fluxys

Consultation 54 report

1 Introduction

From the 18th of October 2021 until the 8th of November 2021 included, Fluxys Belgium consulted the market on its proposed changes in the regulatory documents.

The proposed modifications in the regulatory documents aim at:

(i) Changes to the Standard Transmission Agreement, Access Code for Transmission and Transmission Program
   a. Allowing injection of H_2 into the Natural Gas network ;
   b. Completing the gas quality specifications with an upper limit of 2% for H_2 ;
   c. Clarify CO_2 specifications at Domestic Point for Injection ;
   d. Aligning the availability of the H→L Conversion Service with the physical conversion program ;
   e. Changing the L/H Capacity Switch Service to L Capacity Switch Service allowing to switch both Entry and Exit Transmission Services on L gas ;
   f. Removing the table containing the monthly Imbalance Smoothing Allocations ;
   g. Technical changes.

(ii) Changes to the Standard Connection Agreement End Users
   a. Update of the gas quality specifications ;
   b. Information on exit capacities subscribed by the Network User ;
   c. Alignment with the Standard Connection Agreement Local Producers.

With regards to H_2 injection, the potentially impacted End Users will be informed when concrete projects (i.e. connection requests) of H_2 injection are identified.

2 Consultation process

Fluxys Belgium launched this market consultation by publishing the proposed documents on its website - at the usual location for such consultations, supported by an announcement on the homepage - and via direct e-mailing to all registered market participants and associations. During the period from October 18th until November 8th (included), stakeholders were invited to submit their written feedback and if needed, seek additional information through bilateral contacts with Fluxys Belgium.

Taking into account the different comments received, Fluxys Belgium submits for approval to the CREG, the so amended version of the Standard Transmission Agreement, Access Code for Transmission, Transmission Program and Standard Connection Agreement End Users.

3 Outcome of consultation process

All comments received are listed and individually treated in the "Q&A's", included in the consultation report submitted to the CREG – see appendices.
Feedback was received from 4 individual Network Users and 2 representing organization, FEBELIEC and Febeg.

3.1 *Wobbe index stability criteria*

In the consultation documents, Fluxys Belgium proposed a reduction of the CO_2 specification from 2,5 % to 0,5 % at a Domestic Point for Injection, as a mitigation measure to decrease Wobbe Index variations in downstream network, when such variations arise from the connection of that Domestic Point for Injection. 2 respondents disagree with that proposal arguing that it would significantly increase the gas reprocessing process difficulty and costs, especially for biomethane plants. They propose to limit the decrease to 2% of CO_2.

One the one hand, Fluxys Belgium recognises that this proposal might influence process complexity and costs for Local Producers. However, on the other hand, it is important to consider that gas quality variations are of major concern for End Users as it might affect the efficiency and the emissions of their processes as well as their product quality. As a consequence, in order to improve the acceptability of decentralized compatible gas injection, which is a key enabler for the energy transition, Fluxys Belgium wants to keep the gas quality variations (in particular the Wobbe Index) related to the decentralized injection of compatible gas under control.

The biggest Wobbe Index variations are generated when the Wobbe Index from the gas injected at a Domestic Point for Injection significantly differs from the Wobbe Index of the gas already flowing into the network, even when both gases respect the gas quality specifications set forth in Access Code for Transmission Attachment C4. The most efficient way to avoid large Wobbe Index variations is therefore, where necessary, to align the Wobbe Index of the injected gas to the Wobbe index already flowing into the network in the vicinity of the Domestic Point for Injection.

Fluxys Belgium's recognizes that a change of the CO_2 specification is not the only option available to increase the Wobbe Index. Local Producers could also, amongst other, reduce N_2, H_2 or O_2 levels or add C_3H_8 into the gas before injection. Therefore, Fluxys Belgium is proposing a new text to allow such alternative ways to adjust the Wobbe Index to the desired level.

3.2 *Adaptation of services offered on the L-gas network*

The Network Users and the representing organizations are supporting the changes introduced for the Quality Conversion H to L, L/H Capacity Switch Service and Monthly Imbalance Smoothing Allocations. It is desirable to maintain services and a level of flexibility as long as possible, to reduce the number of changes to Monthly Imbalance Smoothing Allocations and announce them as much as possible in advance. Fluxys Belgium recognises this and will try to do so as much as possible. A demand was made to make the Quality Conversion H to L available for short term usage, Fluxys Belgium made an assessment on it and has therefore made some changes to the consulted documents before submitting them to the CREG.

3.3 *H_2 injection into the natural gas network*

This consultation 54 aimed to give market participants the opportunity to comment on the way Fluxys Belgium proposes to implement the blending of H_2 in the natural gas transported in its network, in particular via the introduction of a new Installation Point (H_2-IN), the adaptation of the Quality Conversion Service and the addition of a H_2 specification in the gas quality requirements.

The principle of blending has been established in Directive n° 2009/73, whose article 1 (2) provides that its provisions "shall also apply in a non-discriminatory way to biogas and gas from biomass or other types of gas in so far as such gasses can technically and safely be injected into, and transported through, the natural gas system". H_2 falls within those other types of gasses which can be blended with natural gas while the blend itself would still qualify as "natural gas" in the sense of Article 1, 2° of the Belgian Gas Law ("any gaseous fuel product consisting predominantly of methane from underground sources, including liquefied natural gas, abbreviated as "LNG"" - our underlining). The above provision of the gas Directive was implemented in Article 2, § 4 of the Belgian Gas Law by a law of 8 January 2012, which reproduces its wording and adds the condition that the (natural) gas quality requirements applicable on the natural gas transmission network must be respected (GCV, Wobbe Index, H_2S and Stot). The definition of "natural gas" in the Belgian Gas law (as reproduced above) was modified by a law of 18 May 2021 with the explicit aim to encompass blends (55K1902002 (lachambre.be)).

The Gas Law doesn't define explicitly the maximum allowable percentage of H_2 in natural gas but subjects the addition of H_2 to the compliance of the resulting blend with existing natural gas quality requirements. The maximum allowable H_2 percentage is thereby implicitly limited by the minimum requirement on GCV. However, Fluxys Belgium believes that an explicit specification for H_2 would better meet market needs and therefore has proposed, in line with the informative annex on H_2 of the European Standard on the H-Gas Quality (EN16726 : 2016) and with the Synergrid technical requirement G8/01[1] (revision ongoing, no change on the H_2 specification), to set the specification at maximum 2% H_2.

In addition to the above it must be noted that the draft recast of the Gas Regulation that has been published by the European Commission on 15 December 2021 foresees in its Article 20 that "Transmission system operators shall accept cross-border flows of gasses with a hydrogen content of up to 5% by volume from [1 October 2025]", which confirms the admissibility of blending and, for the first time, introduces an European harmonised maximum cap. The 2% H_2 specification proposed by Fluxys Belgium in this consultation fits in this longer term pan-European vision.

The question as to whether blending should be allowed or not is out of the scope of the current consultation. This has already been decided – with a positive answer in favour of blending – in the 2009 gas Directive as stated above. The object of the present consultation is to comment on the proposed implementation of such blending in the regulatory documents. Therefore, no answer shall be provided to comments which challenge the very principle of blending by injecting H_2 in the natural gas transmission network.

Please note that no H_2 is injected in the Belgian natural gas network at the time being nor it is delivered in significant quantities[2] by adjacent TSOs at interconnection points where it is currently considered as an impurity in interconnection agreements. Gas chromatographs located at interconnection points IZT, Eynatten and VIP Bene have shown that H_2 is only present in the ppm range. In line with decision B2191 taken by the CREG on the 11th of March 2021 on the Connection Agreement for Local Producers

[1] Already applicable for Local producers biomethane pursuant to Standard Connection Agreement Local Producers

[2] H_2 can be naturally present in some natural gas in the ppm range

(§43), Fluxys Belgium shall inform the concerned end users for each individual connection request received from a Local Producer, or in case natural gas containing H_2 is expected to be delivered at interconnection points by adjacent transmission system operators.

One respondent considers that it is not clear whether Fluxys Belgium's proposals aim at a one-off increase of the allowed H_2 content in the grid to 2% , or if it is the intention to further increase this upper limit in the coming years.

This consultation aims at implementing the regulatory framework to allow the injection of up to 2% of H_2 into the natural gas network. Fluxys Belgium believes that it is an important step in the energy transition as it supports the developments of the H_2 economy but also the possible development of other innovative renewable gasses (i.e. from gasification processes). Fluxys Belgium has no plan at this stage to further increase the allowed H_2 content in natural gas. While there is room to further increase the percentage of H_2 in natural gas according to the Gas Law, this mostly depends on market demand and restrictions, as well as on applicable EU regulations. At this moment in time, the vision of Fluxys Belgium is that when significant additional H_2 volumes arrive on the market, its applications in pure form should be prioritised over blending into natural gas.

The same respondent wonders if the potential impact of higher hydrogen shares in the natural gas used for electricity production on the turbines' efficiency has been thoroughly assessed. This comment shall be answered at later stage if higher shares of H_2 in natural gas are effectively considered in the future.

Two respondents requested information on the status of harmonization with neighbouring TSOs with regards to admixtures of natural gas with H_2.

At the time being, there is no agreement with neighbouring TSOs and SSOs to exchange blends of natural gas with H_2 on interconnection points and at Loenhout. Indeed, given the meshed nature of Fluxys Belgium's gas network, the H_2 delivered on one interconnection point might reach all other interconnection points. Consequently, an agreement between Fluxys Belgium and all its neighbouring TSOs (formalized through an update of the relevant interconnection agreements) is a prerequisite to the acceptance of a natural gas and H_2 blend at any of our interconnection points. Fluxys Belgium does not expect such agreements to take place in the near future, except if it is made binding through EU regulation.

Consequently, injection of H_2 in Fluxys Belgium's gas network shall be limited in the meantime to portions of the network that are not connected to neighbouring TSOs or SSOs. Applicable gas quality requirements at interconnection points and Loenhout have therefore not been amended in the Attachment C4 of the Access Code for Transmission.

One respondent points out that a 2% H_2 limit in the gas network is not in the specifications of some gas turbines in the market and that an increase of the H2 limit would require further analysis for validation by the original equipment manufacturers. Another respondent argues that a 2% H_2 content might be too high for certain end users and therefore potentially impacts the normal exploitation of their assets, as well as their long-term maintenance planning and costs. Another party argues that TSO should be obliged to receive necessary approvals from end users showing that their infrastructure is compatible with the presence of H_2.

Fluxys Belgium recognizes that all end users might not be ready yet for the delivery of a gas containing up to 2% of H_2 in terms of operations and maintenance, and that the specifications of some gas applications currently in use in Belgium might not be explicitly applicable for 2% H_2 in the natural gas. Therefore, further analysis and evaluations with original equipment manufacturers and related time and resources might indeed be needed.

To date, several studies have already been conducted on the readiness of the whole gas value chain for blends of natural gas with H_2. There seems to be a technical consensus on the fact that the vast majority of gas applications are able to cope with blends of natural gas with up to 2% H_2 with limited adaptations (see for example: infographic Marcogaz). The technical possibility to increase the H_2 content into the supplied natural gas is recognized by a respondent.

This is why, in line with decision B2191 taken by the CREG on the 11th of March 2021 on the Connection Agreement for Local Producers (§43), Fluxys Belgium shall inform the concerned end users in due time for each individual connection request received from a Local Producer so that they can make their analysis and evaluations, and properly reorganize their infrastructures, operations and maintenance. Fluxys Belgium does not believe explicit approvals from such end users are needed for the maximum allowable content of H_2 considered (2%).

With regards to the readiness of the natural gas network, while it is true that H_2 injection into natural gas networks raises some technological challenges and risks, these differ depending on the H_2 content considered and are very limited for the 2% of H_2 here consulted. Fluxys Belgium would like to reassure network users that no injection of H_2 shall be allowed in its natural gas network without appropriate studies and adequate testing of its network components' resistance and functioning.

Please note that Fluxys Belgium operates itself multiple gas turbines in compression stations on its network. The readiness of those gas turbines for natural gas containing up to 10% of H_2 has been studied end 2020. The main conclusions of that study for admixtures of natural gas with up to 2% H_2 are that:

- All our gas turbines can be operated with very limited retrofitting costs and impacts on efficiency
- A dedicated assessment (with original equipment manufacturers) is needed for each individual gas turbine

A question was also raised by a party on the expected sources of H_2 injection in the near future. There is no project of H_2 injection in Belgium that has already taken FID when preparing this consultation report. Nevertheless, an electrolysis project is being contemplated in the Zeebrugge area.

A respondent said that those network users who do not have any relation to the H_2 injected in the TSO gas grid, must be legally protected from gas quality changes and from the decrease of energy content.
Another respondent asks whether the proposed changes could increase the volatility of the gas composition.

Fluxys Belgium confirms that, generally speaking, increasing the number of supply sources, including (but not limited to) decentralised (renewable) supply sources might

increase the volatility of the gas composition. This is a consequence of the diversification of supply sources and the transition towards a decarbonized energy sector. However, as stated in the decision B2191 of the CREG on the Connection Agreement for Local Producers (§42), Fluxys Belgium will maintain a stable and predictable gas flow on its network in accordance with the applicable contractual and legal gas quality requirements, and will continue to inform its network users on the gas quality on its network.

The same respondent asked for more details on potential impact of the proposal on the other gas quality specifications while another party expressed concerns with regards to the frequency and intensity of H_2 content variations. Fluxys Belgium confirms that the already existing gas quality specifications will remain applicable. Injecting H_2 in natural gas mostly reduces the GCV (and in a lower extent the Wobbe Index). In terms of variations, Fluxys Belgium will continue to apply the current operational limits on GCV and Wobbe Index variations thereby limiting the intensity of H_2 content variations well below 2% during an hour. In our current operations, end users are informed by our dispatching centre in the rare occasions when such operational limits on GCV and Wobbe Index variations cannot be respected. Another important characteristic of the H_2 is that it diffuses into methane, meaning that the further an end user is located from the point of H_2 injection, the lower the intensity of the H_2 content variations are in the redelivered gas.

The frequency of gas quality variations has not been, until now, considered as a parameter to operate the natural gas network, nor has it been requested by end users. Along with the development of decentralised production, Fluxys Belgium is currently studying several tools to track gas quality variations into the network for the future, including those related to the H_2 content. However, it must be highlighted that this verification is not considered necessary for H_2 content variations below 2% H_2, especially when diffusion effect enters into play.

With regards to the decrease of the energy content, for percentages of H_2 below 2% as it is considered in the current consultation, there is almost no impact on the capacity of the pipelines meaning that the same energy content can be delivered to end users and network users.

A respondent considers that any cost directly or indirectly connected to grid adjustment for the transmission of admixtures of natural gas and H_2 should be borne exclusively by the users benefiting from it.

While Fluxys Belgium considers that the necessary steps undertaken in the framework of the energy transition, as it is the case of such proposal, benefit indirectly to the gas market as a whole, it recognizes that most of the costs related to the injection of H_2 into natural gas should be borne by the parties responsible for such H_2 injection. This is guaranteed through the application of the Quality Conversion to H service and its related tariff, on top of the entry tariff, to the network users delivering of H_2 on the natural gas network.

A respondent also considers that possible disputes regarding direct damages occurred due to H_2 being injected to the TSO grid must be resolved solely between the TSO that accepted H_2 injection into its grid and the corresponding Network user, responsible for the injection of such H_2.

Article 8 of the Standard Transmission Agreement on "operating conditions and quality requirements" already describes the roles and responsibilities of the TSO when accepting gas that is outside the gas quality specifications. There is no change proposed to that article, nor to the article 10 on the "liabilities". In addition, Fluxys Belgium wants to emphasize that gas would only be considered out of gas quality specifications if the H_2 content goes over the new quality requirement of 2%.

Please note that, blending non-compliant gas with natural gas, and related responsibilities and liabilities, is not something new for Fluxys Belgium as it operates already multiple installations where blending is done, like for example the installations where N_2 or L-gas is injected into the natural gas to decrease the Wobbe Index of H-gas. Generally speaking, when Fluxys Belgium offers a service that includes some physical blending, it bears the responsibility on the gas quality of the gas mix resulting from such blending.

4 Appendices

4.1 *Appendix I: Market consultation – public material*

4.2 *Appendix II: Market consultation – confidential material*

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1. Market consultation - public material

    a. E-mail: invitation to submit comments
    b. List of documents in consultation
    c. Questions & Answers
    d. Printed copy of written comments

E-mail: invitation to submit comments

Market Consultation 54 -
Changes in Regulatory Documents

Dear Customer,

From 15 October to 8 November 2021, Fluxys Belgium is holding a market consultation regarding the regulatory documents applicable for transmission. This consultation will focus on:

(i) Changes to the Standard Transmission Agreement, Access Code for Transmission and Transmission Program. These changes include:

- Allowing H_2 injection into the Natural Gas network;
- Adapting the gas quality specifications with an upper limit of 2% of H_2;
- Clarifying CO_2 specifications at Domestic Point for Injection;
- Aligning the availability of the H->L Conversion Service with the physical conversion program;
- Changing the L/H Capacity Switch Service into the L Capacity Switch Service, allowing to switch both Entry and Exit Transmission Services on L gas;
- Removing the table containing the monthly Imbalance Smoothing Allocations;
- Making some technical changes.

(ii) Changes to the Standard Connection Agreement End Users:

- Gas quality specifications update;
- Information on exit capacities subscribed by the Network User;
- Alignment with the Standard Connection Agreement Local Producers.

The documents can be consulted on our website.

Please send us your written comments at marketing@fluxys.com **by Monday 8 November 2021 at the latest.** Do not forget to mention whether the content is to be treated as confidential or not. Unless otherwise specified, all comments will be treated as non-confidential.

Best regards,

Ilse Guedens
Marketing Manager

Hany Aouad
Sales Manager

List of documents in consultation

The documents are available on our website: https://www.fluxys.com/en/products-services/empowering-you/customer-interactions/consultations-in-belgium---transmission/fluxys-belgium-market-consultation-54

Market Consultation 54: Changes in Regulatory Documents

From 15 October to 8 November 2021, Fluxys Belgium is holding a market consultation regarding the regulatory documents applicable for transmission. This consultation will focus on:

(i) Changes to the Standard Transmission Agreement, Access Code for Transmission and Transmission Program. These changes include:

- Allowing H2 injection into the Natural Gas network;
- Adapting the gas quality specifications with an upper limit of 2% of H2;
- Clarify CO2 specifications at Domestic Point for Injection;
- Aligning the availability of the H->L Conversion Service with the physical conversion program;
- Changing the L/H Capacity Switch Service into the L Capacity Switch Service, allowing to switch both Entry and Exit Transmission Services on L gas;
- Removing the table containing the monthly Imbalance Smoothing Allocations;
- Making some Technical changes.

(ii) Changes to the Standard Connection Agreement End Users:

- Gas quality specifications update;
- Information on exit capacities subscribed by the Network User;
- Alignment with the Standard Connection Agreement Local Producers.

The following document summarizes the proposed changes (One Page Note)**.**

Documents in consultation (with track changes)

Standard Transmission Agreement
Transmission Program
Access Code for Transmission Attachment A
Access Code for Transmission Attachment B
Access Code for Transmission Attachment C1
Access Code for Transmission Attachment C3
Access Code for Transmission Attachment C4
Standard Connection Agreement (FR)
Standard Connection Agreement (NL)
Attachment to the Standard Connection Agreement (FR)
Attachment to the Standard Connection Agreement (NL)
Attachment 7 (FR/NL)

Questions & Answers

Questions and Answers					
#	From	Confidential?	Topic	Questions / Comments by Stakeholders	Answers / Comments by Fluxys Belgium
1.	Nitor	No	Quality Conversion H to L and L to H, L/H Capacity switch service	The Belgium gas system is very flexible, however we see an area of improvement where especially other markets, such as the French and the German are a bit more ahead. This is in regards to conversion of gas quality. In the Belgian system it is clear that it's possible to convert L-gas to H-gas on a daily basis, but a bit more unclear for converting H-gas to L-gas on a short term basis. We believe that if there were a larger nitrogen buffer for making short term conversion from Hi calorific gas into low calorific gas it could be beneficial for the Belgian system, as this would create a better linking of the two gas qualities. We have lately seen scenarios where the Hi-calorific gas market in Belgium was very oversupplied and all transport capacities for Hi calorific gas was fully booked, but there were idle L-gas capacities available, hence we believe that by making conversion clearly available as a short term product, e.g. Daily or even intraday basis it would make the Belgian gas market more efficient and could better accommodate price swings in the short term market.	Fluxys Belgium recognises that it is not possible to book this service on a short notice and for a short term. Fluxys Belgium made an assessment and the conclusion is that it is possible to offer some capacity H to L via Prisma. Therefore Fluxys Belgium added some changes to the current service after the consultation into the regulated docs that are submitted to the CREG so that a part of the Base Load can be offered for a shorter period and booked via Prisma. The operational rules don't change, only the product offer changes.
2.1	Febeliec	No	H2 Injection	It is not clear whether these proposals aim at a one-off increase of the allowed H2 content in the grid, or if it is the intention to further increase this upper limit in the coming years.	This consultation aims at implementing the regulatory framework to allow the injection of up to 2% of H2 into the natural gas network. Fluxys Belgium believes that it is an important step in the energy transition as it supports the developments of the H2 economy but also the possible development of other innovative renewable gasses (i.e. from gasification processes). Fluxys Belgium has no plan at this stage to further increase the allowed H2 content in natural gas. While there is room to further increase the percentage of H2 in natural gas according to the Gas Law, this mostly depends on market demand and restrictions, as well as on applicable EU regulations. At this moment in time, the vision of Fluxys Belgium is that when significant additional H2 volumes arrive on the market, its applications in pure form should be prioritised over blending into natural gas.
2.2	Febeliec	No	H2 Injection	To the extent that H_2 is to be part of the future fuel mix in a climate-neutral Europe, mixing it up with natural gas does not seem to be a step in the right direction.	The principle of blending has been established in Directive n° 2009/73, whose article 1 (2) provides that its provisions "shall also apply in a non-discriminatory way to biogas and gas from biomass or other types of gas in so far as such gasses can technically and safely be injected into, and transported through, the natural gas system". H2 falls within those other types of gasses which can be blended with natural gas while the blend itself would still qualify as "natural gas" in the sense of Article 1, 2° of the Belgian Gas Law ("any gaseous fuel product consisting predominantly of methane from underground sources, including liquefied natural gas, abbreviated as "LNG"" - our underlining). The above provision of the gas Directive was implemented in Article 2, § 4 of the Belgian Gas Law by a law of 8 January 2012, which reproduces its wording and adds the condition that the (natural) gas quality requirements applicable on the natural gas transmission network must be respected (GCV, Wobbe Index, H2S and Stot). The definition of "natural gas" in the Belgian Gas law (as reproduced above) was modified by a law of 18 May 2021 with the explicit aim to encompass blends (55K1902002 (lachambre.be)). The Gas Law doesn't define explicitly the maximum allowable percentage of H2 in natural gas but subjects the addition of H2 to the compliance of the resulting blend with existing natural gas quality requirements. The maximum allowable H2 percentage is thereby implicitly limited by the minimum requirement on GCV. However, Fluxys Belgium believes that an explicit specification for H2 would better meet market needs and therefore has proposed, in line with the informative annex on H2 of the European Standard on the H-Gas Quality (EN16726 : 2016) and with the Synergrid technical requirement G8/01 (revision ongoing, no change on the H2 specification), to set the specification at maximum 2% H2.

Questions and Answers					
#	From	Confidential?	Topic	Questions / Comments by Stakeholders	Answers / Comments by Fluxys Belgium
					In addition to the above it must be noted that the draft recast of the Gas Regulation that has been published by the European Commission on [14] December 2021 foresees in its Article 20 that "Transmission system operators shall accept cross-border flows of gases with a hydrogen content of up to 5% by volume from [1 October 2025]", which confirms the admissibility of blending and, for the first time, introduces an European harmonised maximum cap. The 2% H2 specification proposed by Fluxys Belgium in this consultation fits in this longer term pan-European vision.
2.3	Febeliec	No	H2 Injection	Febeliec strongly invites Fluxys to provide a clear and comprehensive motivation of these proposals, including the expected sources of H2 injection in the near future, the longer-term perspectives of this evolution and the level of harmonization of the proposals with neighbouring TSOs.	See 3.2 At the time being, there is no agreement with neighbouring TSOs and SSOs to exchange blends of natural gas with H2 on interconnection points and at Loenhout. Indeed, given the meshed nature of Fluxys Belgium's gas network, the H2 delivered on one interconnection point might reach all other interconnection points. Consequently, an agreement between Fluxys Belgium and all its neighbouring TSOs (formalized through an update of the relevant interconnection agreements) is a prerequisite to the acceptance of a natural gas and H2 blend at any of our interconnection points. Fluxys Belgium does not expect such agreements to take place in the near future, except if it is made binding through EU regulation. Consequently, injection of H2 in Fluxys Belgium's gas network shall be limited in the meantime to portions of the network that are not connected to neighbouring TSOs or SSOs. Applicable gas quality requirements at interconnection points and Loenhout have therefore not been amended in the Attachment C4 of the Access Code for Transmission. There is no project of H2 injection in Belgium that has already taken FID when preparing this consultation report. Nevertheless, an electrolysis project is being contemplated in the Zeebrugge area.
2.4	Febeliec	No	H2 Injection	Though Febeliec recognizes the technical possibility to increase the hydrogen content of supplied natural gas, we invite Fluxys to provide a cost/benefit analysis of this solution, proving it offers a positive balance for society.	See 3.2
2.5	Febeliec	No	H2 Injection	Mentions the potential impact of higher hydrogen shares in the natural gas used for electricity production on the turbines' efficiency. Febeliec wonders if this impact has been thoroughly assessed by Fluxys.	This comment shall be answered at later stage if higher shares of H_2 in natural gas are effectively considered in the future.
2.6	Febeliec	No	H2 Injection	Asks whether the proposed changes could increase the volatility of the gas composition.	Fluxys Belgium confirms that, generally speaking, increasing the number of supply sources, including (but not limited to) decentralised (renewable) supply sources might increase the volatility of the gas composition. This is a consequence of the diversification of supply sources and the transition towards a decarbonized energy sector. However, as stated in the decision B2191 of the CREG on the Connection Agreement for Local Producers (§42), Fluxys Belgium will maintain a stable and predictable gas flow on its network in accordance with the applicable contractual and legal gas quality requirements, and will continue to inform its network users on the gas quality on its network.
2.7	Febeliec	No	H2 Injection	Asks more detail on the potential impact of this proposal on the gas specification parameters (Wobbe-index, methane content, CO2 content, inter gasses, …).	Fluxys Belgium confirms that the already existing gas quality specifications will remain applicable. Injecting H2 in natural gas mostly reduces the GCV (and in a lower extent the Wobbe Index).
2.8	Febeliec	No	Quality Conversion H to L and L to H, L/H Capacity switch service	On the proposed modifications to the H to L conversion service and L/H capacity switch service, Febeliec insists on the need to maintain existing flexibility services for the remaining L-gas users until the national conversion program to H-gas has been fully completed.	Fluxys Belgium recognise the concern of Febeliec, the L/H capacity switch service is even extended to better suit the market needs. The H to L conversion service is maintained as long as physically possible, however the installations and the region they are supplying are converted in 2023 and so the service cannot be offered anymore as from 1/04/2023.

Questions and Answers					
#	From	Confidential?	Topic	Questions / Comments by Stakeholders	Answers / Comments by Fluxys Belgium
3.1	Gazprom Export	No	H2 Injection	Until the establishment of a regulatory framework on H2/H2NG mixtures as well as corresponding technical and safety rules on a national Belgium level and/or EU level, the introduction of any changes in regulatory documents for transmission related to H2 injections leads to certain risks (material readiness, operational readiness, technological readiness, ...)	See 2.2
3.2	Gazprom Export	No	H2 Injection	Prior to the injection of H2 to the TSO grid, such TSO shall be obliged to receive necessary approvals from respective neighbouring and downstream TSOs, SSOs, end-users, … showing that their infrastructure is compatible with the injected H2.	On coordination with adjacent operators, see 2.3 To date, several studies have already been conducted on the readiness of the whole gas value chain for blends of natural gas with H2. There seems to be a technical consensus on the fact that the vast majority of gas applications are able to cope with blends of natural gas with up to 2% H2 with limited adaptations (see for example: infographic Marcogaz). With regards to the readiness of the natural gas network, while it is true that H2 injection into natural gas networks raises some technological challenges and risks, these differ depending on the H2 content considered and are very limited for the 2% of H2 here consulted. Fluxys Belgium would like to reassure network users that no injection of H2 shall be allowed in its natural gas network without appropriate studies and adequate testing of its network components' resistance and functioning. Fluxys Belgium does not believe explicit approvals from such end users are needed for the maximum allowable content of H2 considered (2%).
3.3	Gazprom Export	No	H2 Injection	Any cost directly or indirectly connected to grid adjustment to transmission of H2/H2-methane admixtures shall be borne exclusively by those users benefiting from it.	While Fluxys Belgium considers that the necessary steps undertaken in the framework of the energy transition, as it is the case of such proposal, benefit indirectly to the gas market as a whole, it recognizes that most of the costs related to the injection of H2 into natural gas should be borne by the parties responsible for such H2 injection. This is guaranteed through the application of the Quality Conversion to H service and its related tariff, on top of the entry tariff, to the network users delivering of H2 on the natural gas network.
3.4	Gazprom Export	No	H2 Injection	Those network users, who do not have any relation to the H2 injected in the TSO gas grid, must be legally protected from gas quality changes, decrease of energy content and possible damages caused by H2 injections.	Fluxys Belgium will continue to apply the current operational limits on GCV and Wobbe Index variations thereby limiting the intensity of H2 content variations well below 2% during an hour. In our current operations, end users are informed by our dispatching center in the rare occasions when such operational limits on GCV and Wobbe Index variations cannot be respected. Another important characteristic of the H2 is that it diffuses into methane, meaning that the further an end user is located from the point of H2 injection, the lower the intensity of the H2 content variations are in the redelivered gas. The frequency of gas quality variations has not been, until now, considered as a parameter to operate the natural gas network, nor has it been requested by end users. Along with the development of decentralised production, Fluxys Belgium is currently studying several tools to track gas quality variations into the network for the future, including those related to the H2 content. However, it must be highlighted that this verification is not considered necessary for H2 content variations below 2% H2, especially when diffusion effect enters into play. With regards to the decrease of the energy content, for percentages of H2 below 2% as it is considered in the current consultation, there is almost no impact on the capacity of the pipelines meaning that the same energy content can be delivered to end users and network users.

Questions and Answers					
#	From	Confidential?	Topic	Questions / Comments by Stakeholders	Answers / Comments by Fluxys Belgium
3.5	Gazprom Export	No	H2 Injection	All possible disputes regarding direct damages occurred due to H2 being injected to the TSO grid must be resolved solely between the TSO that accepted H2 injection into its grid and the corresponding Network user, responsible for the injection of such H2.	Article 8 of the Standard Transmission Agreement on "operating conditions and quality requirements" already describe the roles and responsibilities of the TSO when accepting gas that is outside the gas quality specifications. There is n change proposed to that article, nor to the article 10 on the "liabilities". In addition, Fluxys Belgium wants to emphasiz that gas would only be considered out of gas quality specifications if the H2 content goes over the new qualit requirement of 2%. Please note that, blending non-compliant gas with natural gas, and related responsibilities and liabilities, is not somethin new for Fluxys Belgium as it operates already multiple installations where blending is done, like for example th installations where N2 or L-gas is injected into the natural gas to decrease the Wobbe Index of H-gas. Generally speaking when Fluxys Belgium offers a service that includes some physical blending, it bears the responsibility on the gas quality o the gas mix resulting from such blending.
3.6	Gazprom Export	No	H2 Injection	Until the establishment of regulatory framework on hydrogen/hydrogen-methane mixtures as well as corresponding technical and safety rules on a national Belgium level and/or EU level, the introduction of any changes in regulatory documents for transmission related to hydrogen injections leads to certain risks described below. Hydrogen injection into natural gas networks raises multiple technological risks including failure of technological equipment due to hydrogen enrichment of pipeline metal, hydrogen embrittlement, corrosion processes, possibilities of hydrogen-induced fractures, metering issues, hydrogen losses due to hydrogen hyperpermeability, etc. The EU gas infrastructure (including transportation systems, underground storages, end-user facilities/appliances, etc.) may face significant technical issues in case hydrogen-methane mix is injected in their systems. The abovementioned issues might be especially critical for porous underground gas storages, stationary gas engines used for power plants, gas turbines, compressor stations, metering equipment, tanks for natural gas driven cars, some of the chemical industrial appliances, etc Therefore, no hydrogen shall be injected into grid of the TSO without technical and safety readiness of the abovementioned elements of EU gas infrastructure. Prior to the hydrogen injection to the TSO grid such TSO shall be obliged to receive necessary approvals from respective neighboring and downstream TSOs, SSOs, end-users, etc. showing that their infrastructure is compatible with the injected hydrogen.	On the applicable regulatory framework, see 2.2 On the coordination with adjacent operators, see 2.3 On the readiness of gas infrastructures, see 3.2

Questions and Answers					
#	From	Confidential?	Topic	Questions / Comments by Stakeholders	Answers / Comments by Fluxys Belgium
4.1	FEBEG	No	WI at Domestic Points for Injection	FEBEG believes this decrease to 0.5% could significantly increase costs for future biomethane projects. We therefore propose to limit the decrease no lower than 2%.	In the consultation documents, Fluxys Belgium proposed a reduction of the CO2 specification from 2,5% to 0,5% at a Domestic Point for Injection, as a mitigation measure to decrease Wobbe Index variations in downstream network, when such variations arise from the connection of that Domestic Point for Injection. 2 respondents disagree with that proposal arguing that it would significantly increase the gas reprocessing process difficulty and costs, especially for biomethane plants. They propose to limit the decrease to 2% of CO2. One the one hand, Fluxys Belgium recognises that this proposal might influence process complexity and costs for Local Producers. However, on the other hand, it is important to consider that gas quality variations are of major concern for End Users as it might affect the efficiency and the emissions of their processes as well as their product quality. As a consequence, in order to improve the acceptability of decentralized compatible gas injection, which is a key enabler for the energy transition, Fluxys Belgium wants to keep the gas quality variations (in particular the Wobbe Index) related to the decentralized injection of compatible gas under control. The biggest Wobbe Index variations are generated when the Wobbe Index from the gas injected at a Domestic Point for Injection significantly differs from the Wobbe Index of the gas already flowing into the network, even when both gases respect the gas quality specifications set forth in Access Code for Transmission Attachment C4. The most efficient way to avoid large Wobbe Index variations is therefore, where necessary, to align the Wobbe Index of the injected gas to the Wobbe index already flowing into the network in the vicinity of the Domestic Point for Injection. Fluxys Belgium's recognizes that a change of the CO2 specification is not the only option available to increase the Wobbe Index. Local Producers could also, amongst other, reduce N2, H2 or O2 levels or add C3H8 into the gas before injection. Therefore, Fluxys Belgium is proposing a new text to allow such alternative ways to adjust the Wobbe Index to the desired level.
4.2	FEBEG		Monthly Imbalance Smoothing Allocations	Will the Monthly Imbalance Smoothing Allocations in the H-zone be increased along with the decrease in the L-zone ?	The increase of Imbalance Smoothing Allocations in the H-zone is not yet determined. Any change to be made will be evaluated together with CREG and announced in due time.
4.3	FEBEG		Monthly Imbalance Smoothing Allocations	How far in advance will Fluxys publish these figures on their website? If this are not published well in advance this can be impactful for the shippers. FEBEG believes shippers require an earlier communication by Fluxys. We propose to communicate this on a yearly basis in order to give the shippers the time to adapt.	Fluxys Belgium understands this concern and will try to communicate such changes well in advance if possible and will also try to keep the number of changes as low as possible.
4.4	FEBEG		H2 Injection	A 2% hydrogen mix is too high for certain end user assets and could therefore potentially impact the normal exploitation of their assets	Fluxys Belgium recognizes that all end users might not be ready yet for the delivery of a gas containing up to 2% of H2 in terms of operations and maintenance, and that the specifications of some gas applications currently in use in Belgium might not be explicitly applicable for 2% H2 in the natural gas. Therefore, further analysis and evaluations with original equipment manufacturers and related time and resources might indeed be needed. On the readiness of gas infrastructures, including end users, see 3.2 This is why, in line with decision B2191 taken by the CREG on the 11th of March 2021 on the Connection Agreement for Local Producers (§43), Fluxys Belgium shall inform the concerned end users in due time for each individual connection request received from a Local Producer so that they can make their analysis and evaluations, and properly reorganize their infrastructures, operations and maintenance.
4.5	FEBEG		H2 Injection	The introduction of hydrogen into the grid can also negatively impact long term maintenance contracts of end user assets and therefore increase costs and/or impact normal exploitation of the end user assets.	See 4.3

Questions and Answers					
#	From	Confidential?	Topic	Questions / Comments by Stakeholders	Answers / Comments by Fluxys Belgium
4.6	FEBEG		H2 Injection	This means frequent variations can occur in the 0-2% of H2 range. These fluctuations are not predictable for the end users and therefore can create added restrains on the normal exploitation and on the long term maintenance contracts of the end user assets. FEBEG believes the proposed 2%-measure needs additional research and consultation with involved market parties.	On the frequency of gas quality variations, see 3.4 On the need to review normal exploitation ans long term mainteance contracts, see 4.3
5.1	Engie	No	WI at Domestic Points for Injection	Engie disagrees with the proposed limit of CO2 in the biomethane and suggests this limit to be set at 2% instead. In fact, a limit as low as 0,5% would require substantial developments on the gas reprocessing side and therefore increase the process' difficulty and cost.	See 4.1
5.2	Engie	No	Monthly Imbalance Smoothing Allocations	ENGIE would like to request that the MISA values be changed once a year at most, and that shippers be notified several months prior to the each change in the Imbalance Allocations in the L-Zone and the H-Zone, to allow them to plan for their flexibility needs in advance. We would like to know if this will also result into the increase of the MISA in the H-zone, up to today's L-zone + H-zone allocations ?	Fluxys Belgium understands this concern and will try to communicate such changes well in advance if possible and will also try to keep the number of changes as low as possible without committing on a minimum notification period and a maximum number of changes per year. Any change to be made will be evaluated together with CREG and announced in due time. The increase of Imbalance Smoothing Allocations in the H-zone is not yet determined. Any change to be made will be evaluated together with CREG and announced in due time.
5.3	Engie	No	H2 Injection	We would like to point that a 2% H2 rate in the gas network is not in the specs of some gas turbines in the market. An increase of the H2 limit would require further analysis for validation by the original equipment manufacturers.	On the incompatibility of the specifications of some gas applications with the 2% H2 limit, see 4.3 In addition, please note that Fluxys Belgium operates itself multiple gas turbines in compression stations on its network. The readiness of those gas turbines for natural gas containing up to 10% of H2 has been studied end 2020. The main conclusions of that study for admixtures of natural gas with up to 2% H2 are that: -All our gas turbines can be operated with very limited retrofitting costs and impacts on efficiency -A dedicated assessment (with original equipment manufacturers) is needed for each individual gas turbine

Printed copy of written comments

ENGIE's comments on Fluxys' Consultation n°54

H2-injection

ENGIE welcomes Fluxys proposal to introduce the possibility of injecting H2 into the Natural Gas Network. However, we would like to point that a 2% Hydrogen rate in the gas network is not in the specs of some gas turbines in the market. An increase of the Hydrogen limit would require further analysis for validation by the original equipment manufacturers.

Clarify CO2 specifications at Domestic Points for Injection

ENGIE disagrees with the proposed limit of CO2 in the biomethane and suggests this limit to be set at 2% instead. In fact, a limit as low as 0.5% would require substantial developments on the gas reprocessing side and therefore increase the process' difficulty and cost.

L Capacity Switch Service

ENGIE welcomes the extension of the capacity switch service to L exit capacity.

Monthly Imbalance Smoothing Allocations

We assume that the removal of the Monthly Imbalance Smoothing Allocations from the Access Code to Fluxys' website is being introduced to allow Fluxys to change the values gradually as the conversion of the L-gas customers is carried out. ENGIE would like to request that the MISA values be changed once a year at most, and that shippers be notified several months prior to the each change in the Imbalance Allocations in the L-Zone and the H-Zone, to allow them to plan for their flexibility needs in advance.

Moreover, we understand that the conversion of the L-gas zone into H-gas in Belgium will result into the decrease of the Monthly Imbalance Smoothing Allocations in the L-zone, which will be eventually reduced to 0 by the end of the conversion. We would like to know if this will also result into the increase of the MISA in the H-zone, up to today's L-zone + H-zone allocations ?

From: FEBELIEC
Sent: Monday, 8 November 2021 17:09
To: info.transport@fluxys.com
Cc: VAN BOSSUYT Michaël <mvanbossuyt@febeliec.be>; Baerts M.-P. (mpbaerts@febeliec.be) <mpbaerts@febeliec.be>
Subject: Fluxys Belgium - Market Consultation 54 - Changes in Regulatory Documents – Febeliec reaction

Fluxys Belgium - Market Consultation 54 - Changes in Regulatory Documents – Febeliec reaction

Febeliec thanks Fluxys for the opportunity to comment on the proposed changes to the regulatory documents.

On the injection of hydrogen into the natural gas grid and the adaptation of the gas quality specifications with an upper limit of 2% of H_2, Febeliec would like to formulate the following comments:

- Fluxys does not justify these proposals nor provides any longer-term perspective for this evolution. It is not clear whether these proposals aim at a one-off increase of the allowed H_2-content in the grid, or if it is the intention to further increase this upper limit in the coming years. Febeliec strongly invites Fluxys to provide a clear and comprehensive motivation of these proposals, including the expected sources of hydrogen injection in the near future, the longer-term perspectives of this evolution and the level of harmonization of the proposals with neighboring TSO's.
- To the extent that H_2 is to be part of the future fuel mix in a climate-neutral Europe, mixing it up with natural gas does not seem to be a step in the right direction. Though Febeliec recognizes the technical possibility to increase the hydrogen content of supplied natural gas, we invite Fluxys to provide a cost/benefit analysis of this solution, proving it offers a positive balance for society.
- As Febeliec mentioned several times in the past, more frequent variations and increased volatility of the natural gas composition are detrimental for the efficiency of several industrial processes. Febeliec invites Fluxys to indicate whether the proposed changes could increase the volatility of the gas composition. Furthermore, Febeliec invites Fluxys to provide more detail on the potential impact of this proposal on the gas specification parameters (Wobbe-index, methane content, CO_2 content, inter gases, ...).
- Finally, Febeliec would like to mention the potential impact of higher hydrogen shares in the natural gas used for electricity production on the turbines' efficiency. Febeliec wonders if this impact has been thoroughly assessed by Fluxys.

On the proposed modifications to the H→L conversion service and L/H capacity switch service, Febeliec insists on the need to maintain existing flexibility services for the remaining L-gas users until the national conversion program to H-gas has been fully completed.

*Peter Claes**
on behalf of Febeliec
Federation of Belgian Industrial Energy Consumers
Febeliec represents the industrial consumers of electricity and natural gas in Belgium.

POSITION

Subject: Market Consultation 54: changes in regulatory documents
Date: 8 November 2021

Contact: Kristof Schreurs
Phone: +32 485 36 46 28
Mail: Kristof.schreurs@febeg.be

Introduction

On the 15th of October, 2021 Fluxys launched a market consultation with regard to the changes in regulatory documents. The deadline of the consultation is the 8th of November, 2021.

FEBEG welcomes this consultation and thanks Fluxys for creating this opportunity for all stakeholders to express their views with regards to the changes in the regulatory documents. FEBEG would like to put forward the following comments and suggestions. The comments and suggestions of FEBEG are not confidential.

Gas Quality

In attachment 7 to the Standard Connection Agreement concerning the required qualities of gas, Fluxys proposes a maximal hydrogen content of 2%. This proposal could have a significant impact on the end users assets. We see a multitude of potential issues arising from this proposal:

- A 2% hydrogen mix is too high for certain end user assets and could therefore potentially impact the normal exploitation of their assets;
- The introduction of hydrogen into the grid can also negatively impact long term maintenance contracts of end user assets and therefore increase costs and/or impact normal exploitation of the end user assets.

Fluxys proposes the introduction of a 2% maximum. This means frequent variations can occur in the 0-2% range. These fluctuations are not predictable for the end users and therefore can create added restrains on the normal exploitation and on the long term maintenance contracts of the end user assets.
All these elements combined decrease the predictability of the hydrogen content. FEBEG believes the proposed 2%-measure needs additional research and consultation with involved market parties.

Clarify CO2 specification at Domestic Points for injection

Fluxys proposes in the Access Code for Transmission that the gas quality requirements at the domestic points for injection have been completed in order to be consistent with the Synergrid Technical requirements for biomethane. Specifically, the CO_2 limit can be decreased from 2,5% to 0.5%, if necessary, to decrease Wobbe index variations in the network.

FEBEG believes this decrease to 0.5% could significantly increase costs for future biomethane projects. We therefore propose to limit the decrease no lower than 2%.

Monthly imbalance smoothing allocations

Fluxys proposes that during the physical conversion from L to H in the coming year, the monthly Imbalance Smoothing Allocations will also be adapted. To avoid outdated figures in the regulated documents, the table containing the monthly Imbalance Smoothing Allocations is removed from the regulatory documents and the figures will be published on the Fluxys Belgium website. Any revision of these monthly Imbalance Smoothing Allocations shall be evaluated together with CREG.

FEBEG has two questions in relation to this proposal:

- Will the Monthly Imbalance Smoothing Allocations in the H-zone be increased along with the decrease in the L-zone ?.
- How far in advance will Fluxys publish these figures on their website? If this are not published well in advance this can be impactful for the shippers. FEBEG believes shippers require an earlier communication by Fluxys. We propose to communicate this on a yearly basis in order to give the shippers the time to adapt.

Gazprom export LLC contribution to the Market Consultation 54: Changes in Regulatory Documents conducted by Fluxys Belgium[1]

November 2021

Gazprom export LLC (hereinafter – GPE) welcomes the opportunity to provide feedback in the Market Consultation 54. It is GPE's submission that any regulatory change allowing or incentivizing hydrogen injections into existing natural gas transmission networks shall be adopted (a) with extreme caution based on detailed cost-benefit analysis and confirmed technical possibility to ensure that rights of all network users (either injecting natural gas or hydrogen into the grid) are observed, taking into account all particularities connected with hydrogen blending and the absence of adequate and effective regulatory framework for hydrogen, and (b) in any case in non-discriminatory form. Until the establishment of regulatory framework on hydrogen/hydrogen-methane mixtures as well as corresponding technical and safety rules on a national Belgium level and/or EU level, the introduction of any changes in regulatory documents for transmission related to hydrogen injections leads to certain risks described below.

Hydrogen injection into natural gas networks raises multiple technological risks including failure of technological equipment due to hydrogen enrichment of pipeline metal, hydrogen embrittlement, corrosion processes, possibilities of hydrogen-induced fractures, metering issues, hydrogen losses due to hydrogen hyperpermeability, etc. The EU gas infrastructure (including transportation systems, underground storages, end-user facilities/appliances, etc.) may face significant technical issues in case hydrogen-methane mix is injected in their systems. The abovementioned issues might be especially critical for porous underground gas storages, stationary gas engines used for power plants, gas turbines, compressor stations, metering equipment, tanks for natural gas driven cars, some of the chemical industrial appliances, etc.

Therefore, no hydrogen shall be injected into grid of the TSO without technical and safety readiness of the abovementioned elements of EU gas infrastructure. Prior to the hydrogen injection to the TSO grid such TSO shall be obliged to receive necessary approvals from respective neighboring and downstream TSOs, SSOs, end-users, etc. showing that their infrastructure is compatible with the injected hydrogen.

Additionally, GPE as a natural gas shipper is of the opinion that any costs directly or indirectly connected to grid adjustment to transmission of hydrogen/hydrogen-methane mixtures shall be borne exclusively by those users benefiting from it. Those

[1] None of the parts of the present document, whether in full or in part, contains, represents, or otherwise implies investment, legal, financial and/or other professional advice and/or obligation. Neither Gazprom export LLC, nor any of its subsidiaries, associated or affiliated parties, partners or clients, can be held responsible for any action based on, or related to this document which is for discussion purposes only.

network users, who do not have any relation to the hydrogen injected in the TSO gas grid, must be legally protected from gas quality changes, decrease of energy content and possible damages caused by hydrogen injections and shall be released from any costs related to the transport of hydrogen or technical measures undertaken to perform such transport. All possible disputes regarding direct damages occurred due to hydrogen being injected to the TSO grid must be resolved solely between the TSO that accepted hydrogen injection into its grid and the corresponding Network user, responsible for the injection of such hydrogen.

Taking into account that GPE is amongst principal network users, we kindly call on you to take our concerns and position into consideration. We remain committed to contributing to further consultations and studies on the matter in question.

From: Anders Boesen <abo@nitorenergy.com>
Sent: 29 October 2021 09:33
To: marketing@fluxys.com
Cc: Cruz Julien
Subject: Request for consultation 54

Dear Fluxys,

If possible we would like to have the below request added for the consultation 54 discussion:

The Belgium gas system is very flexible, however we see an area of improvement where especially other markets, such as the French and the German are a bit more ahead. This is in regards to conversion of gas quality. In the Belgian system it is clear that it's possible to convert L-gas to H-gas on a daily basis, but a bit more unclear for converting H-gas to L-gas on a short term basis.

We believe that if there were a larger nitrogen buffer for making short term conversion from Hi calorific gas into low calorific gas it could be beneficial for the Belgian system, as this would create a better linking of the two gas qualities. We have lately seen scenarios where the Hi-calorific gas market in Belgium was very oversupplied and all transport capacities for Hi calorific gas was fully booked, but there were idle L-gas capacities available, hence we believe that by making conversion clearly available as a short term product, e.g. Daily or even intraday basis it would make the Belgian gas market more efficient and could better accommodate price swings in the short term market.

Feel free to reach out to me if you need more clarification on the subject.

Thank you in advance.

Kind regards

Anders Boesen
Head of Gas Trading

All reactions			
Company	First Name	Last Name	Confidential
Engie	Nasma	Sahbani	No
Febeliec	Peter	Claes	No
Febeg	Kristof	Schreurs	No
Gazprom Export	Evgeniy	Koloshkin	No
Nitor	Anders	Boesen	No