

Analysis of Decisions

for the

Network Code

on Interoperability and Data Exchange Rules



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I. INTRODUCTION

1. Background

This document, entitled "Analysis of Decisions for Interoperability and Data Exchange Rules Network Code", includes a Report on the Stakeholder Support Process ('SSP') and accompanies the Network Code on Interoperability and Data Exchange Rules Network Code (ref. INT0352-13) ('Network Code').

The Network Code has been prepared by ENTSOG in line with its duties under Article 6 of the Regulation (EC) No 715/2009 ('Regulation') and following the receipt of the Invitation Letter dated 11 September 2012 sent by the European Commission ('EC') to draft the Network Code in line with the Framework Guidelines on Interoperability and Data Exchange Rules ('FG'), issued by ACER on 26 July 2012.

This document shall not be construed as part of the Network Code, nor should it be considered to give rise to any specific right or obligation whatsoever to ENTSOG or any of its members as to any stakeholders.

The purpose of this document is to set out the results of the SSP and explain the rationale for the chosen policy options, proposed by ENTSOG and supported by stakeholders, in relation to those topics in the Network Code for which a misalignment from the FG was considered valuable. These misalignments have been triggered by stakeholders' inputs during the development process and have been thoroughly consulted. Some other topics, in alignment with the FG, where ENTSOG deemed worthwhile to give additional clarifications can be also found in this document.

It should be noted that EC and ACER were closely involved in the development process of the Network Code. EC and ACER issued preliminary views to ENTSOG, which were duly considered by ENTSOG. First informal meetings with Member States have taken place.



2. Policy context for the Network Code

The optimal formulation of the Network Code depends partly on the rules applying in other network codes developed under the Regulation. Therefore, in developing the Network Code, ENTSOG has had to take into account the text in the other network codes in order that the Network Code is sufficiently specific for application immediately upon its entry into force. Changes to the text of the other network codes could require amendment to the Network Code.

In the subsections which follow, ENTSOG identifies areas which affect or may affect the Network Code in future.

Interactions with the network code balancing (BAL), the network code capacity allocation mechanism (CAM) and EC Decision on capacity management procedures (CMP)

In BAL, CAM and CMP there is content on nominations and re-nominations. This has created interdependency between BAL, CAM and CMP. Furthermore, the Commission Decision on CMP¹, commonly referred to as the 'CMP Guidelines,' has implications for all three network codes. During the development of the draft Network Code there was considerable discussion within ENTSOG on the issues mentioned above. These discussions highlighted some areas within the draft Network Code impacted by the other network codes. Therefore changes to a network code have to be thoroughly discussed and analysed before making any change.

<u>BAL network code</u>

In terms of BAL, there are nomination (respectively re-nomination) timings included, which have to be taken into account in the matching process developed in the Network Code.

CAM network code

With regard to CAM, there are interactions between nominations for bundled products and the processing of these nominations in order for transmission system operators to decide the same resulting gas flow at both sides of an interconnection point. Possible temporary capacity reductions to meet any emergency or an exceptional event need to be taken into account within the Network Code.

CMP Guidelines

The CMP Guidelines have also been considered in the formulation of the Network Code. Specifically, the CMP Guidelines require, for the firm day-ahead use-it-or-lose-it mechanism, that firm re-nomination is permitted only up to 90% and down only to 10% of the contracted capacity by the network user at an interconnection point that is determined as contractually

¹ Commission Decision of 24 August 2012 on amending Annex I to Regulation (EC) No 715/2009 on conditions for access to the natural gas transmission networks [OJ L 231 p. 16, 28/08/2012].



congested. This is important for the matching rule defined in the Network Code. The 'lesser rule' is not fully consistent with CMP.

II. RATIONALE AND EXPLANATION FOR THE CHOSEN POLICY OPTIONS

1. Interconnection Agreements

1.1. Involvement of stakeholders

During the development process of the Network Code it emerged that stakeholders wanted to be consulted during the creation and amendment of interconnection agreements. It is clear that certain aspects of interconnection agreements can have a direct impact on their businesses. For example, network users need to know the matching and allocation rules applicable at an interconnection point.

The Network Code clarifies the involvement of network users when arrangements in interconnection agreements affect them by clearly stating that transmission system operators shall identify the rules that directly affect network users and shall inform and invite them to comment.

A further discussion point in this respect was the defined timeframe for network users to make their comments. The final proposal now defines a minimum 2 month period. This is in line with the general ENTSOG timeframe for consultation and was acceptable to all stakeholders. It should be noted that this timeframe is for giving comments only, and not for implementing the new rules.

Finally, the FG requires that transmission system operators issue any new or amended interconnection agreement to the relevant National Regulatory Authority ('NRA').

In summary there is now a proposal within the Network Code to facilitate a clear and transparent way of making changes to interconnection agreements that can have a direct impact on network users. Stakeholders supported the fact that the Network Code extends the requirement for timely communication of changes in an interconnection agreement to cover all changes that may affect network users.

1.2. Default Rules

The FG state that the Network Code shall outline 7 mandatory terms for interconnection agreements:

- Amendment of Interconnection Agreements
- Rules for Flow Control
- Measurement principles of gas quantities and quality



- Matching
- Rules for the allocation of gas quantities
- Exceptional events
- Dispute resolution between transmission system operators

Some stakeholders requested additional mandatory terms. In particular, some requested that capacity calculation be part of the interconnection agreement. This has not been provided for in the Network Code as it is already dealt with in CAM.

The FG state that for all 7 mandatory terms the Network Code shall provide default rules applicable should transmission system operators fail to reach agreement within 12 months of the Network Code entering into force.

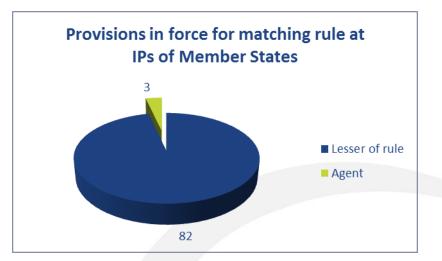
ENTSOG developed default rules for each of the mandatory terms in the Network Code. Some stakeholders argued that some default rules were 'hidden' in the text, were not all easy to locate and that some were not sufficiently detailed. ENTSOG therefore refined some of the default rules and make them easier to identify in the Network Code through the use of standard introductory wording.

1.3. The matching rule

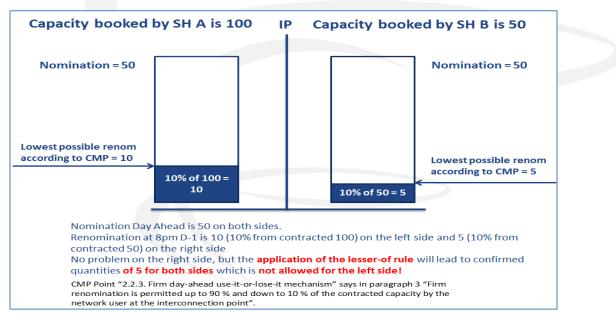
The Network Code requires that each interconnection agreement specifies a matching rule. In the matching process there are at least 4 Parties involved: the transmission system operators of either side of the interconnection point and their network users. The network users submit nominations and these have to be consistent for both sides of the interconnection point. The matching rule addresses nominations which are not consistent.

There was a clear preference by the network users for the lesser rule to be the default rule. The graphic below shows, that the lesser rule currently applies in nearly all interconnection points. (all graphs shown in the sections interconnection agreement and units are based on the outcome of a survey carried out by ENTSOG in the beginning of 2013 of all ENTSOG members. Not all transmission system operators replied and some transmission system operators didn't answer all questions. Some Member States have more than one transmission system operator).





During the process of validating and confirming nominations, the lesser rule will be applied. This means that, in case of differing nominated quantities between delivering and receiving network users at the two sides of an interconnection point, and where neither counterparty adjusts its position in due time, the higher of the two values will be reduced by the transmission system operator to the lower value. During the Network Code development process some stakeholders argued that the lesser rule should not only be the default rule but should be the only possible matching rule. However, as previously indicated, there are interdependencies with other network codes which also have to be taken into account. In this respect the CMP short term use-it-or-lose-it (ST UIOLI) mechanism is relevant. The possible application of this CMP rule means that the application of the lesser rule is problematic. This issue is shown graphically below.



It is clear that a different rule has to be defined in order to be able to fulfil the requirements for a matching rule to be consistent with the application of the aforementioned CMP rule.



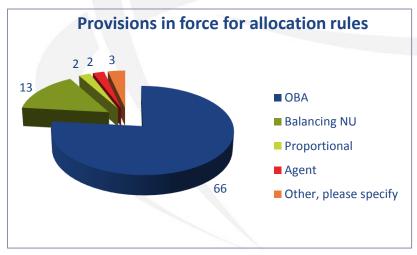
This is one of the reasons why the lesser rule cannot be the only matching rule. To retain flexibility it makes sense to also allow for other rules. It should be noted that the Network Code does not allow transmission system operators to maintain a matching rule other than the lesser rule, or to introduce a matching rule other than the lesser rule without the involvement of the network users. Such network user involvement has been explicitly welcomed by some stakeholders.

1.4. The allocation rule

Different allocation methods can be applied. These allocation methods could be:

- OBA => the steering difference is allocated to the operational balancing account (OBA) of the transmission system operators and the confirmed quantities will be allocated to the network users in accordance with their nominated quantities ('allocate as nominate').
- Balancing Network User (BNU) => the steering difference is allocated to a balancing network user (BNU) and the confirmed quantities allocated to the non-balancing network users.
- Proportional => the metered quantities are fully allocated on a pro-rata basis to all network users.
- Agent => an allocation agent carries out the allocation function appointed by the network users based on the rules agreed between the agent and the network users.

Stakeholders expressed a preference for an 'allocate as nominate' rule supported by OBA between the transmission system operators to manage any steering difference. Also the FG mentioned the OBA as the preferred allocation rule. The graphic below shows, that currently, in 66 cases out of a total of 86, the OBA is used as the allocation method.



ENTSOG proposed the OBA, unless another prevailing allocation rule in an existing interconnection agreement is maintained or, following consultation on new interconnection agreements, the contracting parties choose another option. ENTSOG also proposed the OBA



to be the default rule should transmission system operators not agree a common allocation rule during the compliance period of 12 months.

Stakeholders argued that, in the case of both new and existing interconnection agreements, network users should have the opportunity to comment on a proposed or existing non-OBA allocation rule within a certain time-window. The Network Code was therefore refined such that transmission system operators wishing to apply a non-OBA allocation rule would publish and invite network users to comment on the proposed allocation rule within a minimum time period of 2 months. This requirement applies to both existing and new interconnection agreements. The new wording was supported by a large majority of stakeholders.

A few stakeholders wanted to have the OBA as the only possible allocation rule. This seems not to be possible due to a number of reasons. One reason is that, as mentioned above, a large majority of stakeholders are supporting the current text proposal. For them it is important that transmission system operators be obliged to justify, on a case by case basis, their decision not to favour an OBA and to give network users the opportunity to comment. Another reason is the existence of pressure-steered interconnection points. In the case of such interconnected transmission systems it is not possible to steer a certain flow as the flows are dependent on the ruling pressure and as such the flow cannot be kept within a certain range.

It should be emphasised that the Network Code requires transmission system operators to issue any new or amended interconnection agreement to the relevant NRA.

In summary the Network Code now provides for a clear and transparent process for transmission system operators wanting to apply an allocation rule other than an OBA. The Network Code also facilitates other allocation rules where appropriate.

2. Units

> Reasoning for the chosen units and reference conditions

The FG ask ENTSOG to determine common units for at least volume, energy, pressure and gross calorific value, to be used when communicating to counterparties. Furthermore it was stated by the FG that ENTSOG has to take into account the harmonisation of units which already have been covered by EU legislation of the Gas Regulation.

ENTSOG together with the stakeholders extended the aforementioned list for the determination of harmonised units by the parameters temperature and Wobbe-Index.

The following units have been fixed:

- Pressure: bar
- Temperature: °C (degree Celsius)
- Volume: m³
- GCV: kWh/m³
- Energy: kWh (based on GCV)



• Wobbe-Index: kWh/m³ (based on GCV)

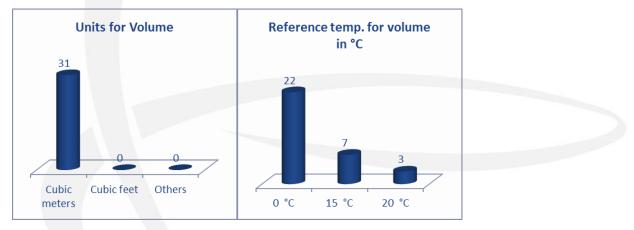
The reference conditions for volume shall be 0 °C and 1.01325 bar and the combustion reference temperature for GCV, Energy and Wobbe-Index 25 °C.

Unfortunately these units are not in line with the CEN and ISO standards. Although there has been a close cooperation with CEN in order to tackle the issue it was not possible to come to a common view. ENTSOG chose for the suggested units mainly due to three different reasons.

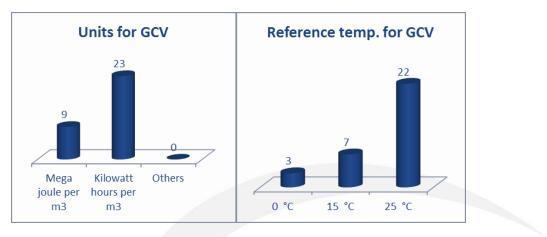
Firstly there is a legal obligation according to Chapter 3 of Annex I of the Regulation under 3.1.1. (f) it is defined that transmission system operators have to use kWh with a combustion reference temperature of 25 °C for the content of energy and for volume m3 at 0°C and 1.01325 bar.

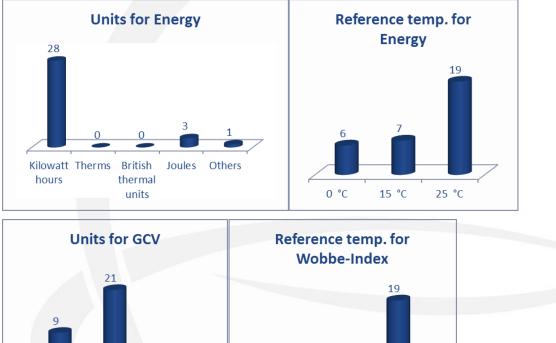
Secondly it has to be stated that these units only have to be used by transmission system operators for communication to their counterparties in order to fulfil the requirements connected to the Regulation. Therefore these units do not harm the downstream business of distribution system operators including the use of appliances for end users.

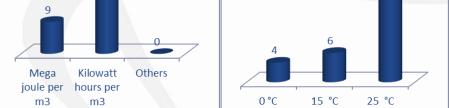
Thirdly it has to be noted that the units and reference conditions as defined in the Network Code are the ones currently mostly used by transmission system operators as illustrated by the graphics below, based on an internal survey within ENTSOG carried out beginning 2013.











Finally it has to be mentioned that a broad majority of stakeholders do not see a barrier in using different reference conditions for volume and energy for purposes beyond this Network Code. Nevertheless it is important to know how to handle any conversion between different reference conditions. After discussion and in close cooperation with CEN and Marcogaz it was written that whenever possible the calculation shall be done on the basis of the relevant gas composition. If this is not possible the conversion factors used shall be



consistent with the procedures described in the latest version of EN ISO 13443. For more information see the table below with the validity date of August 2013:

Table 1: Conversion factors between reference conditions.

Reference temperature (combustion, volume)	25/20 to 25/0	25/20 to 15/15	25/20 to 0/0	25/0 to 15/15	25/0 to 0/0	15/15 to 0/0
Volume-basis real superior calorific value	1,073 8	1,018 5	1,076 6	0,948 6	1,002 6	1,057 0
Volume-basis real inferior calorific value	1,073 8	1,017 6	1,074 1	0,947 7	1,000 3	1,055 5
Real Wobbe index	1,073 6	1,018 5	1,076 4	0,948 7	1,002 6	1,056 9

3. Gas Quality

3.1. Managing gas quality differences

> Responsibilities for gas quality

Some stakeholders considered that the Network Code should address the question of who is responsible for gas quality. Although it is an important issue, ENTSOG's view is that the Network Code is not the place to describe this, in accordance with the following reasoning:

- The Network Code defines rules applicable for transmission system operators and cannot define responsibilities for other market players. It is clear that transmission system operators are responsible for measuring and monitoring the gas quality at the interconnection points, which is included within the Network Code under Chapter II Interconnection Agreements Article 7. This does not exempt the other market players (namely the owner of the gas) from their responsibilities with respect to gas quality.
- The FG does not mention any request to define responsibilities for gas quality as the scope focuses on the removal of any barrier to cross-border flows. Therefore addressing this issue is out-of-scope of the Network Code.
- Responsibilities should be defined in accordance with national legislation.



> Defining gas quality specifications

It is worthwhile to mention that the European standardization body CEN is currently drafting, based on a mandate given by the European Commission, a standard for gas quality. It is up to the Member States whether to adopt this CEN standard in national legislation, including the responsibility issue. ENTSOG is not entitled to interfere with these Member States' responsibilities and CEN's competence.

> Identification of National Regulatory Authorities as the relevant parties to identify barriers to cross border flow due to gas quality differences

National regulatory authorities (NRAs) have a duty under Article 41 of Directive 2009/73/EC to cooperate with regard to cross border issues with adjacent regulatory authorities or other competent authorities of the Member States involved. Consistent with feedback received also from Member States, ENTSOG considered it would appropriate to identify NRAs as the relevant party to identify if there is a barrier on which transmission system operators are to take actions as described in the proposed Article 16. This decision received full support during the SSP. The Network Code also recognises that any stakeholder as well as transmission system operator can notify an NRA of the existence of a potential barrier for cross-border flow, which the relevant NRA would then consider. After the identification process carried out by the NRAs, transmission system operators will be requested to go through the transparent procedure described in Article 16 in order to remove the barrier. This process will facilitate further market integration and prevent differences in gas quality specifications from creating an obstacle to gas market integration. Defining the national specification for gas quality remains a Member State responsibility and the Network Code makes no proposal to interfere with this.

3.2. Short term monitoring on gas quality

The FG requires the Network Code to define rules for transmission system operators to select and inform end-users that are sensitive to variations in gas quality about pertinent variation information. The complexity of the gas networks, diversified gas sources, whether the national specification is relatively wide or relatively narrow, the extent to which flow patterns can deviate, complexity of equipment in operation as well as different location of industrial end-users in the selected gas networks led to the proposal for the selection process of relevant end-users to be at national level. Moreover, nowadays there are only a few cases where the actual gas quality received by end-users fluctuates from the lower to the upper limit of the national specification, but due to the future diversification of sources, it is likely to become more frequent. This policy option was developed in close cooperation with the concerned stakeholders and ENTSOG received wide support during the consultation process of the Network Code to shift the selection process of the 'eligible users' to the national level as it will minimize the market costs for such information provision and will enable solutions to be developed taking account of individual users' requirements.



Moreover, it was investigated whether this information provision can be harmonised by publishing on transmission system operators' websites, zones with similar gas qualities and with updates of expected variations. In this case, there would be no necessity to identify the sensitive eligible user. For complex systems, however, it is difficult to define such zones as they will expand and reduce according to prevailing flow patterns, and quality forecasting may require investments in new chromatographs, simulating tools and new IT systems by transmission system operators. Through the public consultation, ENTSOG has identified that from end-users' point of view it is more useful for them to have direct information when there are big variations on gas quality parameters that may harm their operation to facilitate their quick reaction.

ENTSOG believes that the selection of parties eligible to potentially receive indicative gas quality information can most effectively be done on a case by case basis, by understanding the specific operation, capability of adjustment and specific sensitivity of individual processes and also that this is the most cost efficient way to identify requirements for this service. Stakeholders supported ENTSOG's view that the most appropriate solution is likely to vary between Member States and thus the Network Code should facilitate tailor-made solution depending on the network (i.e. 'meshed' or 'transit' network).

During the early stages of the development of the Network Code, ENTSOG obtained agreement with some key stakeholders that information provision included in this Chapter shall facilitate better cooperation between transmission system operators and market participants, but should not cause additional costs to be incurred by the transmission system operators. Hence, the Network Code states that information shall be provided using existing transmission system operator's equipment/infrastructure. Stakeholders generally supported this approach during the SSP but also wanted the Network Code not to discount the possibility of additional investment that may be agreed at a national level and ENTSOG therefore added additional text following the SSP to acknowledge this.

Stakeholders expressed their concern that putting the warranty clause, described under Article 18, in the Network Code will restrain transmission system operators from giving accurate information. However whilst transmission system operators will seek to provide their best estimate of how gas quality may change in the short term for particular end users, this will always be a best estimate prediction based on certain assumptions about the gas quality delivered at entry points and supply/demand flow patterns – both of which are outside a transmission system operator's control. Thus transmission system operators cannot be responsible for any loss or damage that may occur to the eligible party directly or indirectly from the use of this information, as stated in Article 18.

Some of the distribution system operators did not support the provision according to which any distribution system operator, directly connected to the transmission system operator, with connected end customers whose operational processes are adversely affected by gas quality changes can become an eligible party to receive gas quality information, because of a concern that transmission system operators would require information about parties

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connected to the distribution system operators' network. It was also suggested that national regulatory authorities should decide which distribution system connected users should be deemed eligible to receive gas quality information. ENTSOG would like to clarify that the purpose of this clause is to facilitate consistency with the rest of the clause and to facilitate a dialogue between the concerned parties at national level to establish whether distribution system operators have 'sensitive' end users connected to their network and therefore whether or not such information provision to distribution system operators would have any value. It is not ENTSOG's intention that transmission system operators would name distribution system operators' end customers requiring sensitive information on gas quality variation, rather the transmission system operators' interface would not go any further 'downstream' than the distribution system operators themselves. In ENTSOG's view, national regulatory authorities would not be the parties best placed to determine which distribution system connected users would find gas quality variation information useful.

Furthermore, taking into consideration stakeholders' widely expressed wish for increased transparency regarding real time gas quality information, ENTSOG took this on board by proposing that transmission system operators publish near real time gas quality data at least once per hour during the gas day for Wobbe-Index (WI) and Gross Calorific Value (GCV) for gas directly entering a transmission system operator's network at all physical interconnection points. In ENTSOG's opinion this can also be the solution for some sensitive eligible users located in countries with more stable gas quality and less complex networks or in some places where eligible parties are located close to an interconnection point. However, it would not be of value wherever a sensitive end user receives a commingled gas from more than one source. For these users measures foreseen under short term monitoring gas quality variation information exchange (Article 18) may be more appropriate. This additional provision was fully supported by the stakeholders.

4. Odourisation

> Identification of National Regulatory Authorities as the relevant parties to identify barriers to cross border flow due to differences in odourisation practices.

National regulatory authorities have a duty under Article 41 of Directive 2009/73/EC to cooperate with regard to cross border issues with adjacent regulatory authorities or other competent authorities of the Member States involved. Consistent with feedback received also from Member States, ENTSOG considered it would appropriate to identify NRAs as the relevant party to identify if there is a barrier. This provision received firm support during the SSP. ENTSOG is aware of the Member States responsibilities on defining the odourisation practices due to safety reasons; however in ENTSOG opinion NRAs are best placed to decide if cross border flow is hampered by differences in odourisation practices on interconnection points. ENTSOG is aware that neither NRAs nor transmission system operators can change the odourisation practices without Member States' approval; therefore, the process described under Article 20 has been divided into 2 phases:



- Phase 1 first six-month period when no change of the odourisation practices will occur, but it should be investigated if solutions, such as swapping of flow commitments, on which transmission system operators/NRAs can be agreed. If so, transmission system operators shall inform their Member States of the solution that was chosen,
- Phase 2 after phase 1 in case such solutions cannot be found or transmission system operators/NRAs cannot agree on them, transmission system operators will investigate all the potential options aimed at facilitating the removal of the cross-border barrier including implementation time and cost estimates. In this phase, transmission system operators will actively involve other grid operators, stakeholders, NRAs as well as Member States authorities in order to identify and assess all the possible options. Once chosen, the proposed solutions will be submitted to Member States for approval. If at the end of phase 2, Members States or NRAs cannot reach an agreement, the default rule of shifting towards the flow of non-odourised gas shall apply within a timeframe to be defined by the relevant national authority.

Moreover all the stakeholders will be involved in the process through the public consultation on the proposed solutions aimed at facilitating the removal of cross border barriers.

ENTSOG received wide support through the SSP (Part III of this document) for defining NRAs as the party to identify a barrier for cross-border flows.

Meaning of non-odourised gas in the context to shift towards the physical flow of nonodourised gas

In case of a decision to change the odourisation practices from a flow of odourised gas into a flow of non-odourised gas it is worthwhile to mention that it is technically impossible to reach directly a zero-level of odourant. Traces of odourant may stay in the gas even for several years, mainly due to the deposits in the storage, so that in this context non-odourised gas means natural gas with no added odourant or with an agreed acceptable level of residual odourant. This shall facilitate further market integration and avoid formation of additional barrier to cross-border flows.

5. Data Exchange

The Data Exchange solutions described in the Chapter VI – Data Exchange are based on the outcome of a Cost-Benefit Analysis ('CBA') study that took place in the period from March till May 2013 based on a questionnaire and a public consultation, whereby all potential stakeholders where invited. The CBA can be found at:

http://www.entsog.eu/public/uploads/files/publications/INT%20Network%20Code/2013/IN T0414-130709%20CBA%20DataExchange Final.pdf



5.1. General provisions

The counterparties defined in paragraph 1 of this Article are limited to network users active at interconnection points, based on the CBA mentioned above. This permits the financial impact of a harmonised data exchange solution is minimized while all potential barriers for free flow of gas related to data exchanges in EU are eliminated.

5.2. Common data exchange solutions

The described common data exchange solutions are based on the outcome of the CBA referred to above. For each communication type the best combinations of data network, data exchange protocol and data format (if applicable) are presented.

5.3. Implementation of the common data exchange solutions

The proposed Network Code allows the co-existence of existing solutions in parallel with the common solution described in Article 22.

This is covered by paragraph 2 of Article 24, which foresees a flexible implementation schedule for communications between transmission system operators and network users. The conditions to have a longer implementation time to migrate to the common solution is that the existing solution that is in place at the moment the regulation comes into force, is compliant with the business requirements of the corresponding business process and subject to NRA's approval. The NRA is best placed to evaluate the local (national) situation with respect to data exchange and business practices to keep existing solutions in place as long as the market needs them.

5.4. Development process for data exchange requirements related to the Regulation Data exchange requirements related to the Regulation will be developed with stakeholder consultation. The whole process will be managed by ENTSOG and will be defined with stakeholder consultation as part of the common network operation tool ('CNOT')².

All available information will be documented and will be publically available.

5.5. Selection of 'EDIG@S-XML' as the proposed data format

5.5.1. The need for harmonization of communication formats

In line with the FG, ENTSOG has been requested:

> to foresee inside the Network Code 'a common set of data formats' as part of 'data exchange solution' (also including data network and data exchange protocol) and

² Pursuant to Article 7 of the Regulation, ENTSOG is requested to 'adopt: common network operational tools to ensure coordination of network operation in normal and emergency conditions, including a common incident classification scale and research plans (...)'.



> to base the selection of the solution to be proposed in the Network Code with regard to format, network and protocol on a CBA subject to public consultation³.

In this respect it is worthwhile highlighting that the main goal of the Network Code is the *'harmonization of technical, operational, communications as well as business rules and practices'* aimed at fostering *'market integration'*. With particular regard to the field of data exchange, as expressly stipulated in FG, this means the purpose of *'addressing specifically the harmonisation of communication formats'* in order *'to streamline practices and facilitate technical, operational or business-related communications'*. Further assessments (i.e. in terms of standardization, for example under Regulation No. 1025/2012) involve different issues and, therefore, pertain to EC⁴. Hence, whereas harmonization is the core issue of the Network Code, standardization is out of the scope of the Network Code.

3.5.2 The selection procedure conducted by ENTSOG

With particular regard to the data format, the CBA was conducted among the alternatives present on the market, namely:

- CSV
- Excel
- EDIFACT
- EDIG@S-XML⁵.

Apart from EDIFACT, which is an international standard (issued by UNECE and standardized with an ISO certification), in the gas market no European standards addressing data

³ See pages 10 and 11 of 'Framework Guidelines on Interoperability and Data Exchange Rules for European Gas Transmission Networks' ('FG' as defined earlier in this document).

⁴ Reference is made to Regulation (EC) No. 1025/2012 on European standardization, amending Council Directives 89/686/EEC and 93/15/EEC and Directives 94/9/EC, 94/25/EC, 95/16/EC, 97/23/EC, 2004/22/EC. 2007/23/EC, 2009/23/EC and 2009/105/EC of the European Parliament and of the Council and repealing Council Decision 87/95/EEC and Decision No. 1673/2009/EC of the European Parliament and of the Council (JO 2012 L 316 p. 12). This Regulation, after regulating the procedure for standardization bodies to be recognized, under Articles 13 and 14 stipulates that European Commission may decide to identify ICT (information and communication technologies) as common technical specifications to be taken into account for public procurement purposes. To that end, EC can act either on proposal from a Member State or on its own initiative. Indeed, the analysis on the possible application of Articles 13 and 14 of Regulation (EC) No. 1025/2012 affects the role and responsibility of the European Commission, rather than those of ENTSOG.

⁵ EDIG@S-XML is developed and maintained by EDIG@S (working group active within EASEE-gas, a non-profit association set up under the French law). It is available free of charge directly from EASEE-gas' web-site.



exchange content and structure of the messages to be sent over the data network (i.e. data format)⁶ were found.

EDIFACT (Electronic Data Interchange For Administration Commerce and Transport) was quite obsolete from an IT point of view, being developed in the '80, and -as evident from its name- covered all aspects of data exchange for all areas of economic activities and business.

Hence, it was considered that a more recent format technology ('XML') and expressly designed for gas business needs ('EDIG@S') could better serve the needs of harmonization of data exchanges within European gas market.

Anyhow EDIFACT was the basis for the creation for the first EDIG@S messages, while currently XML has replaced EDIFACT as the syntax for formatting the messages.

In particular it emerged that EDIG@S-XML used the experience of EDIFACT but with a more modern technology and also focusing on the gas business needs.

Based on the above, in order to pursue the goal of harmonization in line with FG, ENTSOG proposed EDIG@S-XML as the harmonized format for data exchange.

Furthermore it was clear, on one hand, that XML was the most up-to-date syntax and, on the other hand, that the designation of a generic file format (namely only XML, without EDIG@S) would not serve the goal of efficiency towards harmonisation and easiness of implementation. This goal would be better served by the identification of a more specific format as EDIG@S-XML in which, not only the syntax of the message, but also the business content is defined for every message, depending on the specific needs.

In conclusion EDIG@S-XML was selected because, even if it is not a standard issued by a recognized standardization body under Regulation (EC) No. 1025/2012⁷, it is the first (and still the only) initiative in Europe to start the harmonization of data exchanges for the whole gas business, has a good degree of diffusion throughout Europe, comprises all actors along the gas chain (not only TSOs, but also producers, suppliers, traders etc.) and, as such, constitutes a common practice.

⁶ ENTSOG is requested to propose a harmonized data format. If existing in the field of data exchange, possible standard(s) could have been a valuable proposal, but since no European standards were available, the harmonized format was selected between the alternatives at stake based on the reasons in the CBA for the sake of efficiency and harmonization. Anyhow, as explained more extensively in the text above, the experience and the technology of EDIFACT are the basis for the development of EDIG@S messages.

⁷ Assessments on standardization are out of scope for the reasons said in the text. In this respect, see also footnote n. 5.



5.5.3. Fairness and transparency of the selection of the proposed data format

The selection procedure was carried out by ENTSOG in such a way that full fairness and transparency on how EDIG@S-XML gained the highest score between the alternatives was granted.

Indeed, FG provided seven general criteria to be taken into account throughout the CBA for the selection of the three different components of the 'data exchange solution':

- best available technologies
- the actual spread (whether the solution considered is widely used) of the solutions considered;
- the volume of data traffic required to transfer information;
- the costs of first introduction and cost of operation;
- the potential for discrimination of small shippers or new market entrants;
- the synergies with current electricity data exchange rules;
- the compatibility with counterparties' data exchange solutions.

It was then up to ENTSOG to specify the criteria against which the alternatives available on the market had to be scored.

Indeed the specification was developed by ENTSOG as follows:

- 1. <u>Structure 'standardisation'⁸ needs to be possible</u>: the format structure must be developed by a body aimed at harmonising solutions;
- 2. <u>The file format must support an open standard</u>: the chosen format must support format 'standard' with non-commercial terms;
- 3. <u>Overhead of the file format should be kept within boundaries</u>: format overhead is the amount of extra data needed to send the actual payload of a message;
- 4. <u>The file format used must be spread throughout the EU gas market</u>: the chosen data format must be used within the European gas market to minimise compatibility issues, not only regarding costs but also the ease of implementation;
- 5. <u>The file format needs to be readable for human and machine, complexity should</u> therefore be kept at an acceptable level.

As a further argument for the transparency of the whole procedure, ENTSOG conducted extensive consultation both on the Network Code in general and on the CBA in particular.

⁸ 'Standardisation' is used in a broader context than a legal one, including bodies and solutions not formally recognised as such. The concept rather encompasses common best practices present in the market at stake.



Apart from ENTSOG members and stakeholders in general, EC and ACER have been broadly involved in the entire process⁹.

In the following paragraphs the arguments for the justification on how the CBA selected the proposed format, with particular regard to the specification of the concerned FG criteria, are provided.

1. Structure standardisation

The issue at stake has to do with the degree of harmonization of the structure of the format. As explained above, EDIFACT is standardised by the UNECE with an ISO certification; it therefore scores high on this criterion. EDIG@S-XML scores high, as it is harmonised in the gas market, based on the UN EDIFACT standard.

CSV and Excel files are only bi-lateral agreed 'standards' between two or more parties and therefore score low on this criterion.

2. Open 'standard'

Open 'standard' is defined as the use of a format on non-commercial terms.

The alternatives on the market for data exchange are available on non-commercial terms.

In particular, both EDIFACT and EDIG@S are developed and maintained by independent organisations/associations (respectively, UN and EASEE-gas) that support and publicise open, non-commercial formats for the gas market. CSV and Excel are not formally developed by any harmonisation body.

In this field there are no standards issued by recognized standardization bodies, which are normally available upon payment. Therefore there was no specific requirement that the alternatives examined had to be in line with this standards practice aimed at recovering costs for the developers.

In this respect, ENTSOG required that the alternatives at stake to be available free of charge¹⁰ also in the light of the following advantages for the market: the use of the format freely available will reduce the costs for all users since the same data exchange format can be used with all counterparties, thus decreasing implementation and development costs for adding new partners in the gas business process.

In the past, without a harmonized data format, each time a new partner came in, the data format and content needed to be agreed bilaterally and then implemented in the IT systems

⁹ As a matter of fact, once the proposal for the Network Code drafted by ENTSOG is submitted to ACER and then recommended to EC for adoption, the concerned institutions will have to conduct their own assessment on the solutions taking into account their specific role and responsibilities.

¹⁰ A materiality threshold (economic value) among the alternatives could not be foreseen since all the alternatives at stake are available free of charge.



of both partners. With a harmonized format it is only a matter of configuration, with advantages in terms of cost-efficiency and time saving.

3. Format overhead¹¹

Format overhead is the amount of extra data needed to send the actual payload of a message. Minimising format overhead is important in order to lower the volume of data transfer needed to send the message from one party to another. CSV and EDIFACT are very compressed data formats (plain text, simple separators between data) and therefore score high on this criterion.

In this respect as to XML syntax in general (not only with regard to EDIG@S-XML), it presents a bigger size. However it is compensated by the increased speed of the network (i.e. internet) in the last decade.

4. Format spread

A file format which already had a good degree of diffusion throughout the EU gas market scored high during the selection procedure thanks to important advantages mainly in terms of cost-saving and efficiency.

It all amounts to minimisation of compatibility issues, not only regarding costs but also in terms of easiness of implementation that would be granted by a data format which is already widespread and familiar within the European gas market. Taken into account that EDIG@S-XML is the only common best practice in EU market, expressly thought and developed for gas business, it scored high on this criterion.

5. Readability of file format (complexity)

Readability of the file format is important as not all data exchange is fully automated. When human interaction is required, the complexity of the format creates a barrier to understand the content of the file. CSV and EDIFACT are very compact formats and are therefore hard to read as a human. In addition, EDIFACT requires translation software to process the messages in order to insert and extract the values, which makes it more expensive. They therefore score low on the complexity. On the opposite, Excel and XML have a more visible structure with explanations what is stored where in the file. They therefore score high on this criterion.

¹¹ Format overhead i.e. additional information in order to identify and process the useful business information contained in the message on top of the useful business information itself.



Lack of discrimination to potential competitors based on the spectrum of analysis ENTSOG is in charge of

As a result of the assessment conducted by ENTSOG based on its peculiar role, tasks and responsibilities¹², the argumentations above, provided by the CBA, fully justify the specification made by ENTSOG of the general criteria laid down in the FG.

Given the general slant of FG criteria, they needed to be specified in a more detailed way and, from the justifications above, it is clear that all the specification drivers used by ENTSOG during the CBA were not arbitrary or even discriminatory.

In particular, with regard to all the points under 1-5 and namely to the specification of FG's criteria described under points n. 2 and n. 4, no potential discrimination was foreseen towards potential competitors. The concept of 'potential competitors' involving both (a) future developers who do not operate at the moment and (b) developers of formats based on commercial terms for gas market willing to recover the (even little) costs born for formatting and maintenance.

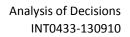
In this respect, indeed, any amendment to the data format as part of the Network Code -as explicitly required by FG- would be possible and would fall under the process stipulated by Article 7 of Regulation (EC) No. 715/2009¹³ without prejudice to EC's right of initiative

This possibility grants the lack of impediment or foreclosures in the development of other data formats, since the opportunity of network code's amendment is such that potential competitors of the developer of the chosen format are not discouraged from investing in new alternatives.

These potential competitors would have the chance to be consulted by ACER in line with Article 10 of Regulation (EC) No. 713/2009 in order to submit a reasoned proposal to EC.

¹² Indeed, with respect to the development of any network code as a binding legal text, ENTSOG is in charge of (a) developing a text proposal for network codes upon request of EC and (b) submitting it to ACER, whilst EC is in charge of adopting the final legal text which becomes effectively and immediately binding for everyone (EU Regulation) through the so-called 'Comitology' procedure. Hence, any definite assessment on possible effects deriving from the final legal text (including assessments in terms of compliance with the competition law) which might lead to a provision in the Network Code being challenged for an alleged violation of the Treaty, would only impact EC as 'guardian of the Treaty'.

¹³ Any modification to any portion of what is stipulated in a network code would imply the completion of the amendment process set forth by Article 7 of the Regulation. In this regard ACER, as the leading body in charge of the process, apart from acting on its own initiative, can be activated by any 'persons who are likely to have an interest in that network code, including the ENTSO for gas, transmission system operators, network users and consumers'. This is without prejudice from potential changes introduced by the competent institutions (namely European Commission).





Taking into account that EDIG@S-XML is openly and widely available and that anybody can have access to it, as a matter of fact potential competitors remain free to carry on experimenting, innovating and improving EDIG@S-XML format.



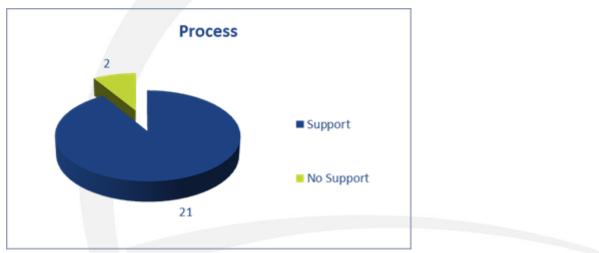
III. STAKEHOLDER SUPPORT PROCESS REPORT

1. Summary

Stakeholders were asked during the Stakeholder Support Process (SSP) whether they were able to support the Network Code as published by ENTSOG on 9 July 2013 and the process used to develop it.

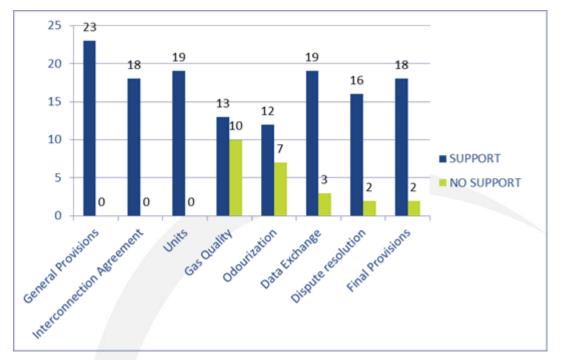
ENTSOG received 23 responses. An overview of the received responses is available on ENTSOG's website. The respondents list is mentioned in Annex 1.

ENTSOG was recognised for running an open and responsive process and for the very high degree of stakeholder engagement which took place throughout the Network Code development process [see figure below].



Overall, the responses indicate that the Network Code is well supported by the market. Some stakeholders had remaining concerns about specific aspects of the Network Code and explained why they could not support it [see figure below].





Based on Stakeholders' input ENTSOG further refined the Network Code, taking into account some of the Stakeholders' concerns.

There was unanimous support for the view that the rules defined in the Network Code will enhance the functioning of the internal gas market [see figure below].



2. Context

On 9 July 2013, ENTSOG published a refined draft Network Code and supporting documentation and launched the SSP in which users were asked whether they were able to



support the proposed draft Network Code and the process used to develop it. The SSP closed on 23 July 2013.

3. Detailed views of respondents

Note: the number of responses in the tables below does not match with the number of mentioned comments because some Stakeholders' comments were recurrent.

Question 1: Do you consider that the Network Code development process carried out by ENTSOG was appropriate, given the boundaries of the Framework Guideline? In particular, was the level of stakeholder engagement appropriate? If there is room for improvement, please inform us about possible suggestions for improvement.

21	YES
2	NO, > Short time
Concl	usions:

ENTSOG was recognised for running an open and responsive process and for the very high degree of stakeholder involvement which took place throughout the Network Code development process

period Questionnaire CBA Data Exchange Solution

Question 2: Specifically for the provisions defined for Gas Quality – Handling gas quality differences: Do you support the proposal that NRAs are the relevant party to identify if there is a barrier hampering the cross border flow at an interconnection point due to differences in gas quality specifications?

22 YES,

1 NO,

> Transmission system operators should be the relevant party to identify if there is a barrier as they are in fact in charge of the daily operations at interconnection points and they are therefore the parties that can more easily identify potential barriers.

Conclusions:

> ENTSOG received wide support for defining NRAs as the relevant party to identify a barrier



for cross-border flows due to differences in gas quality specifications.

Question 3: Specifically for the provisions defined for Odourisation: Do you support the
proposal that NRAs are the relevant party to identify if there is a barrier hampering the cross
border flow at an interconnection point due to differences in odourisation practices?
17 YES
4 NO,
> NRA is one of the relevant parties to identify a barrier due to odourisation.
Member States are responsible for odourisation;
> Transmission system operators should be the relevant party to identify if there is
a barrier as they are in fact in charge of the daily operations at interconnection
points and they are therefore the parties that can more easily identify potential
barriers
Conclusions:
> ENTSOG received wide support for defining NRAs as the relevant party to identify a barrier
for cross-border flows due to differences in odourisation practices. Member States will be
involved in the approval process of the solution.
Question 4: Please indicate whether you support Chapter 1: General Provisions of the refined
draft Network Code on Interoperability and Data Exchange Rules, having regard to the process
carried out and ENTSOG's aim to reflect the views of the majority of users during the
development process.

23	YES
----	-----

0 NO

Conclusions:

> Stakeholders fully support the content of this Chapter.



Question 5: Please indicate whether you support Chapter 2: Interconnection Agreements of the refined draft Network Code on Interoperability and Data Exchange Rules, having regard to the process carried out and ENTSOG's aim to reflect the views of the majority of users during the development process.

18 YES	
> Capacity calculation should be part of the IA	
Extension of communication to all aspects where Network Users can be affected is welcomed	
Support the provision that all IPs need to have IAs that are NC compliant without exemption	
Support a more time restricted matching process	
> Welcome the possibility to deviate from the default rule "Lesser of" and "OBA"	
> Network Users should get enough time to adopt the new rules	
> Dispute settlement: to clearly state the attempt to solve the dispute amicably	
> Duly justify deviation from OBA allocation rule	
0 NO,	
Conclusions:	
> Stakeholders fully support the content of this Chapter. Some minor refinements w	vere
proposed by the Stakeholders and duly taken into account by ENTSOG.	



Question 6: Please indicate whether you support Chapter 3: Units of the refined draft Network Code on Interoperability and Data Exchange Rules, having regard to the process carried out and ENTSOG's aim to reflect the views of the majority of users during the development process.

19 YES

> The subject provisions contribute to the achievement of a harmonised trading framework.

0 NO,

Conclusions:

> Stakeholders fully support the content of this Chapter.

Question 7: Please indicate whether you support Chapter 4: Gas Quality of the refined draft Network Code on Interoperability and Data Exchange Rules, having regard to the process carried out and ENTSOG's aim to reflect the views of the majority of users during the development process.

> Transmission system operators should use this flexibility where they can to remove barriers to gas market integration and not prevent gas from flowing, provided the quality at end-users' offtake points is not compromised

10 NO,

- It should be defined by national regulators which end consumers connected to the distribution system operator deemed as eligible;
- > issue of responsibility and liability is still not properly addressed;
- > the transmission system operators should be the relevant parties to identify if differences in gas quality hamper cross-border trade;
- > in Article 18.4, whereby transmission system operators are not obliged to install additional equipment, can effectively mean that some transmission system



operatorprevent or frustrate the legitimate desires of parties whose operational processes are adversely affected by gas quality changes to potentially receive relevant gas quality information;

Conclusions:

Some minor refinements were proposed by the Stakeholders and duly taken into account by ENTSOG. In part 2 of this document the rationale is given in case ENTSOG decided not to include the suggestions of stakeholders.

Question 8: Please indicate whether you support Chapter 5: Odourisation of the refined draft Network Code on Interoperability and Data Exchange Rules, having regard to the process carried out and ENTSOG's aim to reflect the views of the majority of users during the development process.

12 YES

- cost effective options takes into account all costs throughout the value chain, not only transmission system operator-costs;
- > Transmission system operators should be required to allow the highest technically possible level of flows between the two systems while options to remove the barrier are developed;
- > the default non-odorisation rule which currently features in paragraph 2 should only appear in the text as the ultimate option if no solution can be found during the process described in paragraph 3
- 7 NO,
 - > the final decision about changing or not current practices shall stay under the MS authorities who have the best knowledge of local situations;
 - solution should be found, amongst all the possible options as described in article
 20, paragraph 3 taking in account costs induced to distribution networks;
 - > the default rule of non odourisation should only appear at the end of paragraph 3, as an ultimate option if no solution can be found during the process described in paragraph 3;
 - > Transmission system operators should be the relevant parties to identify if differences in odourisation practices hamper cross-border trade.



Analysis of Decisions INT0433-130910

Conclusions:

Some refinements were proposed by the Stakeholders and taken into account by ENTSOG. In part 2 of this document the rationale is given in case ENTSOG decided not to include the suggestions of stakeholders.



Question 9: Please indicate whether you support Chapter 6: Data Exchange of the refined draft Network Code on Interoperability and Data Exchange Rules, having regard to the process carried out and ENTSOG's aim to reflect the views of the majority of users during the development process.

19 YES

- Stakeholders support the use of AS4 as data exchange protocol for document based data exchanges and expressed clearly their interest in participating in the definition of the AS4 specific parameters.
- > Counterparties are to be limited to network users at interconnection points only.
- > Edig@s-XML is strongly supported by the stakeholders.

3 NO,

- > The stakeholders want to have one data exchange solution for the whole gas market, also for the domestic market, LNG and storage operations.
- An implementation time of minimum 3 year is requested for network users.
 - A transparent process for the development of the common network operation tools is required, including a market consultation process.

Conclusions:

> Some refinements were proposed by the Stakeholders and taken into account by ENTSOG.

Question 10: Please indicate whether you support Chapter 7: Dispute Resolution of the refined draft Network Code on Interoperability and Data Exchange Rules, having regard to the process carried out and ENTSOG's aim to reflect the views of the majority of users during the development process.

YES
 NO,
 > Avoid new competences for ACER
 Conclusions:
 > Some refinements were proposed by the Stakeholders and taken into account by ENTSOG.



Question 11: Please indicate whether you support Chapter 8: Final Provisions of the refined draft Network Code on Interoperability and Data Exchange Rules, having regard to the process carried out and ENTSOG's aim to reflect the views of the majority of users during the development process.

2 NO

Conclusions:

> Some refinements were proposed by the Stakeholders and taken into account by ENTSOG.

Question 12: Do you believe that the eventual implementation of the refined draft Network Code will enhance the functioning of the internal gas market?

19 YES

0 NO

Conclusions:

Stakeholders believe that the implementation of the Network Code will enhance the functioning of the internal gas market.



1	Alliander
2	CEDEC
3	DEPA S.A.
4	EASEE-gas
5	Edison SpA
6	Energie-Nederland
7	Energy Solutions
8	Eni
9	EURELECTRIC
10	Eurogas
11	Eurogas (Distribution Committee)
12	European Federation of Energy Traders (EFET)
13	ExxonMobil International Limited
14	GDF SUEZ
15	GEODE
16	GIE
17	IFIEC Europe
18	International Association of Oil & Gas Producers - OGP Europe
19	RWE Supply & Trading GmbH
20	Thüga AG
21	Trans-Adriatic Pipeline
22	VNG - Verbundnetz Gas AG
23	VKU e.V.

ANNEX 1 List of the respondents to the Stakeholder Support Process