup>3</sup>(s), m<sup>3</sup>(n), m<sup>3</sup>(n;35,17), MWh, GWh, therms, MMJ and/or MJ. These findings stand in contrast against what is being asked by the users (i.e. daily information in MWh or GWh).

ERGEG therefore concludes that whilst a vast amount of data information is available, there is a need:

- for improvement, like the number of active members and differentiated data between sellers and buyers, but not that far as to the publication of prices;
- for harmonisation not only on the kind of data but also on the details of frequency (daily) and units (MWh or GWh) in line with EASEE-gas “Common Business Practices”.

Being asked what other kind of information related to hub activity is or should be publicly available, respondents gave the following answers as shown in Figure 12.

**Figure 12: What other kind of information related to hub activity is publicly available?**



Source: ERGEG Gas Market Monitoring Report 2010

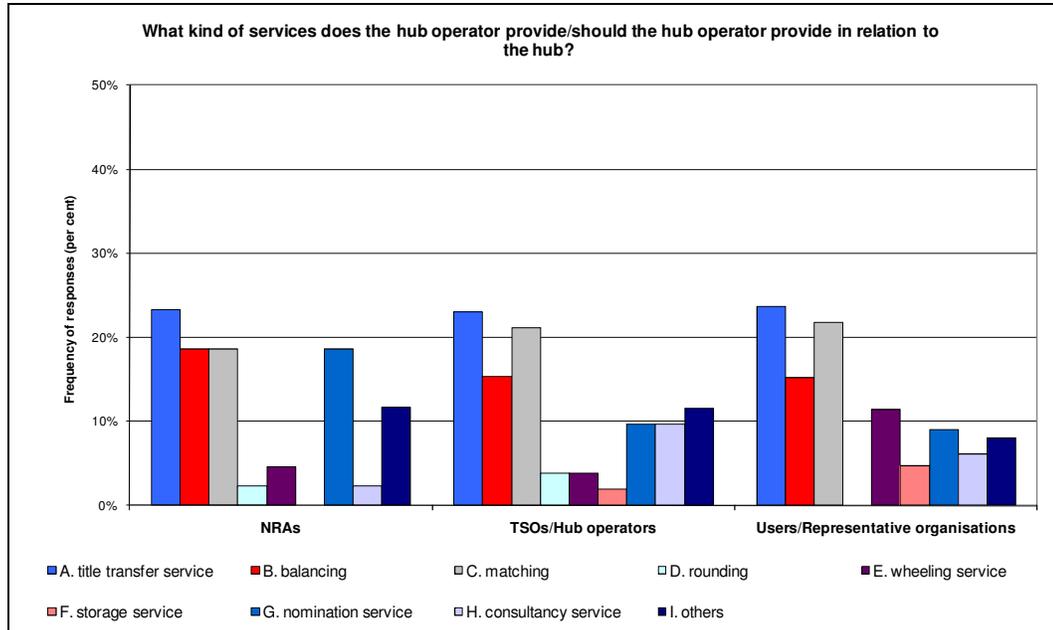
Most of the options given in the questionnaire are being published as requested by the users/stakeholders, although not everywhere and not in a consistent transparent way under the same formats. Other publications may be dependent on the variety of other services being offered. As mentioned previously, ERGEG concludes that whilst a vast of information is available, there is need for greater transparency and potentially harmonisation of the provided information.

Being asked what kind of services the hub operator provides or should provide, respondents gave the following answers as shown in Figure 13:

:

**Figure 13: What kind of services does the hub operator provide? (question for NRAs and TSOs/Hub operators)**

**/should the hub operator provide in relation to the hub? (question for users/stakeholders)**



Source: ERGEG Gas Market Monitoring Report 2010

ERGEG’s findings from NRAs and TSOs/hub operators show that title transfer remains amongst the most often provided service by the hub operator, followed by balancing, and matching. This corresponds with the replies from users/representative organisations as what the hub operator should offer. ERGEG’s analysis also reveals that beside these three services, there is no unique set of services that is being provided at each hub.

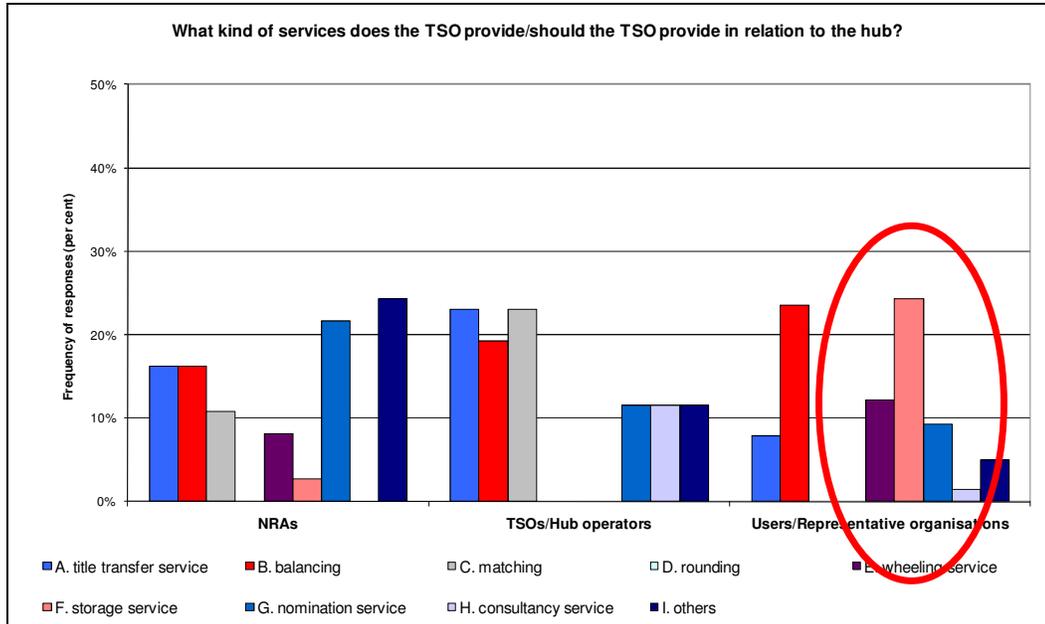
Respondents also made it clear that the TSO is not necessarily seen as the natural gas hub operator. Even, where the TSO is involved in the top three services, the market does not see the TSO as a hub operator at all. When offered by a TSO, the market perceives these services as normal TSO services and not as hub services. This is reflected in the definition in session 4.1 of trades being “supported by a body (not always the TSO)”.

ERGEG concludes that services like title tracking, balancing and matching are generally already being offered on gas hubs. This is completely in line with the expectations of the users/stakeholders. When it comes to the other services being provided or being expected, it seems to depend on the role of the hub in the overall TPA regime, which makes it rather difficult to make conclusions.

Being asked what kind of services the TSO provides or should provide in relation to the hub, respondents gave the following answers as shown in Figure 14:

**Figure 14: What kind of services does the TSO provide in relation to the hub? (question for NRAs and TSOs/Hub operators)**

**/ What kind of services should the TSO provide in relation to the hub? (question for users/stakeholders)**



Source: ERGEG Gas Market Monitoring Report 2010

ERGEG's analysis shows that the services offered by the TSO mostly comprise title transfer followed by balancing, and matching. However, in response to this question, many respondents have indicated that, especially in the case of virtual hubs, the hub operator and the TSO is one and the same. A differentiated view of services provided at hubs and by whom they are being provided (TSO vs. hub service operator) is therefore difficult to make.

Compared to what users/representative organisations expect from a TSO to offer in relation to the hub, quite interesting differences are to be detected:

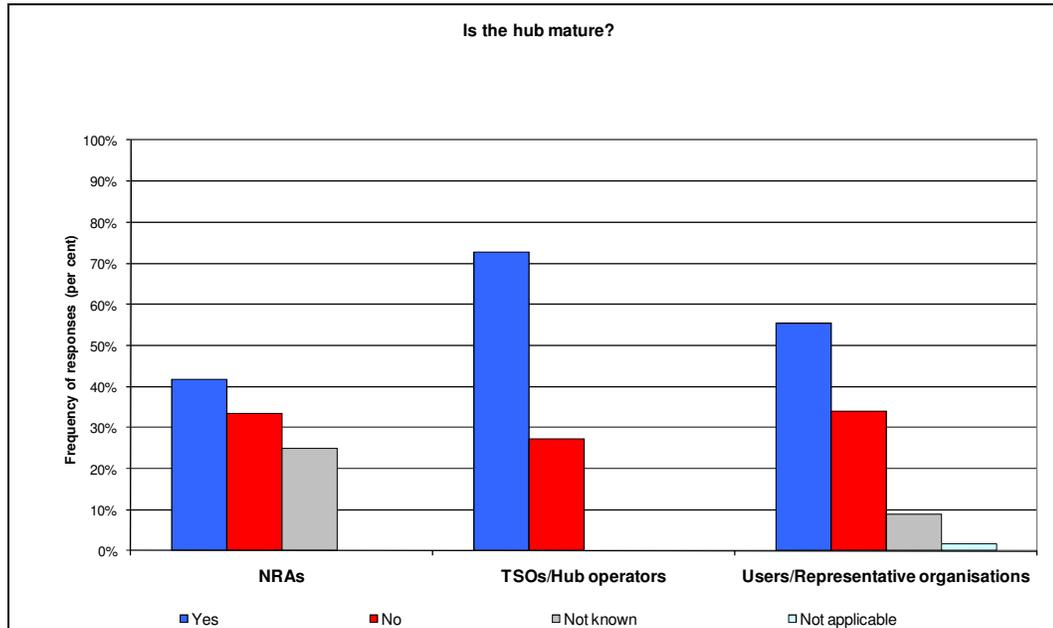
- balancing is seen by the users/shareholders as a service to be provided by the TSO;
- storage services provided by the TSO in relation to the hub are being indicated as more or less inexistent, while users/representative organisations highlight this service as the most important service to be offered;
- while TSOs/Hub operators clearly indicated that the matching service is being offered by the TSO in relation to the hub, users/stakeholders indicate that the TSO is not being expected to do so.

In combination with the conclusion of the previous question, ERGEG concludes that title tracking and matching are typical services to be provided by the hub operator while providing balancing services is more a combined activity where both the TSO and the hub operator have a role to play. As a recommendation from the findings of this

consultation exercise, the offer of storage services by the TSO in relation to the hub should be highlighted.

Respondents were also asked if the hub was mature. ERGEG received the following answers as shown in Figure 15:

**Figure 15: Is the hub mature?**

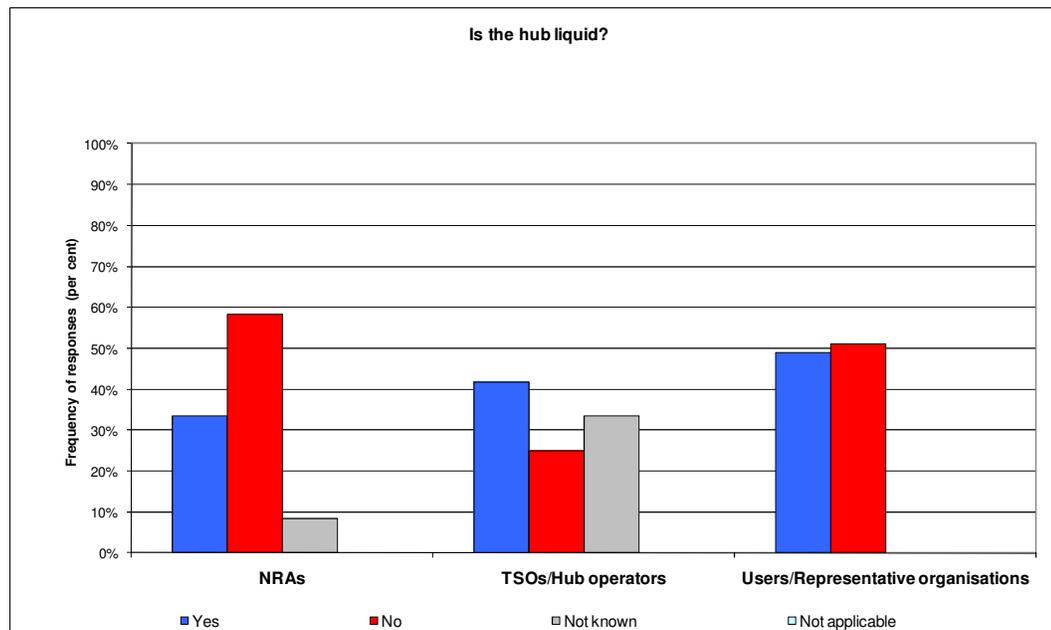


Source: ERGEG Gas Market Monitoring Report 2010

ERGEG's analysis shows that the majority of respondents feel that the hub under consideration is mature. However, ERGEG also notices that there is a degree of heterogeneity amongst hubs. Some of the respondents see maturity already being in place when a hub is defined and when some standard services like title tracking and matching are being organised. Others take also into account if optimal accessibility is being reached. ERGEG concludes that it is difficult to provide a general view on maturity. It might be required to have a better defined and more standardised definition of what maturity is, taking into account its interaction with liquidity.

Respondents were also asked if the hub was liquid. ERGEG received the following answers as shown in Figure 16:

**Figure 16: Is the hub liquid?**



Source: ERGEG Gas Market Monitoring Report 2010

ERGEG's analysis shows that NRAs feel that the hub in their country is not liquid, whilst TSOs/hub operators feel that it is. Where respondents chose "not known" as an answer, NRAs commented that there is no unique definition of liquidity. Even though TSOs/Hub operators have some appropriate indicators, they struggle to declare "their" hub as being liquid.

The picture of yes's and no's amongst users/representative organisations is more or less equal. However, respondents also commented that there is no unique definition of liquidity. For the sake of clarity, a harmonised definition of liquidity could be emphasised, but ERGEG has to admit that the information received does not allow making a clear statement in this respect.

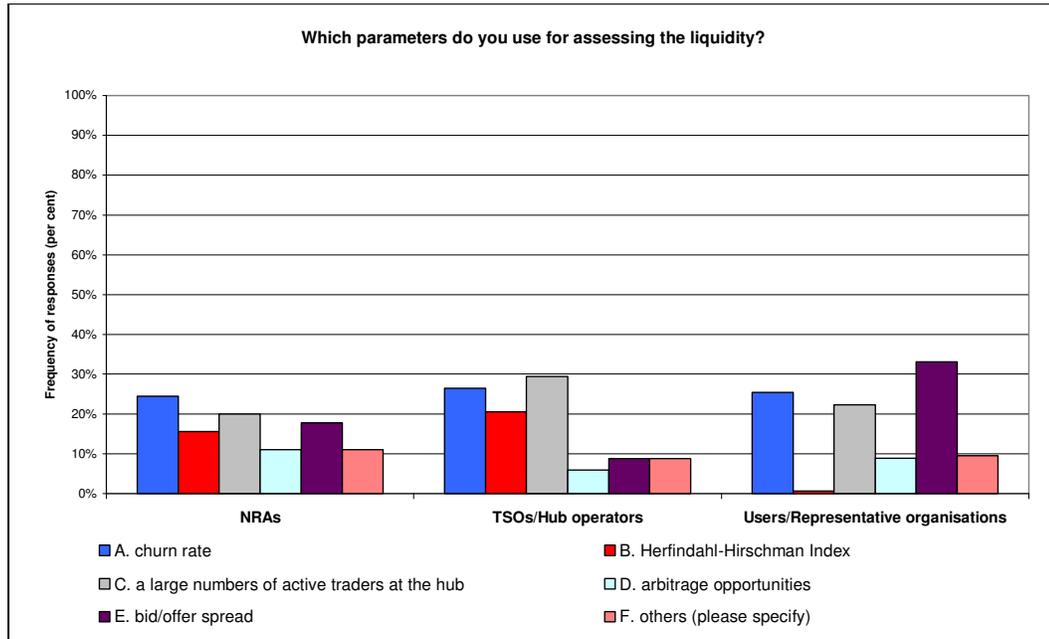
From the answers received, some issues are being identified that hamper liquidity. These are:

- the lack of capacity to get access to the hub;
- the major supplier that refuse to participate;
- the absence of certain products that are being traded;
- the lack of counterparties to trade with;
- the presence of separate virtual compartments to trade;
- the small size of a hub.

ERGEG concludes that these issues need to be addressed in order to increase the liquidity of a hub.

In first instance, respondents were asked which parameters they use for assessing the liquidity. ERGEG received the following answers as shown in Figure 17:

**Figure 17: Which parameters do you use for assessing the liquidity?**



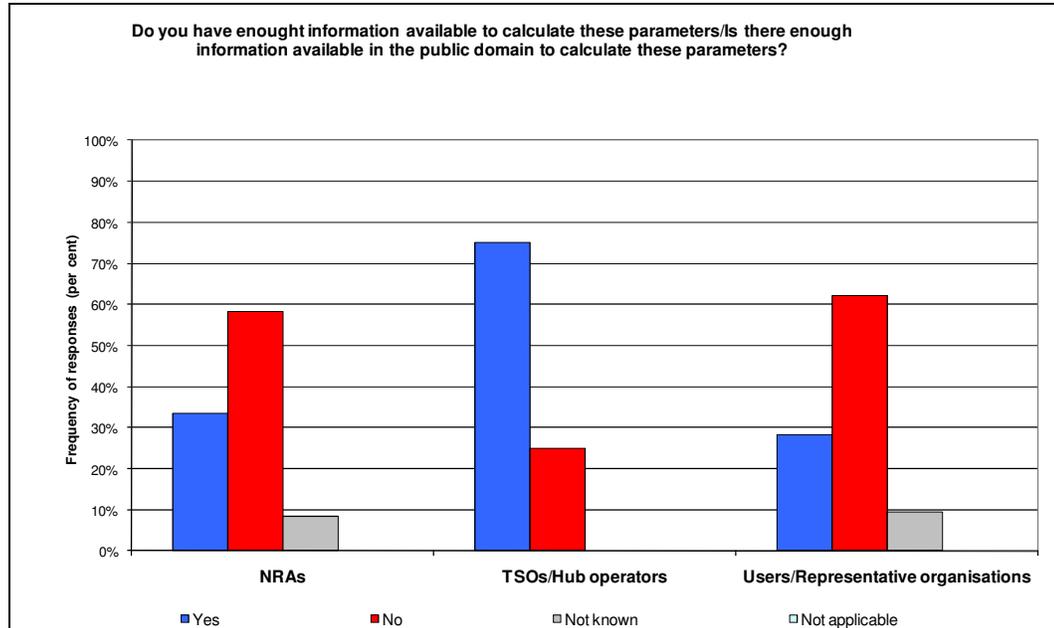
Source: ERGEG Gas Market Monitoring Report 2010

ERGEG's analysis reveals that for NRAs, TSOs/hub operators and users/representative organisations, the churn rate and the number of active players at the hub remain the most frequently used criteria to assess liquidity. NRAs, TSOs and hub operators use also the HHI while users/representative organisations, looking at the HHI as a more administrative competition indicator, prefer the bid-offer spread. ERGEG concludes that whilst different parameters are used, there is no standardised set of parameters.

Being asked if they have enough information available to calculate these parameters, respondents provided the following answers as shown in Figure 18:

**Figure 18: Do you have enough information available to calculate these parameters? (question for NRAs and TSOs/Hub operators)**

**/Is there enough information available to calculate these parameters? (question for users/stakeholders)**



Source: ERGEG Gas Market Monitoring Report 2010

ERGEG's analysis shows that the NRAs and the users/representative organisations feel that they do not have sufficient information to compute the aforementioned parameters, whilst the TSOs/hub operators feel on the contrary that there is enough information.

ERGEG concludes that there are potential asymmetries in the availability of information. There could be benefits from standardising data provisions, in order to ensure comparability across natural gas trading points and to enhance thereby the assessment of both maturity and liquidity. In combination with the previous conclusion, the focus could be on data provision to calculate the churn rate, HHI and bid-offer spread and to see the number of active players at the hub. ERGEG pleads for the definition and implementation of transparency guidelines for natural gas hubs at European level.

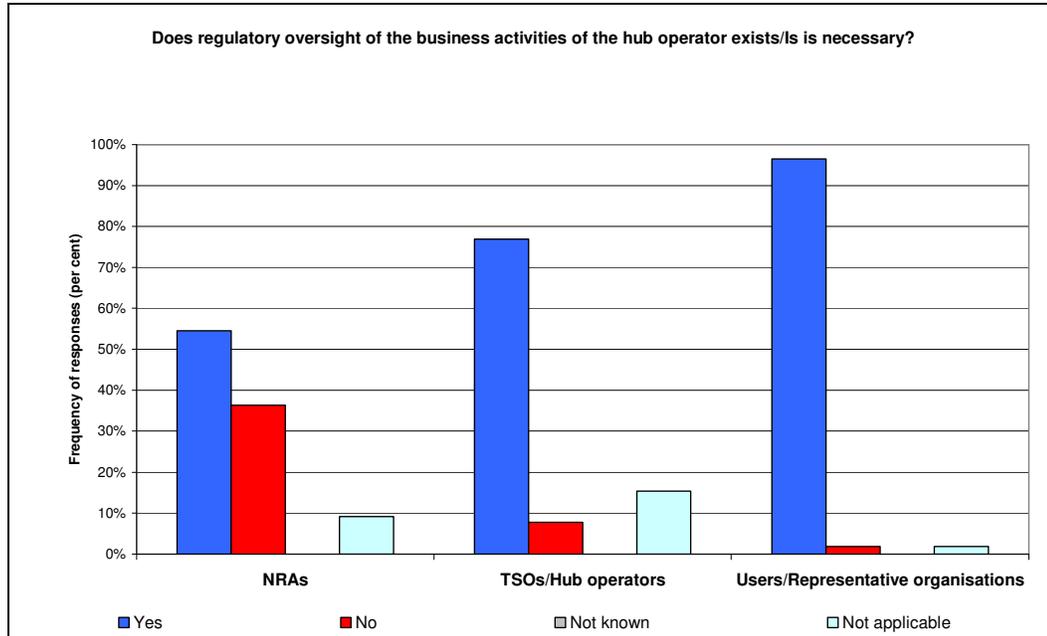
#### 4.4 Question set 3: Regulatory framework

Question set 3 relates to the regulatory framework concerning natural gas hubs. The aim is to understand whether a regulatory oversight exists at all, if so on which area, which services are being regulated and how new services come into place; what are the data exchange procedures between NRAs and TSOs/hub operators, whether there is a need for a stricter legal basis for data collection, complaint handling and if a code of conduct is in place.

Being asked if regulatory oversight of the business activities of the hub operator exists or is necessary, respondents provided ERGEG with the following answers as shown in Figure 19:

**Figure 19: Does regulatory oversight of the business activities of the hub operator exist?  
(question for NRAs and TSOs/Hub operators)**

**/Is regulatory oversight of the business activities of the hub operator necessary? (question for users/stakeholders)**



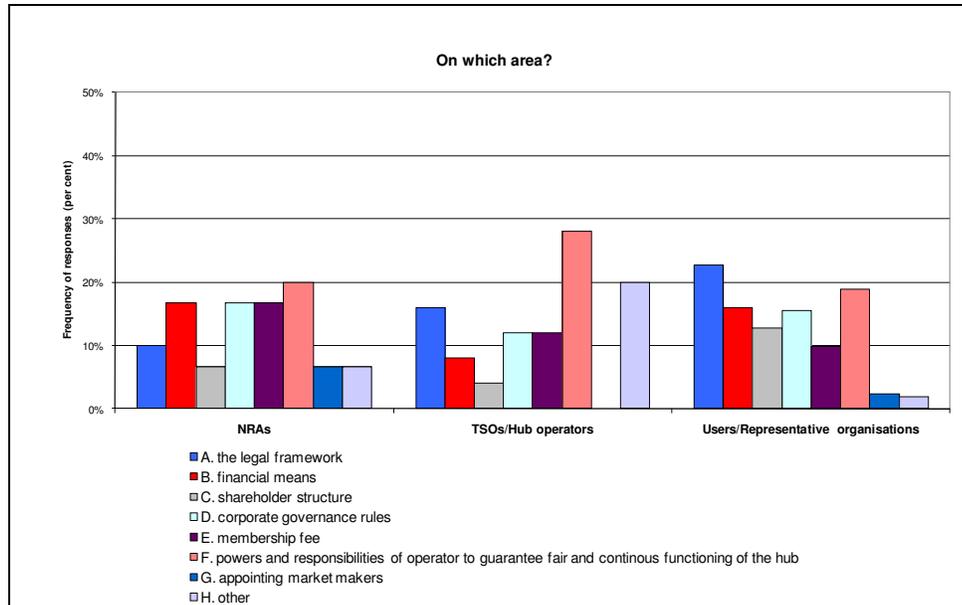
Source: ERGEG Gas Market Monitoring Report 2010

The majority of all respondents state that regulatory oversight of the business activities of the hub operator already exists, or, in the case of users/stakeholders, is needed. More specifically, TSOs/hub operators feel that they are being regulated more than what the NRAs think. Users/representative organisations are almost unanimous in favour of regulatory oversight, as long as this supervision does not hamper or limit their activities.

Being asked who performs such oversight, respondents stated that, where this oversight exists, it is the national energy regulator (i.e. also indicated by users/shareholders as the best choice), that performs this oversight. In the case where the financial regulator is mentioned (i.e. related to financial instruments), it is always in joint cooperation with the national energy regulator. ERGEG concludes that neither TSOs/Hub operators nor users/shareholders question the principle of regulatory oversight on hubs by the energy regulator. It is more for ERGEG now to look for harmonisation to ensure that all hubs are being properly monitored.

Being asked on which area such regulatory oversight of the hub operator should exist, respondents provided ERGEG with the following answers as shown in Figure 20:

**Figure 20: On which area?**



Source: ERREG Gas Market Monitoring Report 2010

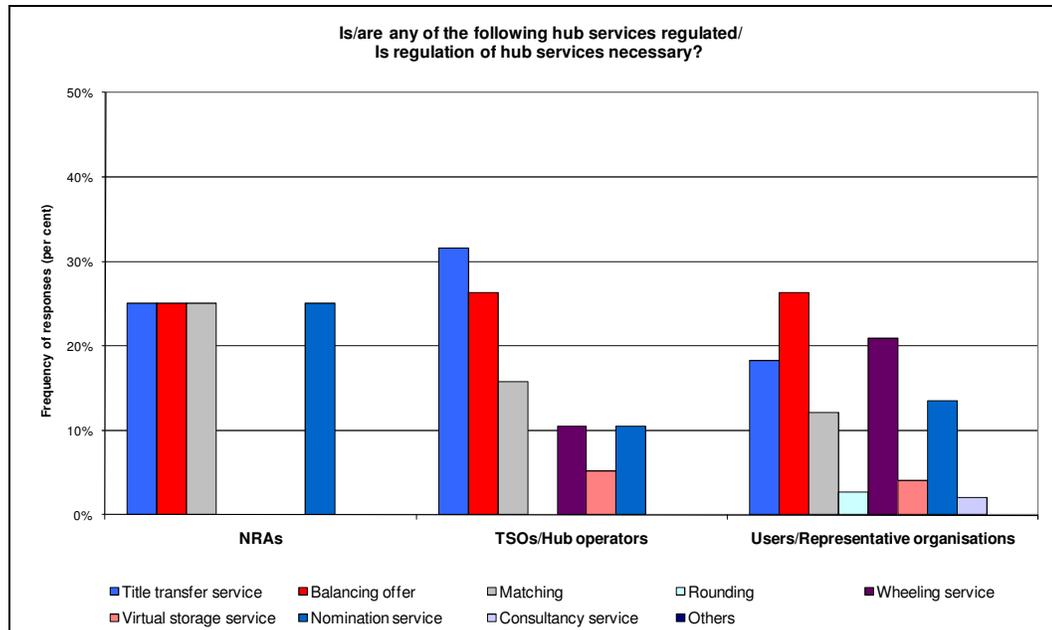
As far as the areas of regulatory oversight are concerned, ERREG’s analysis shows diverging results. While NRAs focus on financial means, corporate governance rules, membership fee and powers and responsibilities to guarantee fair and continuous functioning of the hub, TSOs/hub operators declare being regulated more on powers and responsibilities to guarantee fair and continuous functioning of the hub than on other issues. When TSOs/hub operators indicate “others”, they mean regulatory oversight on their contractual framework and on delivering information that is requested by the regulator. In addition to the five areas already being mentioned, users/representative organisations feel that oversight should be implemented on the shareholder structure, a request barely mentioned by the other two groups.

While there are regulatory oversight arrangements in place for some natural gas hubs, this is not the case for all natural gas hubs. ERREG concludes that if regulatory oversight is being implemented, the powers and responsibilities to guarantee fair and continuous functioning of the hub and the delivering of information requested by the NRA would be the first areas to tackle.

Being asked if any of the following hub services are regulated or if there is a need for such regulation, respondents provided ERREG with the following answers as shown in Figure 21:

**Figure 21: Is/are any of the following hub services regulated? (question for NRAs and TSOs/Hub operators)**

**/Is regulation necessary? (question for users/stakeholders)**



Source: ERGEG Gas Market Monitoring Report 2010

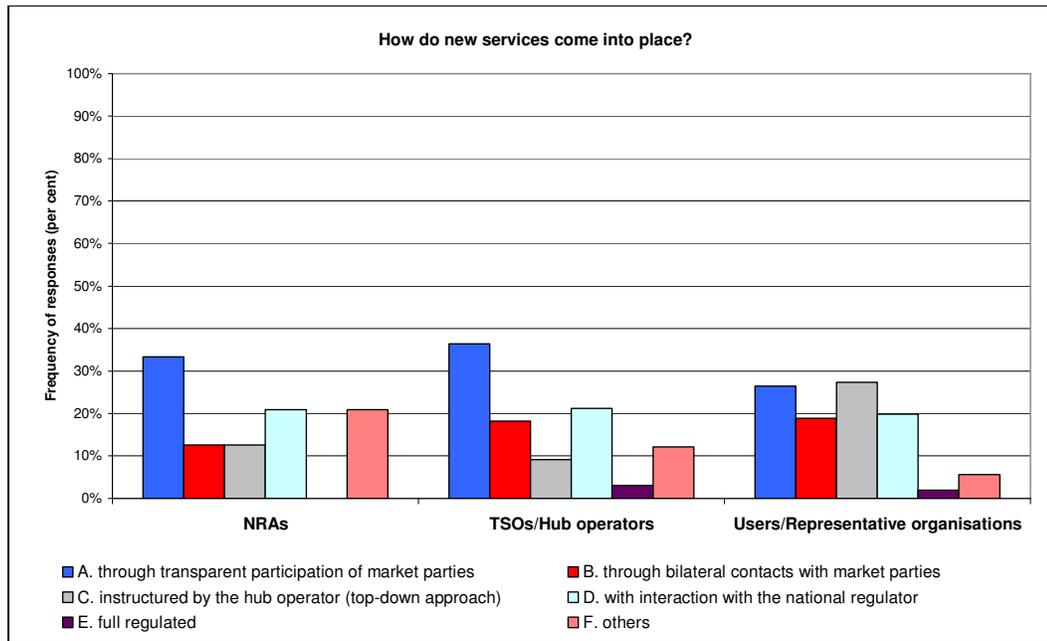
Amongst the services mentioned by all respondents, title transfer, balancing, matching, wheeling and nomination were often mentioned. However, there is a considerable degree of heterogeneity amongst the responses received from different respondents. ERGEG concludes that regulatory oversight takes effect at different hubs in different ways, which makes it difficult to provide a general recommendation at this stage. Some guidance is given:

- In the case where the TSO operates the hub, hub services are regulated as far as TSO services are regulated;
- The regulation of services should be required when transactions of these services interact with activities of the regulated TSO. The regulation of hub services is mainly required for balancing needs and for the physical services that bring gas in and out of it;
- Additional investigation is needed in order to define the needed regulation to monitor or set the rules.

ERGEG would like to reiterate that there are potential gains to be made for the market from some standardisation of regulatory oversight arrangements. Services interacting with activities of a regulated TSO need to be treated equally as regulated service. This is not only in order to increase transparency and assure fair access, but mainly for the same reasons why the services of the TSO's are regulated, being the *de-facto* monopoly situation to offer services based on physical network activity. Balancing is the main element to be taken into account, followed by the wheeling service (not to be confused with swap services).

Being asked how new hub services come into place, respondents provided ERGEG with the following answers as shown in Figure 22:

**Figure 22: How do new services come into place?**



Source: ERGEG Gas Market Monitoring Report 2010

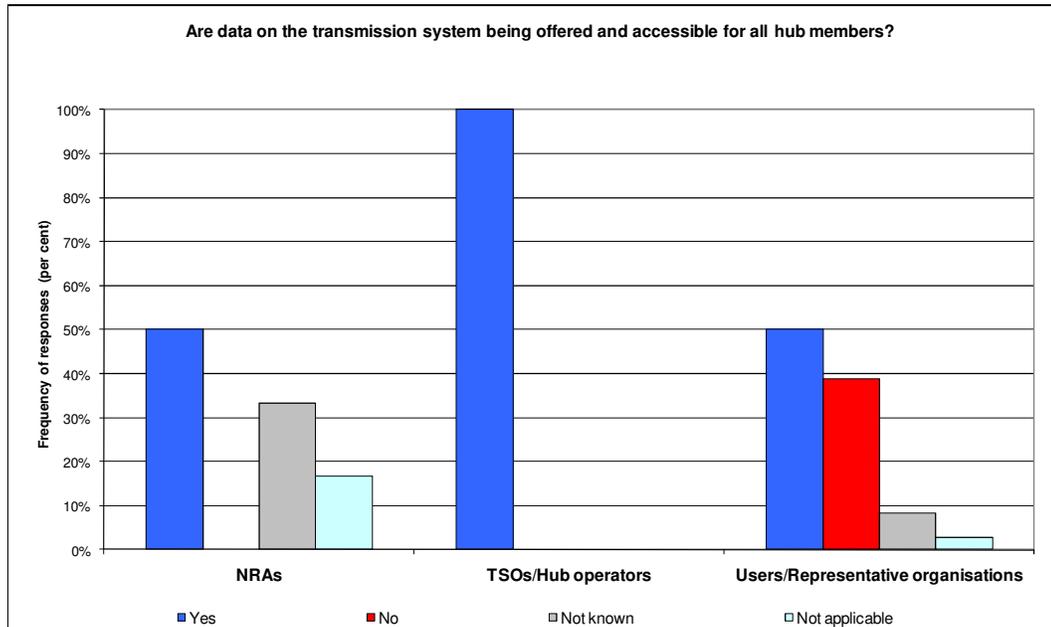
ERGEG’s analysis shows that NRAs and TSOs/hub operators consider the transparent participation of market participants and the interaction with national regulators as the two main factors explaining the creation of new services. Users/representative organisations consider that the bilateral contacts and the top-down approach are important.

ERGEG concludes that the transparent processes being recognised by NRAs and TSOs/hub operators are not perceived as that transparent by the users/ representative organisations. This underlines the importance of participation and engagement, both with the regulator and market participants.

Being questioned about the pros and cons of the regulation of a hub or its services, ERGEG concludes as the main guidance that a distinction is to be made between oversight and regulation. When it comes to services which are essential for the functioning of the gas market, the regulator should have a monitoring role. But in the case of the de-facto monopoly situation, the NRA should have the power to regulate (taking balancing as the first example). A line for equal treatment should be drawn between non regulated hubs operated by an independent entity and partly or fully regulated hubs operated by the TSO.

Being asked if data on the transmission system are accessible for all hub members, respondents provided ERGEG with the following answers as shown in Figure 23:

**Figure 23: Are data on the transmission system being offered and accessible for all hub members?**

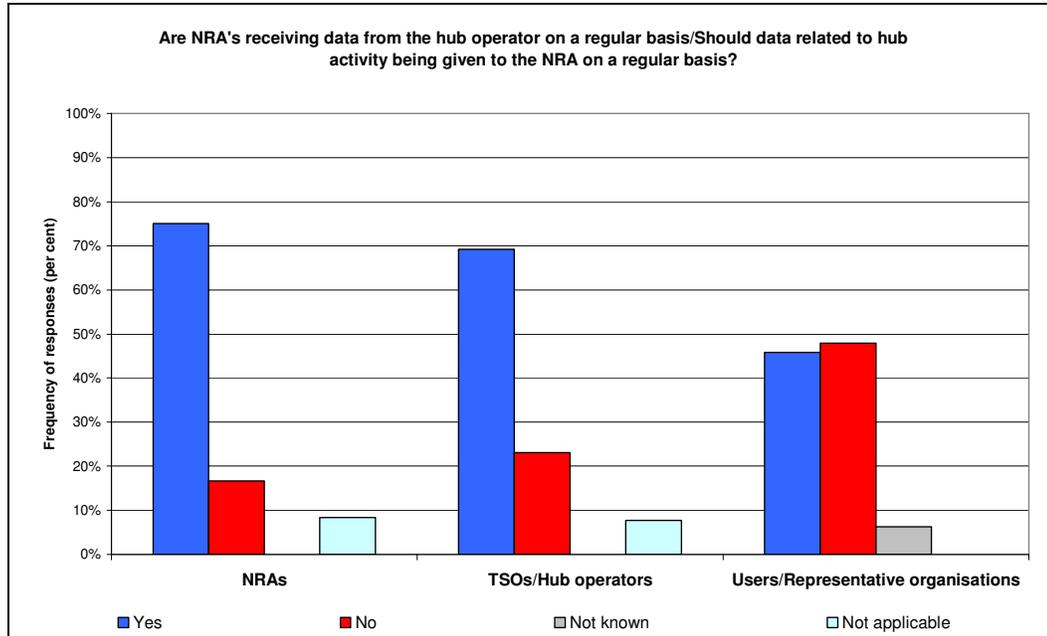


Source: ERGEG Gas Market Monitoring Report 2010

ERGEG's analysis shows that, while TSOs/hub operators are stating that data on the transmission system is being offered and accessible for all hub members, only half of the responding users/representative organisations think this is the case. ERGEG concludes that regulatory oversight should clarify this situation to make sure all hub members are being treated equally. As far as information provision and transparency at a natural gas hub are concerned, ERGEG notices that users require more information and more regulatory intervention to improve the situation.

Being asked whether NRAs are receiving data related to hub activity on a regular basis or whether data related to hub activity should be given to the NRA on a regular basis, respondents provided ERGEG with the following answers as shown in Figure 24:

**Figure 24: Are NRAs receiving data related to hub activity on a regular basis (question for NRAs and TSOs/Hub operators)  
or should NRAs receiving data related to hub activity on a regular basis (question for users/stakeholders)?**



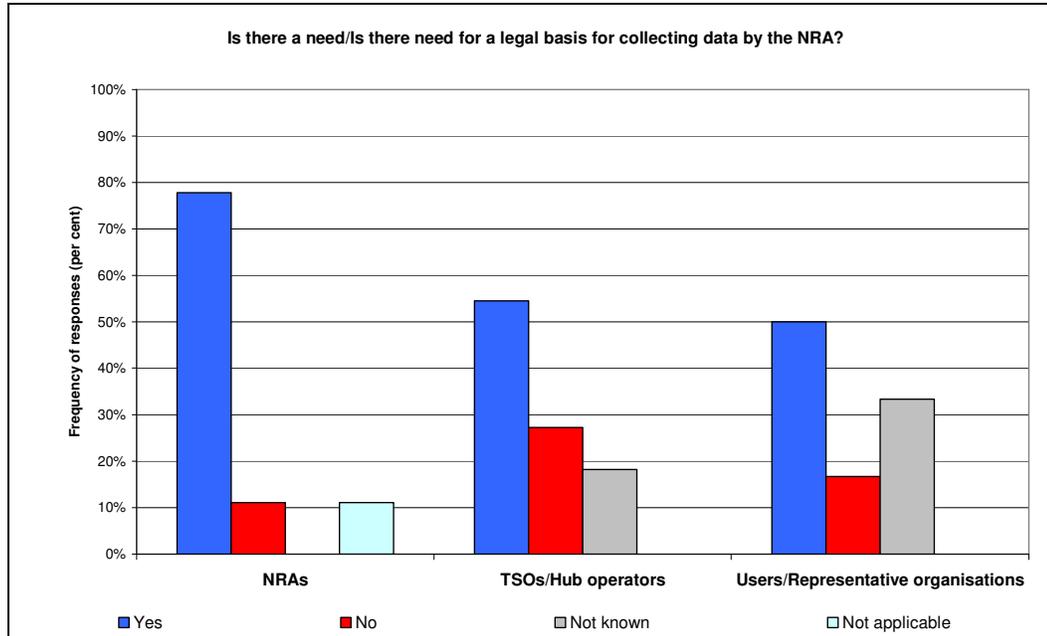
Source: ERGEG Gas Market Monitoring Report 2010

ERGEG's analysis shows that NRAs and TSOs/hub operators state that NRAs receive data from the natural hub operators on a regular basis with some exceptions. Although in previous sessions users were in favour of more regulatory oversight, they give a more nuanced answer to this question. ERGEG concludes that there is potential need for further harmonisation at this point to ensure that NRAs indeed receive the appropriate data to ensure effective regulatory oversight (fit for purpose only).

Being asked if there is a need for data collection or a need for a legal basis for data collection by the NRA, respondents provided ERGEG with the following answers as shown in Figure 25:

**Figure 25: Is there a legal basis for data collection by the NRA? (question for NRAs and TSOs/Hub operators)**

**/Is there a need for a legal basis for data collection by the NRA? (question for users/stakeholders)**



Source: ERGEG Gas Market Monitoring Report 2010

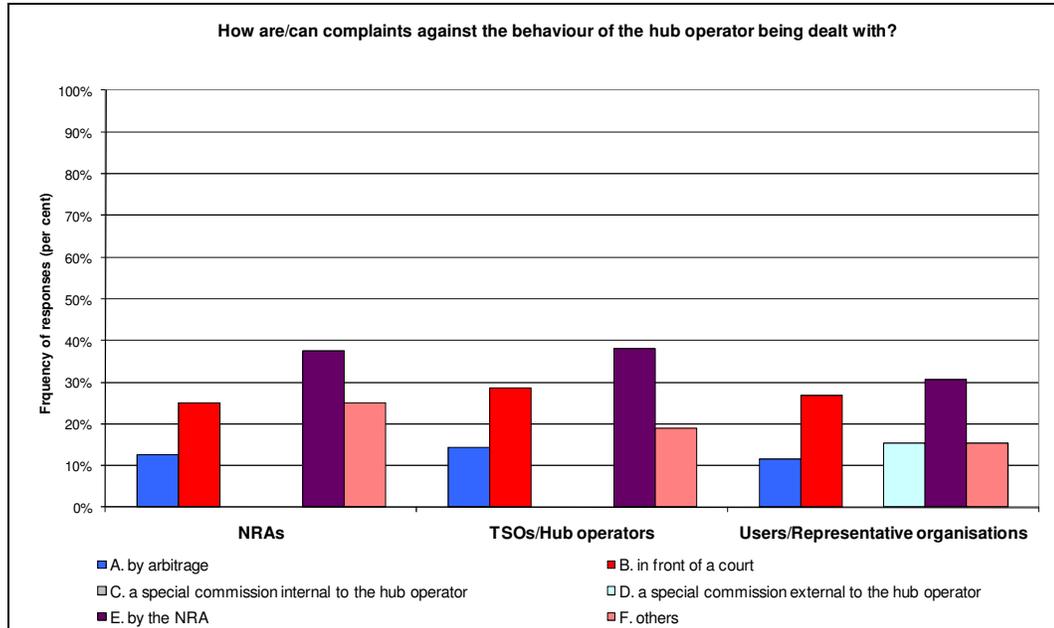
ERGEG's analysis shows that a majority of respondents feel that there is a need for a legal basis for data transmission. However, ERGEG's analysis has also revealed that there are differences as far as the data coverage is concerned. In some cases, data transmission is very explicit and precisely specified, while in other cases, data transmission can be carried out ex post subject to a specification of actual data items.

ERGEG concludes that a legal basis has to be in place specifying the requirements for data transmission/exchange to ensure that NRAs receive the needed information to ensure effective regulatory oversight (fit for purpose). This includes the harmonisation of information availability at a European level, strengthening of regulatory powers, and the possibility to investigate potential market abuse issues. ERGEG will take this view into account when formulating its recommendations on the improvement of the regulatory oversight of natural gas hubs.

Being asked how complaints against the behaviour of the hub operator are being or can be dealt with, respondents provided ERGEG with the following answers as shown in Figure 26:

**Figure 26: How are complaints against the behaviour of the hub operator being dealt with? (question for NRAs and TSOs/Hub operators)**

**/How can complaints against the behaviour of the hub operator being dealt with? (question for users/stakeholders)**



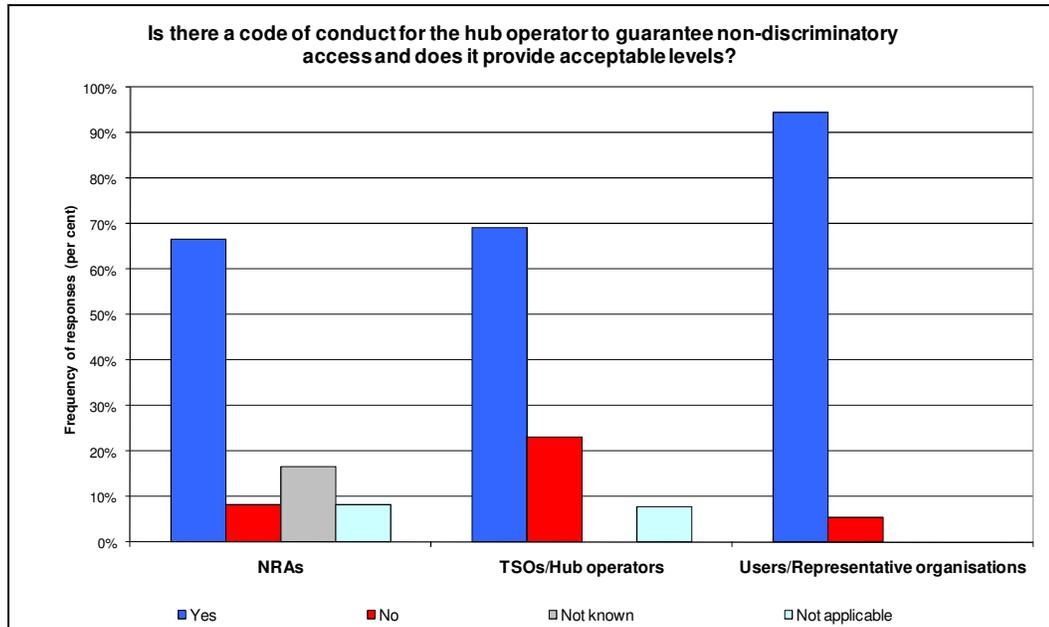
Source: ERGEG Gas Market Monitoring Report 2010

ERGEG’s analysis from the submitted responses shows that there are procedures in place for complaint handling, firstly treated by the NRA,, but also in front of a court of by other means. Where respondents answered “others”, this includes either complaint procedures within the NRA or with the national competition authorities. In some cases, NRAs have a dedicated dispute settlement and sanctions committee to handle these complaints.

While a variety of complaint handling procedures are in place, a consensus exist that NRA’s and/or court have to be involved. However, by indicating also “a special commission external to the hub operator”, user/stakeholders plead for having complaints being treated by experts with experience “close to the market”. ERGEG concludes that complaint handling is best placed within the NRA. But where this is not the case, the best practice to respond to the request from users/stakeholders would be a special committee or tribunal of members not connected with the claimer or the hub operator. In these cases, it will be positive that a complaining procedure is in place to assure that complaints are being treated in a fair, non-discriminatory and effective manner. ERGEG recognises that there is potential scope for harmonisation across natural gas hubs to ensure this. Further harmonisation at this point might be potentially beneficial for the user of natural gas hub services in case of disputes.

Being asked if there is a code of conduct for the hub operator to guarantee non-discriminatory access and does it provide acceptable levels, respondents provided ERGEG with the following answers as shown in Figure 27:

**Figure 27: Is there a code of conduct for the hub operator to guarantee non-discriminatory access and does it provide acceptable levels?**



Source: ERGEG Gas Market Monitoring Report 2010

ERGEG's analysis shows that in more than 60 per cent of the cases, all respondents report that a code of conduct for the hub operator is in place to guarantee the non-discriminatory access to the natural gas hub and the services provided at the natural gas hub.

To mention one of the most recent example, on April 1st, CEGH officially published a binding Code of Conduct on its webpage.<sup>4</sup> This Code of Conduct, which has been finalised together with E-Control, the Austrian Regulatory Authority, includes the following commitments from the Hub Operator:

- Constant data delivery on OTC market data from Hub Operator to Regulator (Market Monitoring);
- Mandatory adherence to EASEE-GAS, ENTSO-G and ACER standards. E-Control can request changes to GTC according to those mentioned frameworks;
- Organisation of regular "Customer Feedback Sessions" (at least twice a year) for Hub & Exchange customers, in order to evaluate the market needs for new services. E-Control can monitor and comment the implementation of such services;
- Organisation of annual Feedback Sessions for Potential Customers in order to discuss and evaluate their market needs and preconditions for becoming actual customers;

<sup>4</sup>[http://www.ceghotc.com/index.php?id=167&tx\\_ttnews\[tt\\_news\]=78&tx\\_ttnews\[backPid\]=121&cHash=f7abe03e0d](http://www.ceghotc.com/index.php?id=167&tx_ttnews[tt_news]=78&tx_ttnews[backPid]=121&cHash=f7abe03e0d)

- Organisational separation of the confidential areas “Middle Office” (OTC operations & physical hub services) and “Market Operations” (gas exchange operations);
- Nomination of a Compliance Officer to supervise the strict separation of confidential areas and to report to E-Control on a yearly basis.

ERGEG concludes that where this is not the case until now, provisions need to be made to introduce such a code of conduct. There might be a need for standardisation at this point to ensure that all natural gas hub operators are bound by rules outlined in a code of conduct to ensure the fair and non-discriminatory access to the natural gas hub.

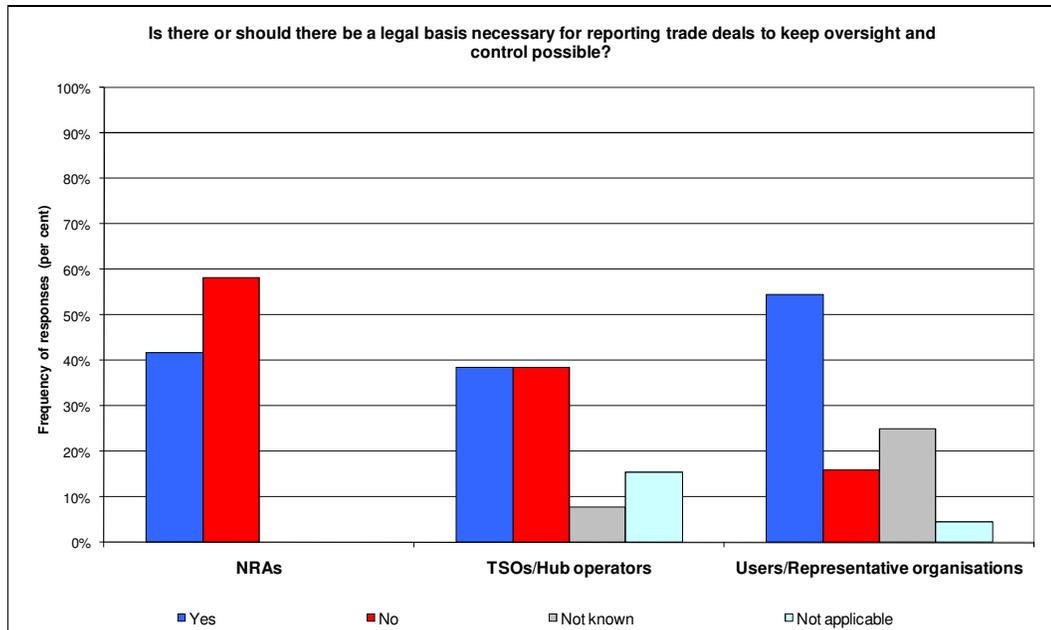
#### 4.5 Question set 4: Oversight relation: hub operator and OTC/Exchange traders

Question set 4 relates to oversight regulation in detail, this covers both hub operator and OTC/Exchange traders.

Being asked if there is or if there should be a legal basis for reporting trade deals to keep oversight and control possible, respondents provided ERGEG with the following answers as shown in Figure 28:

**Figure 28: Is there a legal basis for reporting trade deals (question for NRAs and TSOs/Hub operators)**

**or should there be a legal basis for reporting trade deals (question for users/stakeholders)?**



Source: ERGEG Gas Market Monitoring Report 2010

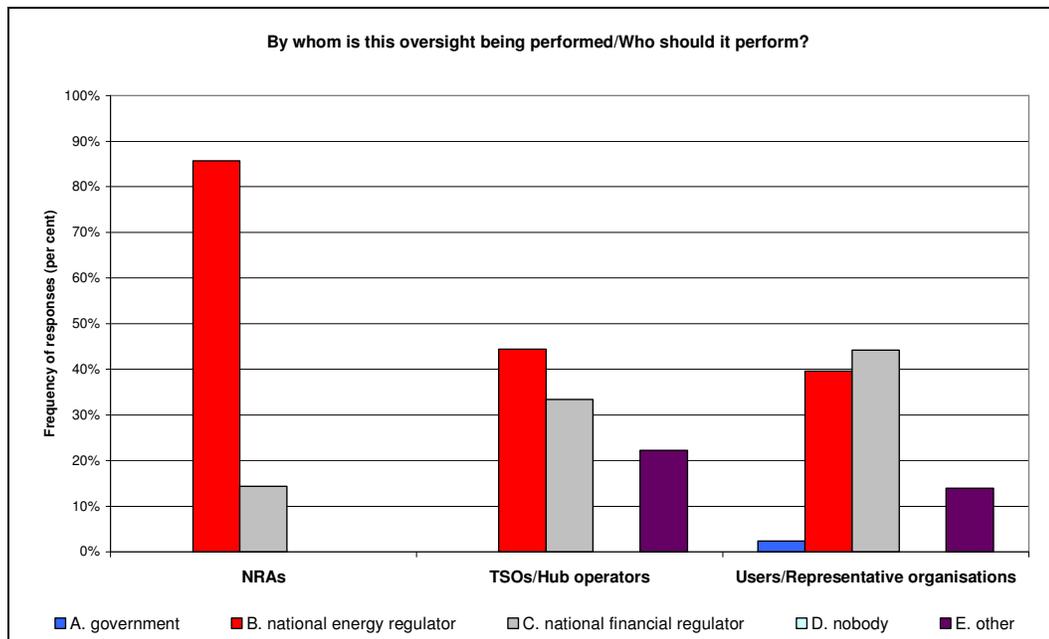
NRAs and TSOs/hub operators report that the existing situation is mixed with regards to the existence of a legal basis for reporting trade deals. However users/representative organisations give a strong push towards a legal basis.

ERREG concludes that where this is not the case until now, provisions need to be made, to introduce such a legal basis for reporting trade deals to keep oversight and control possible.

Being asked who performs such oversight, respondents provided ERREG with the following answers as shown in Figure 29:

**Figure 29: By whom is this oversight being performed (question for NRAs and TSOs/Hub operators)**

**/Who should perform this oversight? (question for users/stakeholders)**



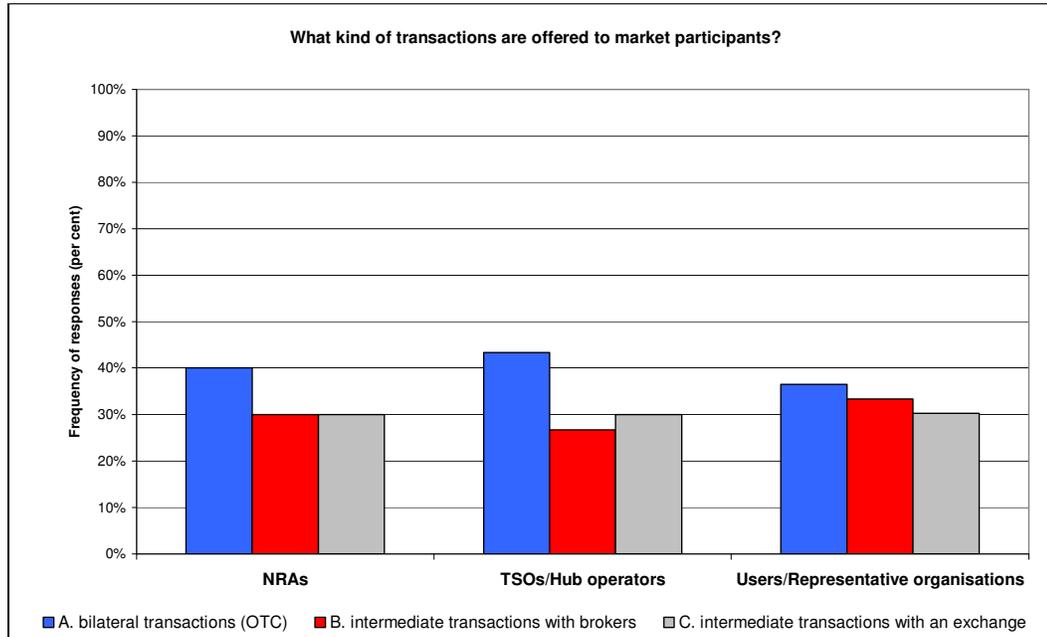
Source: ERREG Gas Market Monitoring Report 2010

The responses confirm that in most cases, the responsibility for regulatory oversight resides with the NRA. Only in few cases this oversight is being allocated to the national financial regulator or to another body.

ERREG concludes that there should be a legal basis for reporting trade deals to the energy regulatory authorities (financial trading only to a limited extent) to ensure the fair and continuous functioning of the hub.

Being asked what kind of transactions are offered to market participants, respondents provided ERREG with the following answers as shown in Figure 30:

**Figure 30: What kinds of transactions are offered to market participants?**



Source: ERGEG Gas Market Monitoring Report 2010

ERGEG’s analysis from all responses shows that OTC transactions are predominantly offered to market participants (basically at all hubs covered), followed by intermediate transactions with brokers and exchanges.

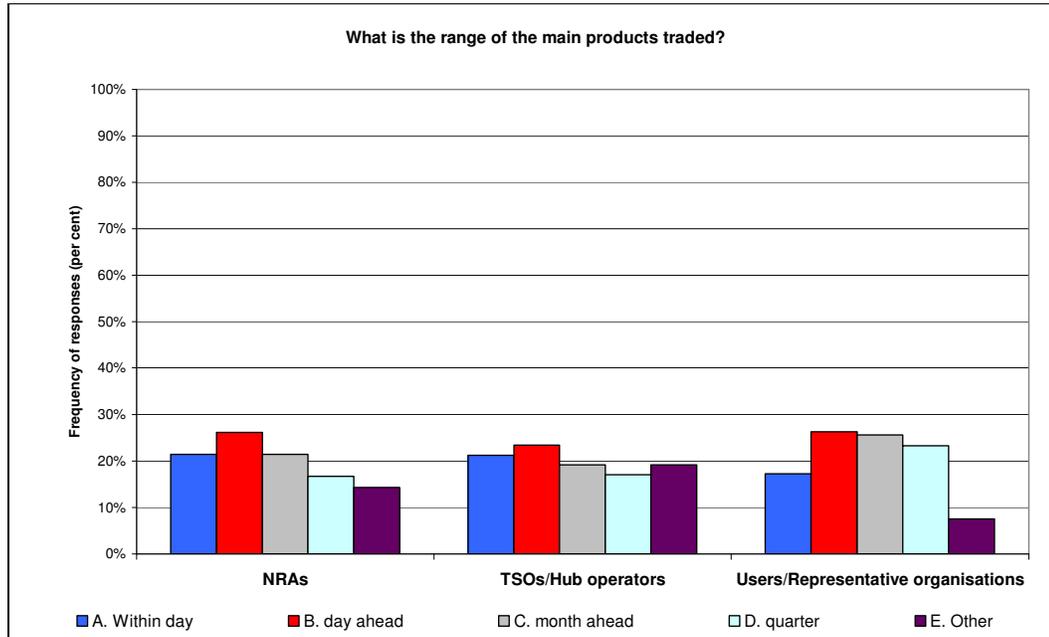
A wide variety of transactions are offered. In combination with the results showed in Figure 8<sup>5</sup> and Figure 10<sup>6</sup>, ERGEG concludes that users/shareholders are satisfied with these alternative trading possibilities. It shows that market oversight has to deal with all these aspects, otherwise oversight will be fragmented and inefficient.

When transactions are offered, respondents were asked about the range of the main products traded. The following answers were provided, as shown in Figure 31:

<sup>5</sup> Figure 8: Are there other trading points/? (question for NRAs and TSOs/Hub operators).

<sup>6</sup> Figure 10: Is there exchange based trading on the hub? (question for NRAs and TSOs/Hub operators).

**Figure 31: If transactions are offered, what is the range of the main products traded?**



Source: ERGEG Gas Market Monitoring Report 2010

ERGEG’s analysis, based on responses from all three groups of respondents, indicates that day ahead is the predominant form of products being offered. But it is very closely followed by the others. In most cases a wide range of products are available. According to the users/stakeholders, the more developed the market is, the more longer term products become available”.

## 5. ERGEG's recommendations and outlook of the regulatory oversight

### 5.1. Key findings for best practice

Based on the data and information provided by NRAs, TSOs/hub operators and users/representative organisations, ERGEG presents in the following paragraphs the key findings for best practice on the regulatory oversight of natural gas hubs.

To avoid confusion and clarify the scope and the application area of this exercise, ERGEG has sought to establish a coherent picture of what actually a natural gas hub is.

From the range of received responses, there seems to be broad agreement in the above mentioned findings on what constitutes a natural gas hub. A common definition, adopted for the pursue of the analysis in the following sections of this report, could hence be as follows ("working definition"):

*"A natural gas hub is a point - physical (local) or virtual (notional) – on the gas transmission system where the transfer of natural gas can take place logistically supported by an independent body (not always the TSO) by offering the follow-up of the transfers of ownership (i.e. title tracking), standardized contracts for trade at freely negotiated prices and other services."*

Further details may differ from hub to hub under consideration and remain subject to a more in depth analysis. ERGEG concludes that there is no single complete description of a natural gas hub, because the tasks of a hub differ according to its function in the local natural gas system. There will always be plenty of different hubs and hence hubs with different functions. ERGEG does not want to make all hubs equal (by stating what a hub can and cannot do), but ERGEG wants to ensure that hubs can be identified and meet minimum conditions to reassure that market participants do not face hurdles to trade. Regulators' task is to remove artificial or unfair barriers to the development of competitive hubs. ERGEG considers that it is necessary to increase the availability of information for market participants to undertake commercial decisions. Such a reduction also contributes to reduce potential barriers to enter the market.

ERGEG draws the following key conclusions, categorised by the four areas as laid down in the questionnaire from this monitoring exercise.

#### **History of the hub:**

To initiate the setup of a natural gas hub, ERGEG identifies as common practice purely commercial interest, with emphasis on trading, as well as regulatory system design, where the hub serves as a reference point for balancing or other system services. In the initial and further development of a hub, participation and involvement of all stakeholders in a transparent and non-discriminatory way is recommendable and should be picked up as guidance. This involvement is seen as the best way to ensure that technical requirements and users' needs are taken into consideration.

Based on an overall more than 85 percent support, ERGEG concludes that whilst multiple trading points may exist on a system, only one natural gas hub on the same

balancing zone is desirable. Where different answers are provided, reference is made to situations where more than one hub exists on the same transmission system, but not on the same balancing zone. The provided explanations are that only one transmission system operator can operate the same hub, because hubs have a de-facto monopoly or because the hub is part of the system design that covers the total transmission system. This conclusion is recommendable, not only due to the *de facto* or system design monopoly situation of a hub, but also to prevent fragmentation of liquidity in the market.

Taking one hub as a best practice recommendation, arbitrary fee setting to become member of or to trade on the hub should be prevented. Therefore guarantees should be implemented that the hub operator should be remunerated for its services in a transparent way and in a cost-reflective and fair manner. As proposed by the users/stakeholders, ERGEG concludes that a fee per quantity unit is the most recommendable component of a fee, as long as there is no fixed cost independent from the traded quantity. A fixed part is only recommended to cover fixed costs when they exist.

Even though exchange based trading is established on most of the hubs, differentiation in the kind of trade on a natural gas hub (OTC, exchange, broker, ...) is not seen as a *condition sine qua non* for the development of a gas market. Exchange based trading is an important form of trading, but not a prerequisite. The issue of OTC versus Exchange trading shall be further addressed, especially w.r.t. information provision (quantities, products traded), transparency in general and price formation (price signal).

#### **Development of the hub: transparency and publications:**

Concerning gas hubs, a vast amount of information is made available. The publication of traded volumes, physical throughput, churn rate (calculated from the first two indicators), number of members/traders, list of members with contact details, balancing information, membership fee, a product service list and information on contracts and general terms and conditions, is identified as common practice. However, there is need:

- for improvement, like the number of active members, differentiated data between sellers and buyers and indicators to assess liquidity (ex. HHI), but not that far as to the publication of prices (bid-offer spread to be offered by brokers or exchanges);
- for harmonisation on the details of frequency (daily) and units (MWh or GWh).

ERGEG's analysis shows a need for guidance in the field of transparency and the publication of information related to gas hubs.

Not being able to provide a standard definition on liquidity, the following obstacles to liquidity have been identified:

- the lack of capacity to access to the hub;
- the major supplier that refuse to participate;
- the absence of certain traded products;
- the lack of counterparties to trade with;
- the presence of separate virtual compartments to trade;

- the small size of the hub.

Heterogeneity exists in the provision of services. Generally, services like title tracking, balancing and matching are offered. As a recommendation for best practice, facilitating the offer of storage services in relation to the hub should be highlighted. Where differentiation is made between a TSO and a hub operator, and a recommendation is to be given who is best placed to offer what service, the impact of the service concerned on the management of the network should be the main trigger. Title tracking and matching, as linked to commodity trade are services mainly offered by a hub operator, while balancing and storage services are typically TSO related services. This finding shall be integrated in the recommendations under the next heading of “regulatory oversight”.

### **Regulatory oversight:**

NRAs, TSOs/Hub operators and users/shareholders do not question the principal of regulatory oversight on hubs by the energy regulator. The only limit identified is that oversight should not hamper trade activities. Best practice recommendation for implementing regulatory oversight concerns the powers and responsibilities to guarantee fair and continuous functioning of the hub and the delivering of information.

Being in a de-facto monopoly situation, services offered on the hub, interacting with activities of the (regulated) TSO need to be treated equally as regulated service, in order to increase transparency and ensure fair access to services. Balancing and storage, as seen under the previous heading, are the main examples to be taken into account, followed by the wheeling service (not to be confused with swap services). The purpose is to draw a line for equal treatment between the non-regulated hubs operated by an independent entity and the partly or fully regulated hubs operated by the TSO.

The following best practice recommendations can be concluded concerning the regulatory oversight:

- data on the transmission system should be offered and accessible for all hub members, equally, especially when differentiation is made between hub members or service subscribers and other transmission system users. Equally, the possibility of becoming hub member/service subscriber/other type of user should be opened to all market players under the same conditions;
- a legal basis, including some harmonisation of information availability at a European level, the strengthening of regulatory powers and the possibility to investigate potential market abuse, has to be implemented. The main concern is to provide NRAs with the information they need to ensure effective regulatory oversight (fit for purpose);
- the reassurance to handle complaints in a transparent, fair, non-discriminatory and effective manner. Ideally, complaints should be handled within the NRA, or alternatively, within a special external committee or tribunal of members not connected with the claimer nor the hub operator. In these cases, it will be positive that a complaining procedure is in place. Further harmonisation at this point might be potentially beneficial for the user of natural gas hub services in case of disputes;
- a code of conduct on every hub to ensure the fair and non-discriminatory access to the natural gas hub (including confidentiality issues, data delivery and transparency).

## **Oversight relation: hub operator and OTC/Exchange traders**

Respondents require to introduce a legal basis for reporting trade deals to the energy regulatory authorities to keep regulatory oversight and control possible in order to guarantee a fair and continuous functioning of the hub to the market.

ERGEG's analysis from all responses shows that OTC transactions are predominantly being offered to market participants (basically at all hubs covered), followed by intermediate transactions with brokers and exchanges. ERGEG concludes that market oversight has to deal with all these aspects, otherwise oversight will be fragmented and loses its efficiency.

## **5.2. Recommendations**

ERGEG recommendations call for action in the following six key areas:

### **a. Assessment of hub development in a more comprehensive and comparable manner**

Without doubt, gas hubs differ in set-up and in the developed activities. Different dimensions require different assessments/treatments. ERGEG recommend to let commercial interest be the trigger that initiates the development of a hub, with emphasis on trading, or to use the regulatory system design to create a hub, where the hub serves as a reference point for balancing. Both options are to be treated equally.

However, oversight should guarantee a transparent hub development in a more comprehensive and comparable manner. Thereto it is recommendable to:

- ensure that NRAs receive the appropriate data for effective regulatory oversight (data/information provided fit for purpose);
- assure better and more open involvement of users and representative organisations;
- increase transparency and simplification of cost reflective fee charges across all natural gas hubs in Europe;
- support the common understanding that title tracking and matching are offered as basic services for gas hubs, leaving balancing, wheeling, storage and nomination services as typical services to be linked to system operations;
- provide a definition of maturity and liquidity.

## **b. Transparency**

Transparency is a necessary condition to ensure equal access to the hub (physically) and to trade at the hub (both physically and financially, where applicable). The processes identified as transparent by NRAs and TSOs/hub operators are not perceived as being transparent by the users/representative organisations. Thereto it is recommended to:

- aim for full transparency, but keep in mind that transparency has to be fit for purpose;
- develop guidance to reassure participation and involvement of all stakeholders in a transparent and non-discriminatory way;
- make the data on the transmission system accessible for all hub members equally, especially where differentiation is made between hub members or service subscribers and other transmission system users;
- reduce barriers and information asymmetries through the publication of relevant information, i.e. information that is of relevance to key stakeholders, in particular hub users to enable them to take commercial decisions. Examples of relevant information are: the publication of traded volumes, physical throughput, churn rate (as being calculated from the first two), number of members/traders, list of members with contact details, balancing info, membership fee, a product service list and information on contracts and general terms and conditions

ERGEG pleads for the definition and implementation of transparency guidelines for natural gas hubs to meet user demand see also information provision).

## **c. Information provision**

All necessary information needs to be provided, in particular from TSOs and HSOs to market participants and NRAs, increasing compulsory rules on record keeping and publication of information. Thereto it is recommended to:

- improve the provision of information like:
  - the number of active members;
  - differentiated data between sellers and buyers,
  - the data needed to calculate liquidity (HHI);
- harmonise not only on the kind of data being provided, but also on the details of format like frequency (daily) and unit (MWh or GWh);
- emphasise on a definition for liquidity acceptable for market parties (the churn rate, HHI and bid-offer spread), but more important to make sure these parties have the data they need to calculate liquidity;

#### **d. Hub operation as a monopolistic activity**

Whilst multiple trading points may exist, having only one natural gas hub on the same natural gas balancing zone is the common practice. Thereto it is recommended to aim for general rules and principles on hub services when they are monopolistic activities relating to transmission system operation, balancing or network management, in order to avoid discrimination or anticompetitive behaviours.

In a first attempt to differentiate between services, it is probably sensible to make a distinction between services interacting with activities of a regulated TSO (nomination, balancing, wheeling and storage) and other services (title transfer and matching). Services offered on the hub, interacting with activities of a regulated TSO need to be treated equally as regulated service, not only to increase transparency and ensure fair access, but mainly for the same reasons why the services of the TSO's are regulated, being the *de-facto* monopoly situation to offer services based on physical network activity. The focus of service regulation include the development of charges in a transparent way and in a cost-reflective and fair manner.

#### **e. Strengthening and harmonisation of regulatory framework and its implementation across Europe**

To strengthen and harmonise the regulatory framework and its implementation across Europe, a clear legal basis has to be implemented to strengthen the regulatory powers, supervise the legal framework and the possibility to investigate potential market abuse issues. Thereto it is recommended to:

- increase cooperation between national energy regulators (i.e. best placed to execute the regulatory oversight of energy markets) and national financial regulators (i.e. related to financial instruments) as far as market supervision is concerned. Thereto, a clear allocation of responsibilities is needed as to who is actually in charge (e.g. type of product traded). Attention is to be paid that all aspects of trade (OTC, broker and exchange trade) are being taking into account;
- introduce common regulatory oversight principals, the first area to look at being the powers and responsibilities to guarantee transparent, fair and continuous functioning of the hub. Taking into account the rule for fitness for purpose of the data/information provided , reporting trade deals to keep oversight and control possible should be included;
- introduce complaint handling procedures in a transparent, fair, non-discriminatory and effective manner at each natural gas hub in Europe. Ideally complaints should be dealt with within the NRA, or alternatively, within a special external committee or tribunal of members not connected with the claimer nor the hub operator.

#### **f. Promoting greater liquidity & better access to trading**

Liquidity is an essential prerequisite for trading. Without access to the natural gas and gas infrastructures, there cannot be physical trading. Financial trades might inadequately be backed up by physical commodity. Market makers have been barely used to stimulate trading. To stimulate further improvement, it is recommended to:

- ensure that all TSOs/natural gas hub operators are bound by rules outlined in a standardised code of conduct to ensure the fair and non-discriminatory access to the natural gas hub (including confidentiality issues, data delivery and transparency);
- install a legal basis for reporting trade deals to the energy regulatory authorities to ensure the fair and continuous functioning of the hub;
- raise better information on the all trades being carried out;
- avoid issues that hamper liquidity, like a lack of capacity to get access to the hub, the refusal to participate of a major supplier, the absence of certain products for trade, the lack of counterparties to trade with and the presence of separate virtual compartments to trade.

### **5.3. Outlook and next steps**

The described analysis, delivering the findings and recommendations as mentioned above, investigates the world of European gas hubs and shows the need for regulatory oversight to guarantee fair and continuous functioning of the hub, focussing on greater transparency. In order to improve transparency, reducing information asymmetries is an important step towards greater liquidity at natural gas hubs, which would be in the interests of consumers across Europe.

As gas hubs arrangements are not addressed in the 3<sup>rd</sup> Package published in 2009 (except from the necessity of a virtual trading point due to entry-exit), the outcome of the survey and the recommendations made can serve as guidance when updating the regulatory framework. A clear legal basis, the strengthening of regulatory powers and the possibility to investigate potential market abuse have to be in place, to reassure:

- the participation and involvement of all stakeholders in a transparent and non-discriminatory way, to be seen as the best way to ensure that technical requirements and users' demands are met;
- the handling of complaints in a transparent, fair, non-discriminatory and effective manner. Ideally, complaints should be dealt within the NRA, or alternatively, within a special external committee or tribunal of members not connected with the claimer nor the hub operator;
- the development of a code of conduct at each hub to ensure the fair and non-discriminatory access to the natural gas hub (including confidentiality issues, data delivery and transparency);

- NRAs should be provided with the appropriate data to ensure effective regulatory oversight (fit for purpose). NRAs should receive when needed the reporting of trade deals related to all kind of transactions (OTC, Broker and exchange). Otherwise the oversight will be fragmented and lose its efficiency;
- the hub operator is remunerated for its services in a transparent, cost-reflective and fair manner, preventing arbitrary fee setting to become member of the hub or to trade on the hub. As proposed by the users/stakeholders, ERGEG concludes that a fee per quantity unit is the most recommendable component for a fee, as long as there are no fixed costs independent from traded quantities. A fixed part is only recommended to cover fixed costs when they exist;
- equal treatment of offered services between the nowadays non regulated hubs operated by an independent entity and the part or full regulated hubs operated by the TSO. The services offered on the hub, interacting with activities of a regulated TSO, need to be treated as regulated service. Not only in order to improve transparency and ensure fair access, but mainly for the same reasons why the services of the TSO's are regulated, being the de-facto monopoly situation to offer services based on physical network activity. Balancing and storage are for sure the main examples to be taken into account, followed by the wheeling service (not to be confused with swap services).

Reference can be made to the development by the Commission of Guidelines defining further record-keeping requirements. ACER and the Committee of European Securities Regulators (the 'CESR'), established by Commission Decision 2009/77/EC, have been given the task<sup>7</sup> to investigate and advise on whether transactions in gas supply contracts and gas derivatives should be subject to pre-and/or post-trade transparency requirements and, if so, what the content of those requirements should be.

In attendance of new mandatory regulatory initiatives, ERGEG can stimulate voluntary schemes to pick up the transparency recommendations. In addition to the vast amount of information that is already made available like traded volumes, physical throughput, churn rate (as being calculated from the first two), number of members/traders, list of members with contact details, balancing info, membership fee, a product service list and information on contracts and general terms and conditions, there is scope:

- for improvement, like the number of active members, differentiated data between sellers and buyers and indicators to assess liquidity (ex. HHI);
- for harmonization on the details of frequency (daily) and units (MWh or GWh) in line with the work of EASEE-gas;

The dedicated working group within ERGEG shall investigate this further.

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<sup>7</sup> See Directive 2009/73/EC, (38).