

Network Code Interoperability and Data Exchange Rules

Conclusions Workshop

Brussels – 28 May 2013



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Conclusions Workshop

WELCOME....

Brussels – 28 May 2013



Network Code Interoperability and Data Exchange Rules

Conclusions Workshop

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Brussels – 28 May 2013

Introduction



- > Participants through webcasting to identify themselves
- > Consultation (non-confidential) responses published
- > Report on received consultation responses to be published
- > Material and notes / list of participants to be published

...hoping that this has been a fully transparent process

From draft to refined NC



- > A lot of valuable feedback received which was internally analyzed
- > Based on that, ENTSOG is now preparing refined NC
- > Refined text has to reflect received and analyzed feedback
- > WS is the last interactive, open to all, session to support us in the refinement
- > Meetings with stakeholders will continue
- > Stakeholders shall be asked to express if they support or not refined text

Our target?

A NC that is supported by all stakeholders



Structure of event

28 May 2013
Brussels



INT0409-130528

AGENDA

Please note all sections (other than the Welcome) will allow time for open discussion

No	Description	Time
1	Opening (ENTSOG) <ul style="list-style-type: none"> > Welcome / Introduction / Structure of Event > Objectives 	10:00-10:15
2	Feedback Public Consultation draft Network Code + Refinement process-part 1 <ul style="list-style-type: none"> > Presentation of the feedback + refinement process (ENTSOG) > Presentation Stakeholders' views (Stakeholders) > Question and Answers (All) 	10:15-11:15
	Coffee Break	11:15-11:30
3	Feedback Public Consultation draft Network Code + Refinement process-part 2 <ul style="list-style-type: none"> > Presentation of the feedback + refinement process (ENTSOG) > Presentation Stakeholders' views (Stakeholders) > Question and Answers (All) 	11:30-13:00
	Lunch	13:00-14:00
4	Draft Cost Benefit Assessment Data Exchange <ul style="list-style-type: none"> > Presentation draft CBA + finalization process (Consultant/ENTSOG) > Presentation Stakeholders' views (Stakeholders) > Question and Answers (All) 	14:00-15:30
	Coffee Break	15:30-15:45
5	Closing remarks (ENTSOG)	15:45-16:00

> Objective: ENTSOG team to refine proposed NC

> How will this be achieved:

- by presenting and discussing on received responses through

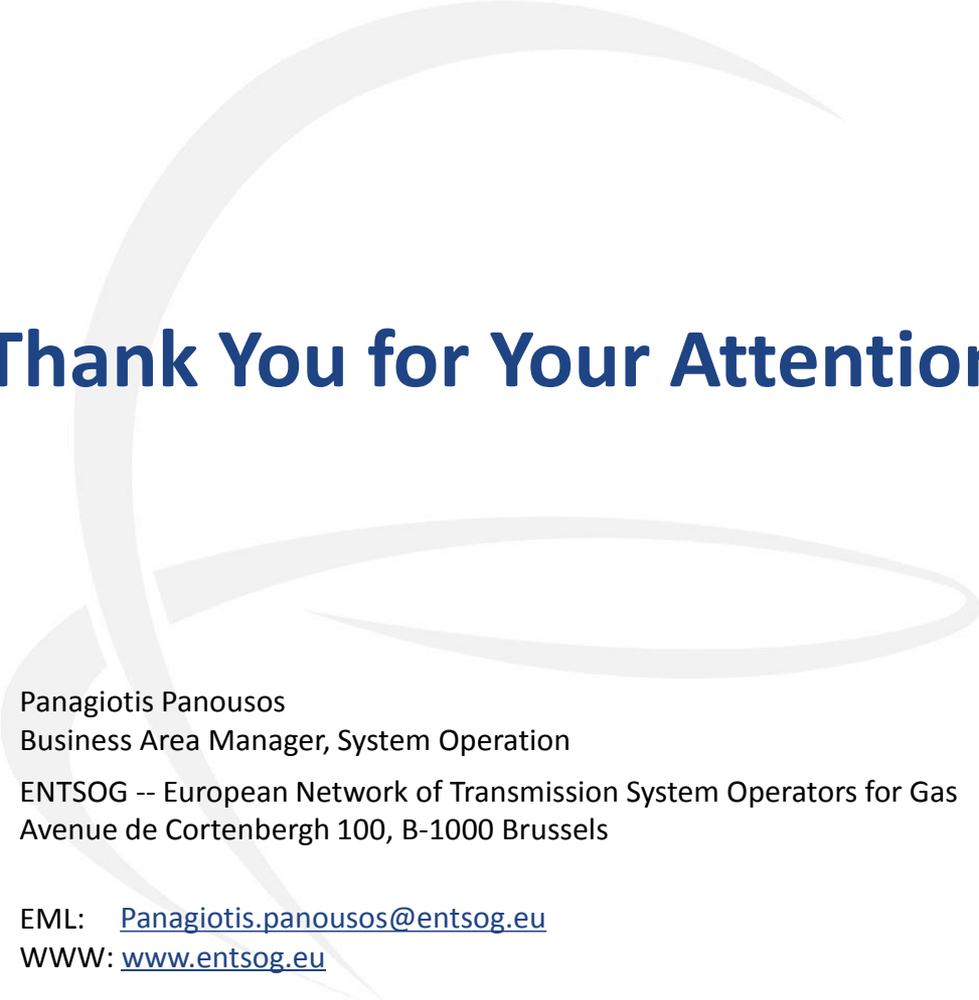
consultation

- by analyzing views and intentions

- by proposing text refinements

> DE CBA to be discussed separately





Thank You for Your Attention

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Conclusions Workshop

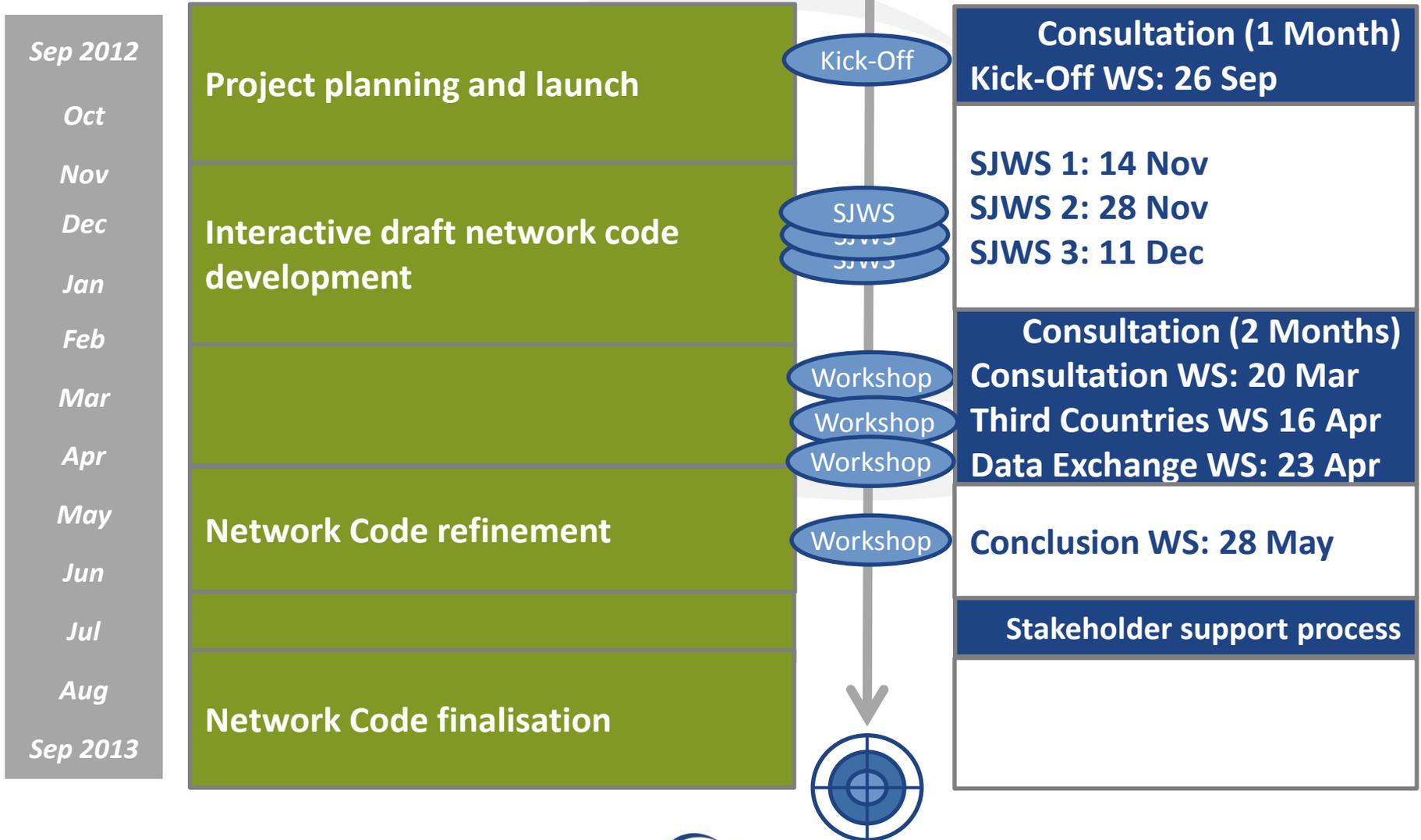
Interoperability Team

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NC INT Development Process

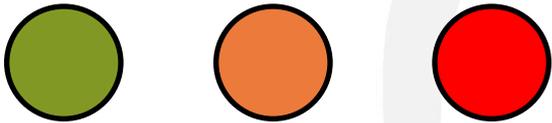
ENTSOG Member work

Stakeholder engagement



Highlights Public Consultation draft NC

- > Public Consultation: 27 Feb -> 26 April
 - 37 responses via on-line Questionnaire (results published on website)
 - 2 responses not in line with deadline/format

All market participants represented with strong involvement of the DSOs
 - > Conclusions WS: Outcome Question by Question
- 
- > Key issues Public Consultation:
 - Scope Data Exchange + Implementation period DES by counterparties
 - Stakeholder involvement in NC related processes
 - Strong support for national selection process GQ Short term Monitoring
 - Member State responsibility for Gas Quality specifications and Odourization practices
 - > Next steps:
 - Refinement process draft NC
 - Stakeholder Support Process 9 -> 23 July

Question 1

Do you agree with ENTSOG's proposal for General Provisions?

11

Transparency and consultation Stakeholders (IA, cost allocation, ...)

11

Cooperation with Third Countries

Include LSO + SSO

Publication information: free of charge

10

Scope Data Exchange too broad; DE to focus on TSO-TSO and TSO-NU communication for cross-border processes

Conclusion

- ***Stakeholder involvement strengthened in NC***
- **Cooperation Third Countries included in scope**
- **Avoid repetition with existing Regulations (LSO; SSO/Definitions)**
- **Publication: free of charge**
- **Refined scope DE TSO-TSO + TSO-NU (see DE part)**

Question 3

Do you agree with ENTSOG's proposal for Final Provisions?

10

12 → Flexible implementation period for Data Exchange Solution for counterparties

6 →

Flexible implementation DES for counterparties
Odourization: MS responsibility

Conclusion

- ***Implementation DE: TSOs 12 months, counterparties: flexible implementation (see DE part)***
- ***Odourization: stronger MS involvement (see Odo part)***

Question 4

Do you agree with the proposed 7 identified issues for mandatory terms in an IA?

12

7 → Capacity calculation and liability; term “Allocation” not clear: ante or post flow?

0

Conclusion

- *No additional terms included*
- *It is explicitly stated that other items can be included*
- *Allocation depends*

Question 5

Do you agree with the proposed 3 identified issues where network users have to be informed and to gather their feedback within a timeframe between one and three months in case of changes?

10

6 → List not exhaustive; “Exceptional Events” should be “Unplanned Event”

4 → List should be extended, timeframe to small

Conclusion

- *Refined NC without limitation to the 3 items*
- *Exceptional event is already defined*
- *Timeframe extended to 2 month*

Question 6

Do you agree with ENTSOG's proposal for the development and alignment of IAs?

10

10



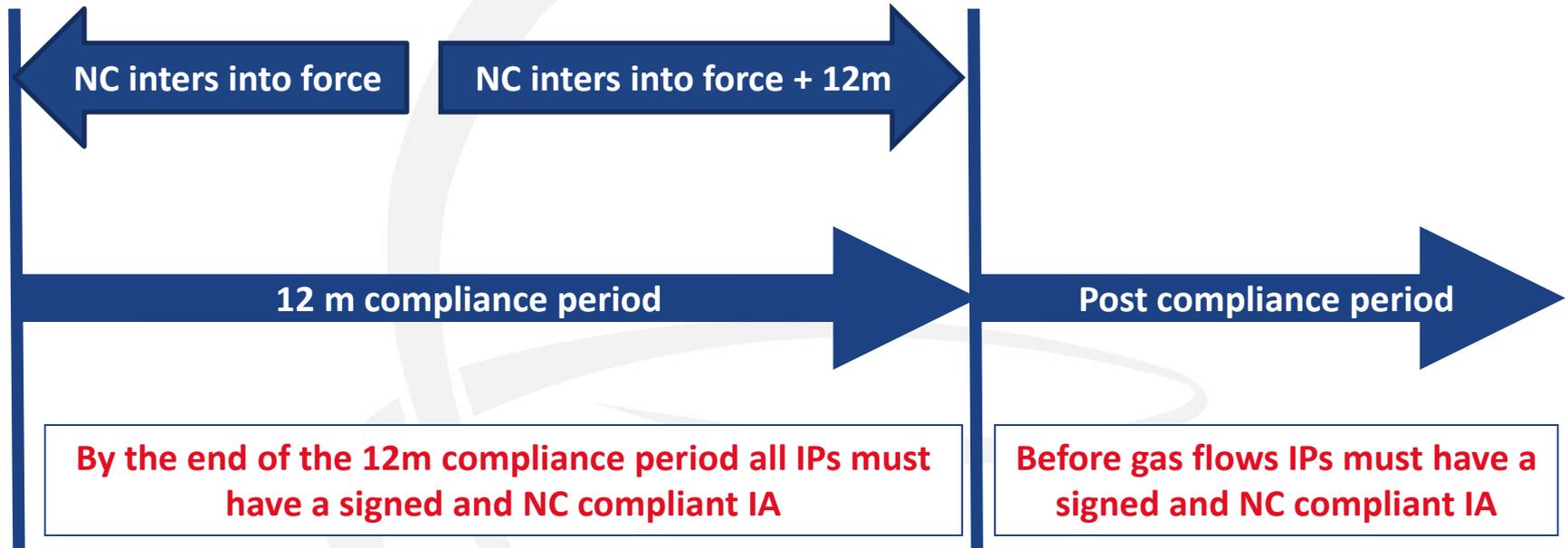
Process for development and alignment not clear enough; NUs shouldn't be affected; apply automatically the default rules; default rules difficult to spot; NUs have to be informed when directly affected; allow for enough time for adaption in case of changes

0

Conclusions

- *Refined text to clarify the development and alignment process*
- *Default rules easier to spot: "for the purpose of...."*
- *A list with all default rules is added*
- *New paragraph to clearly state the obligation for TSOs to inform the NUs in a timely manner in case they are affected*

Development and alignment of IAs



Question 6

Do you agree with ENTSOG's proposal for the development and alignment of IAs?

10

10 →

0

Process for development and alignment not clear enough; NUs shouldn't be affected; apply automatically the default rules; default rules difficult to spot; NUs have to be informed when directly affected; allow for enough time for adaption in case of changes

Conclusions

- *Refined text to clarify the development and alignment process*
- *To make the default rules easier to spot: "for the purpose of..."*
- *A list with all default rules is added*
- *New paragraph to clearly state the obligation for TSOs to inform the NUs in a timely manner in case they are affected*

Question 7

Do you consider that the amendment proposals meet an appropriate degree of transparency for modification of IAs?

7

9

Define a timeframe for the process; NUs have to be informed when directly affected; allow for enough time for adaption in case of changes

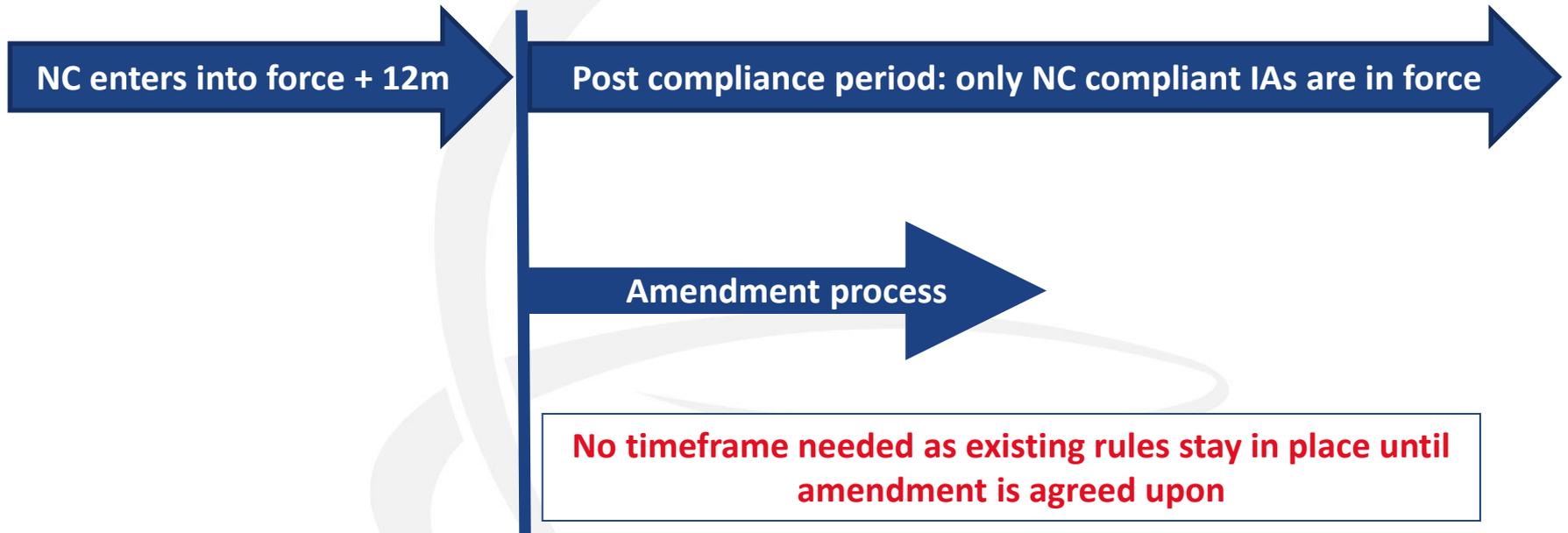
2

Direct involvement in the amendment process

Conclusion

- *Timeframe not necessary as a NC compliant IA is in place* 
- *New paragraph to clearly state the obligation for TSOs to inform the NUs in a timely manner in case they are affected*
- *Bilateral contract between TSOs => No direct involvement*

Amendment for NC compliant IAs



Question 7

Do you consider that the amendment proposals meet an appropriate degree of transparency for modification of IAs?

7

9

Define a timeframe for the process; NUs have to be informed when directly affected; allow for enough time for adaption in case of changes

2

Direct involvement in the amendment process

Conclusion

- *Timeframe not necessary as a NC compliant IA is in place*
- *New paragraph to clearly state the obligation for TSOs to inform the NUs in a timely manner in case they are affected*
- *Bilateral contract between TSOs => No direct involvement*

Question 8

Do you consider that ENTSOG's proposal for rules concerning flow control is exhaustive?

13

Insert an extra sentence to reinforce the obligation for TSOs to reduce the deviation from the confirmed quantities to the minimum extend possible in

6

→ case no OBA is in place; make the text more stringent where possible; insert an item to make reference to the handling of gas quality differences of Article 17 of the NC; responsibility for flow control to weak

0

Conclusion

- *We insert an extra sentence to meet the expectation of our stakeholders in case OBA is not in place*
- *We refined the text to make it more stringent*
- *We insert a new sub-paragraph to deal with quality variations at IPs*
- *New default rule for flow control responsibility is insert*

Question 9

Do you agree with the above proposals for measurement principles that should apply at an IP?

11

7

→ Procedures to manage a situation where the measurement equipment is found to be in error within and after the close-out period; rule to clarify what measurement principle apply.

3

→ Allocation of responsibility of the correctness and liability of the measured parameters are missing; reference to EN 1776 is missing in paragraph 2 and the rules described should not be in contradiction to the EN 1776

Conclusion

- *We deleted the passage with the close-out period*
- *The whole Article is explaining the measurement principles including national legislative requirements also taking into account the ISO standards. In case TSOs can't agree they have to apply EN 1776*
- *Discussions with CEN are underway*
- *Concerning responsibility a new default rule has been inserted*

Question 10

Do you agree that transmission system operators should be obliged to use the EN1776 standard as a default rule for energy measurement standard at an IP?

11

4

→ EN 1776 should be used for a certain transition period only; provide a rule that existing parts not addressed by EN 1776 can be further used

2

→ EN 1776 should not only be the default rule but should be the only possible one; EN 1776 can't be the only one

Conclusion

- ***EN 1776 is still the default rule.***
- ***Default rules can be fixed as the applicable rule but TSOs can also decide to agree on something different***

Question 11

Do you believe that the “lesser rule” fulfils the Framework Guidelines’ requirement to eliminate or otherwise reasonably resolve, at least costs for transmission system operators and network users, mismatches at IPs?

12

6

→ Could the lesser rule be in conflict to the application of CMP?; the lesser rule should be the exclusive rule; if the lesser of rule is not applied NU have to be informed in advance to give their comment

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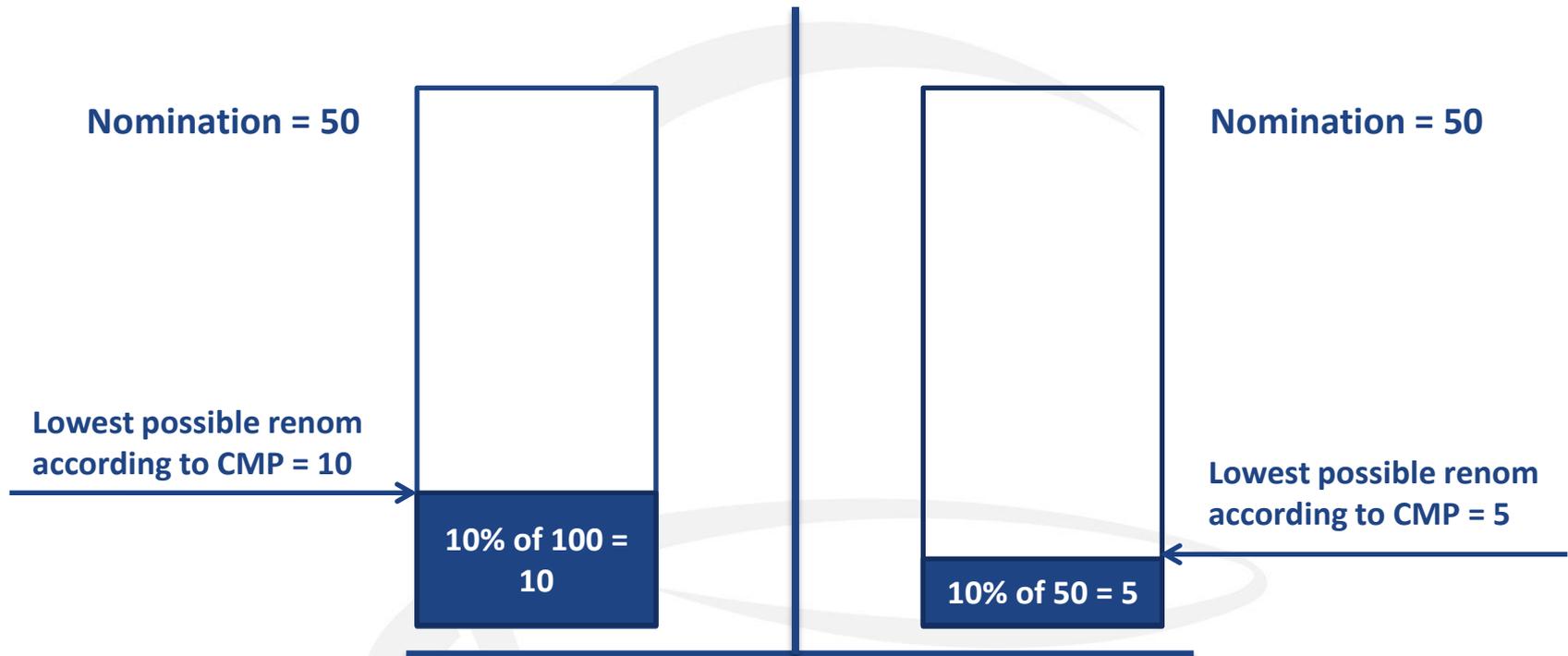
Conclusion

- *ST UIOLI could be in conflict to the lesser rule* 
- *Lesser rule already used in most of the cases*
- *NUs will be informed and invited to give their comments in case lesser rule is not applied*

Capacity booked by SH A is 100

IP

Capacity booked by SH B is 50



Nomination Day Ahead is 50 on both sides.

Renomination at 8pm D-1 is 10 (10% from contracted 100) on the left side and 5 (10% from contracted 50) on the right side

No problem on the right side, but the **application of the lesser-of rule** will lead to confirmed quantities **of 5 for both sides** which is **not allowed for the left side!**

CMP Point “2.2.3. Firm day-ahead use-it-or-lose-it mechanism” says in paragraph 3 “Firm renomination is permitted up to 90 % and down to 10 % of the contracted capacity by the network user at the interconnection point”.

Question 11

Do you believe that the “lesser rule” fulfils the Framework Guidelines’ requirement to eliminate or otherwise reasonably resolve, at least costs for transmission system operators and network users, mismatches at IPs?

12

6

→ Is the lesser rule in conflict to the application of CMP?; the lesser rule should be the exclusive rule; if the lesser of rule is not applied NU have to be informed in advance to give their comment

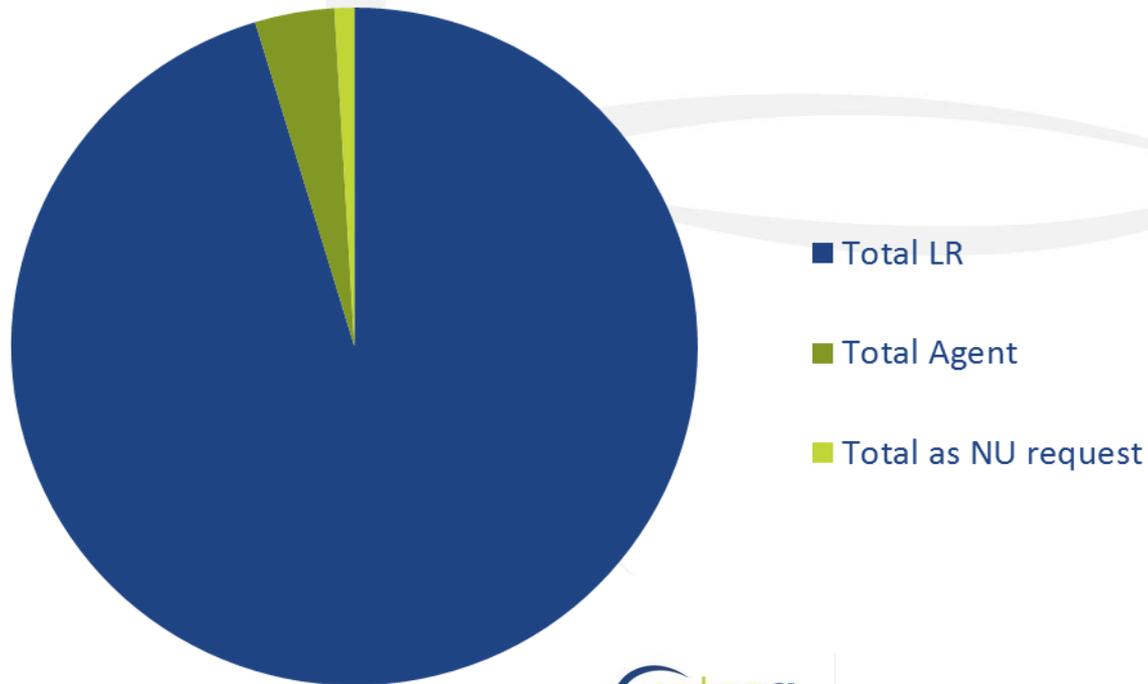
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Conclusion

- *ST UIOLI could be in conflict to the lesser rule*
- *Lesser rule already used in most of the cases* 
- *NUs will be informed and invited to give their comments in case lesser rule is not applied*

Can we go so far as to declare the lesser-of rule as the exclusive matching rule?

- 54 IP
 - 107 times a matching is applied
 - 102 times LR
 - 4 times Agent
 - 1 as per NU request



Question 11

Do you believe that the “lesser rule” fulfils the Framework Guidelines’ requirement to eliminate or otherwise reasonably resolve, at least costs for transmission system operators and network users, mismatches at IPs?

12

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→ Is the lesser rule in conflict to the application of CMP?; the lesser rule should be the exclusive rule; if the lesser of rule is not applied NU have to be informed in advance to give their comment

0

Conclusion

- *ST UIOLI could be in conflict to the lesser rule*
- *Lesser rule already used in most of the cases*
- *NUs will be informed and invited to give their comments in case lesser rule is not applied*

Question 12

Is there any other information, in addition to the matching rule, that should be made available to network users?

6

9

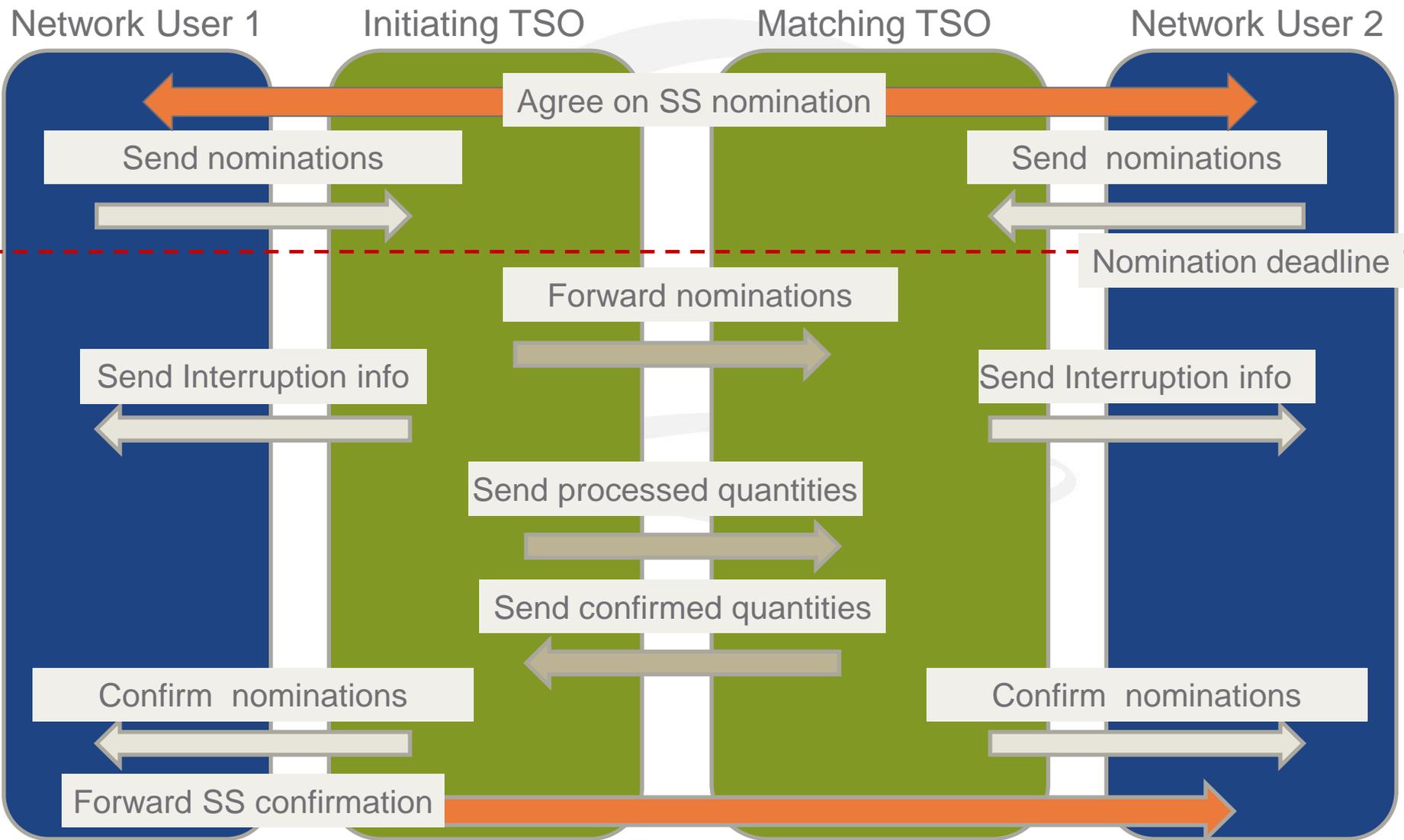
The lead-time should be reduced to 1,5 h; matching of bundled products not needed only alignment of quantities in case of timely limited capacity or data communication mistakes; a prior notice should be issued in case of a mismatch.

0

Conclusion

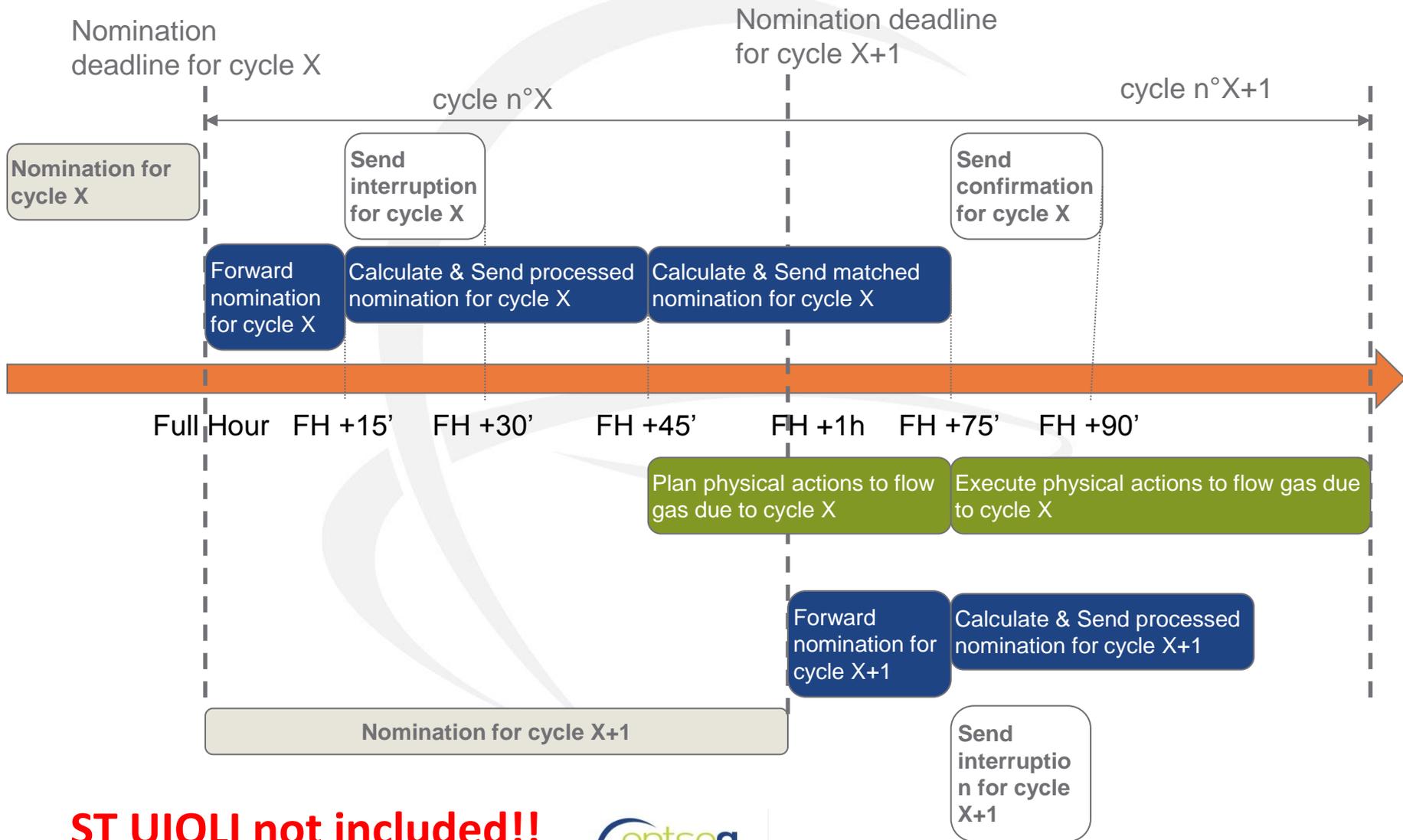
- *Lead-time can not further be reduced* 
- *Bundled products have to be integrated in the existing matching for unbundled products*
- *A prior notice doesn't make sense as it can't be issued before the confirmed quantities*

Sequence Diagram



ST UIOLI not included!!

Timeline: nomination – flow planning – flow execution



ST UIOLI not included!!



Question 12

Is there any other information, in addition to the matching rule, that should be made available to network users?

6

9

→ The lead-time should be reduced to 1,5 h; matching of bundled products not needed only alignment of quantities in case of timely limited capacity or data communication mistakes; a prior notice should be issued in case of a mismatch.

0

Conclusion

- *Lead-time can not further be reduced*
- *Bundled products have to be integrated in the existing matching for unbundled products*
- *A prior notice doesn't make sense as it can't be issued before the confirmed quantities*

Question 13

Do you agree with the proposed default allocation rule (OBA)? Which reasons do you see for having another allocation rule as the default allocation rule (OBA)?

8

11

0

Yes, but only BNU should be allowed in addition; other allocation rules have to be justified on a case by case basis; there should be an extra provision that NUs are not taken responsible for any discrepancies recorded in the OBA; OBA should be the only possible allocation rule.

Conclusion

- *The extra provision that should be inserted to make sure that NUs are not taken responsible for any discrepancies in the OBA is already covered by the existing draft text*
- *All the other points mentioned here are covered by the answers and comments of the next question*

Question 14

Do you agree with ENTSOG's proposal for stakeholder consultation concerning non-OBA allocation rule options?

10

Only BNU should be allowed additionally; OBA should be the only possible allocation rule; for existing and new IPs a non-OBA allocation method is only allowed if NUs will be informed and can give their comments; NRAS should be involved in the justification process

4

Pro-rata rule is no option; other allocation rules have to be justified on a case by case basis

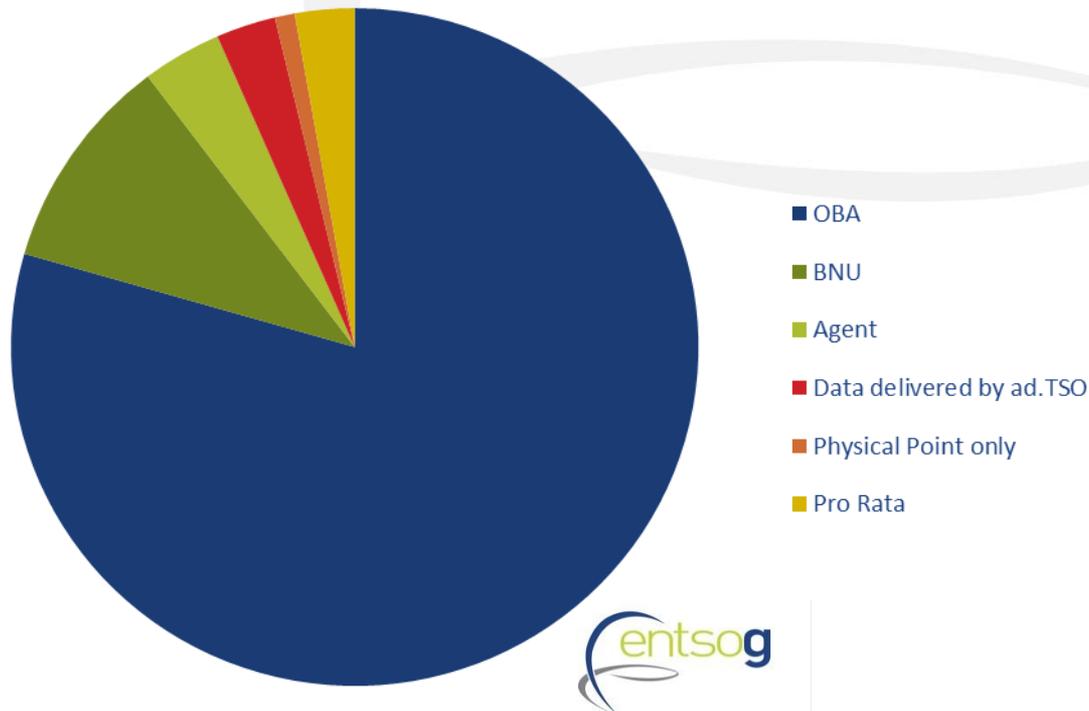
5

Conclusion

- *We aligned the process for existing and new IPs. In case no OBA is in place NUs shall be informed and are invited to give their comments.*
- *OBA will not be the only possible allocation rule* 
- *NRAs are so far not directly involved*

Analyses of decision for the selection of an OBA as the default allocation method

- 54 IP
 - 107 times an allocation method has to be applied
 - 85 times OBA
 - 11 times BNU
 - 3 times Pro-Rata
 - 4 times Agent
 - 3 times allocation data delivered by adjacent TSO
 - 1 physical point only



Question 14

Do you agree with ENTSOG's proposal for stakeholder consultation concerning non-OBA allocation rule options?

10

Only BNU should be allowed additionally; OBA should be the only possible allocation rule; for existing and new IPs a non-OBA allocation method is only allowed if NUs will be informed and can give their comments; NRAS should be involved in the justification process

4

5

Pro-rata rule is no option; other allocation rules have to be justified on a case by case basis

Conclusion

- *We aligned the process for existing and new IPs. In case no OBA is in place NUs shall be informed and are invited to give their comments.*
- *OBA will not be the only possible allocation rule*
- *NRAs are so far not directly involved*

Question 15

Do you agree with ENTSOG's proposal for exceptional events?

11

The whole article should be declared as default rule; REMIT obligation must be fulfilled; check the interaction with REMIT obligation from a legal point of view; the whole market has be informed; specific publication requirements like “maximum delay” should be compulsory; consider potential liabilities; better clarify the definition of an exceptional event.

8

0

Conclusion

- *All remarks and comments are already taken care of in the draft legal text.*
- *Only one small text refinement to make the default rule better noticeable.*

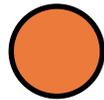
Question 2

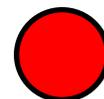
Q 2: Do you agree with ENTSOG's proposal for Dispute Resolution?

CONCLUSIONS

Stakeholders mostly support the process described under Art. 12 and Art. 28 and mostly understood the rationale behind foreseeing two provisions tackling the issue of dispute resolution.

 → 15

 → 5 *What is the rationale for two different provisions?
Which is the timeframe for them and, in particular, for the overarching procedure?*

 → 3 *What is the role of ACER?*

Question 2

Q 2: Do you agree with ENTSOG's proposal for Dispute Resolution?

Identified issues from comments received:

➤ Rationale for having two different Articles:

- *as a part of an agreement between adjacent TSOs, the dispute settlement procedure to be foreseen in the IAs only apply to the TSOs, which are parties to the agreement itself, in case of failure by a party to perform any of its obligations under the contract;*
- *the overarching procedure applies in case of non performance of any obligations in NC's section (other than in IA's one) and can be commenced by TSOs or counterparties.*

➤ Timeframe:

- *for the contractual dispute settlement procedure: timeframe defined in the IA;*
- *for the overarching procedure: timeframe in EU legislation:*
- ✓ *definition in NC of deadline for TSOs to endeavour to settle the disputes and*
- ✓ *cross-reference in NC to applicable legislation [Art. 41(11) Gas Directive (2009/73/EC) and Art. 8 Agency Regulation (EC No 713/2009)] containing specific deadlines.*

➤ Role of ACER:

- *ACER decides in case the NRAs ('acting as dispute settlement authorities') do not reach an agreement or in case NRAs jointly request so. Such decision can be appealed by NRAs and TSOs before ACER's Board of Appeals and the decision from the latter can be contested before Court of First Instance or Court of Justice.*

Question 2

Q 2: Do you agree with ENTSOG's proposal for Dispute Resolution?

Main outcomes on the issues identified through the consultation:

>The two procedures in Art. 12 and Art. 28 cover different situations;

>The overarching procedure in Art. 28 is not a never-ending process,
in particular:

without considering future possible appeals of decisions taken by ACER, the procedure might last no longer than:

- *Between TSOs: 12 months*

+

- *Before NRAs: 2 months + 2 months (in case additional information is sought by NRAs) + further extension if agreed by the complainant (presumably 2 more months because NRAs are expected to reach an agreement within 6 months from when the case has been referred to the last NRA involved) + additional 6 months (if NRAs jointly request so)*

+

- *Before ACER: 6 months*

Refinement of the draft Network Code

Refinements:

- >Art. 12: clarification that the default rule shall apply in the first 12-month period from the entry into force of NC (such as for all default rules);*
- >Art. 28: clearer definition of a maximum period of 12 months for TSOs to endeavour to settle the dispute. No need to repeat details of the procedures (including deadlines) set forth in Art. 41(11) Gas Directive (2009/73/EC) and Art. 8 Agency Regulation (EC No 713/2009).*

Question 16

Q 16: Do you agree with the principle that disputes arising out of an existing IA could be settled by an independent expert where transmission system operators are unable to resolve between themselves?

Stakeholders mostly support the process as described in the NC with the possibility for TSOs to decide to resort to experts (ICC, arbitration etc.) as bodies with specific technical expertise

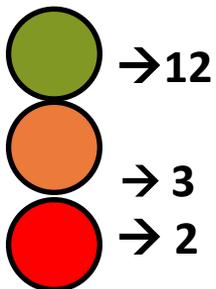
Identified issues

> NRAs should be involved in the process as well:

- *The disputes at stake are those connected to IAs: contractual issues as well as contractual tools to solve these issues;*
- *NRAs are fully involved where applicable: i.e. upon signature of new IAs as well as of IAs' amendment and, in any case, at any time upon their request.*

> Keep obligation for TSOs to go to court:

- *conflict of law rules (international private law) does not prevent at all TSOs from the obligation to go to court. It says which the competent court is in case a) the contractual procedure is not correctly performed, b) no agreement is reached between TSOs in 12 months.*



Question 17

Q 17: Do you believe that national regulatory authority should be involved in the resolution of such disputes? If so to what extent?

Stakeholders mostly support the process as described in the NC

 → 16

 → 1

*NRAs should be involved;
NRAs should be involved but the ultimate settlement
should be through courts;*

 → 4

*NRAs should not settle the dispute but rather be
involved to take the consequences in terms of costs for the TSOs concerned.*

Question 17

Q 17: Do you believe that national regulatory authority should be involved in the resolution of such disputes? If so to what extent?

Identified issues from comments received:

- > *Involvement of NRAs, instead of experts, for disputes arising out of or in connection with IAs:*
 - *NRAs fully involved where applicable (i.e. signature, amendment, upon request);*
 - *experts and courts involved in order to settle the dispute (as agreed by TSOs in IA).*
- > *NRAs should be involved in case of financial consequences impacting on tariff:*
 - *full involvement of NRAs in cost recovery mechanism for NC obligations [covered by Art. 2 (2) NC];*
 - *in case of disputes arising out of or in connection with IAs, different issue are damages that one party has to pay to the other as a result of a contractual breach.*

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Conclusions Workshop

COFFEE BREAK

Brussels – 28 May 2013

Question 18

Do you agree with the list of items for which common units are proposed? (pressure, temperature, etc).

18

3

Align the wording in article 15 concerning the use of other units that can be used in addition; it's good that ENTSOG has also included temperature and Wobbe; delete "default" and "0 degree C for density" in article 14.3; Yes, provided that article 15 stays in place.

1

Methane Number should be also included and maybe other important parameters as well.

Conclusion

- ***Alignment of the wording not necessary, only clarification.***
- **"default" and "0 degree C for density" in article 14.3 will be deleted**
- **Article 15 will stay in place**
- **No additional parameters will be added**

Question 19

Do you agree with the proposed common units for these items? (bar, ° C etc.)

12

The suggested units are the most common ones and shall be binding; Yes, provided Article 15 stays in place; ENTSOG should seek to ensure that the units correspond with the units in CEN; density can be captured without combustion; use the SMC standard.

6

The units and reference conditions should be the same as applied by CEN + ISO; CEN is asking for 15/15 instead of 25/0 for temperature used for Wobbe.

3

Conclusion

- ***Density will be deleted – no other text refinements (so article 15 will stay in place)***
- **Proposed units are in widespread use and 25/0 for energy is legal obligation**

Question 20-Units

Do you agree with the proposed scope within which transmission system operators would be obliged to use common units?

17

9

→ Using this units definitely facilitates gas trading; provided that article 15 stays in place (other units may be used in addition)

2

→ Article 15 should be deleted. The use of other units shouldn't be allowed

Conclusion

- ***No text refinement => Article 15 stays in place meaning that the use of other units in addition will be allowed***

Question 21

Will in your opinion the identified difference between the reference conditions for parameters used in CEN-standards and the reference conditions defined in ENTSOG's proposal represent a barrier?

8

When applying the correct reference conditions then there is no barrier; No barrier but ENTSOG and CEN should coordinate to avoid uncertainty in the market; a single set of reference conditions would be beneficial; CEN approved units should be permitted in addition to the use of NC units.

9

Different reference conditions can create a barrier; we strongly propose to use CEN units to express the Wobbe index range, therefore at least common conversion tables shall be used.

2

Conclusion

- *By far the biggest part of the stakeholders don't see a barrier*
- **Coordination of work between CEN and ENTSOG is underway**
- **CEN is working on a table for conversion factors which could become part of the NC or at least reference can be made**

Network Code Interoperability and Data Exchange Rules

Conclusions Workshop

Stakeholders' views

Brussels – 28 May 2013



CEN/TC 234 comment on ENTSOG Network Code on Interoperability

CEN/TC 234 Gas infrastructure

Hiltrud Schülken, TC Secretary

Brussels, 2013-05-28



CEN/TC 234 commented on two issues:

- **Units:** Different use of units and reference conditions
- **Gas measurement principles:** Disagreement with the reference to EN 1776 limited to the case of default if no agreement between the contractors can be achieved – general application of EN 1776!



ENTSOG Network Code on Interoperability - CEN/TC 234 comments and proposals

For Units:

- CEN/TC 234 and MARCOGAZ are working out a proposal for a table on conversion factors between reference conditions
- A draft is in consultation in CEN/TC 234 WG 11.
- ENTSOG and CEN/TC 234 are in dialogue on this.



CEN/TC 234 commented on two issues:

- Units: Different use of units and reference conditions
- Gas measurement principles: Disagreement with the reference to EN 1776 limited to the case of default if no agreement between the contractors can be achieved – general application of EN 1776!



NC IO Art. 8 Clause 2 “Gas measuring...”

The installation, operation and maintenance of measurement equipment at an interconnection point shall take into consideration both relevant national requirements of adjacent contracting parties. The contracting parties shall use their reasonable endeavours to reach an agreement. If no such agreement can be reached the relevant provisions of this Regulation regarding dispute resolution procedures shall apply.



ENTSOG Network Code on Interoperability - CEN/TC 234 comment and proposal

NC IO Art. 8 Clause 4 “Default clause”

Where the contracting parties do not agree on **a standard for the measurement of volume and energy, the latest version of European standard EN 1776 Functional Requirements for Gas Measuring Systems** shall apply. Measurement equipment used for flow control purposes shall comply with **the applicable European product standards** by default.



ENTSOG Network Code on Interoperability - CEN/TC 234 comments and proposals

NC IO Art 8 Clause 2 “Gas measuring...” – CEN/TC 234 Proposal

The installation, operation and maintenance of measurement equipment at an interconnection point shall take into consideration both relevant national requirements of adjacent contracting parties. **The latest version of the European Standard EN 1776, Functional requirements for Gas Measuring Systems, and the applicable European product standards for measurement equipment shall apply.** The contracting parties shall use their reasonable endeavour.... [...]

NC IO Art 8 Clause 4 “Gas measuring...” – CEN/TC 234 Proposal

Where the contracting parties do not agree on a standard for the measurement of the volume and energy, the latest version of the European Standard EN 1776 – **as the minimum consensus** – shall apply. [...]



EN 1776:1998 „Gas measuring stations“ – Scope (1)

This European standard specifies functional requirements for the design, construction, commissioning, operation and maintenance of **new gas measuring stations for non-domestic custody transfer of natural gas** as described in ISO 13686 with a design capacity equal to or greater than 500 m³ /h (at base conditions, see 4.1) and for operating pressures equal to or greater than 1 bar (gauge pressure).

[...]



EN 1776:1998 „Gas measuring stations“ – Scope (2)

[...] **Except for safety and environmental aspects, the extent to which the requirements of this standard are applied should be justified by the economics of the measuring station.** Therefore, stations with an annual throughput of equal to or smaller than 300 000 m³ (at base conditions) are excluded from the scope of this standard.

This European Standard specifies common basic principles for gas supply systems.

Users of this European Standard should be aware that **more detailed national standards and/or codes of practice may** exist in the CEN member countries.

[...]



ENTSOG Network Code on Interoperability - CEN/TC 234 comments and proposals

Yes, European Standards (EN 1776) are voluntary,

....

Standard	Regulation
Recommendations	Binding rules
Use is voluntary	Use is mandatory
Established by consensus	
Based on consolidated results of science, technology and experience	
	Providing technical specifications directly or by reference e.g. to standards
Approved and published by recognised Standardisation Bodies according to WTO principles	Adopted by an Authority



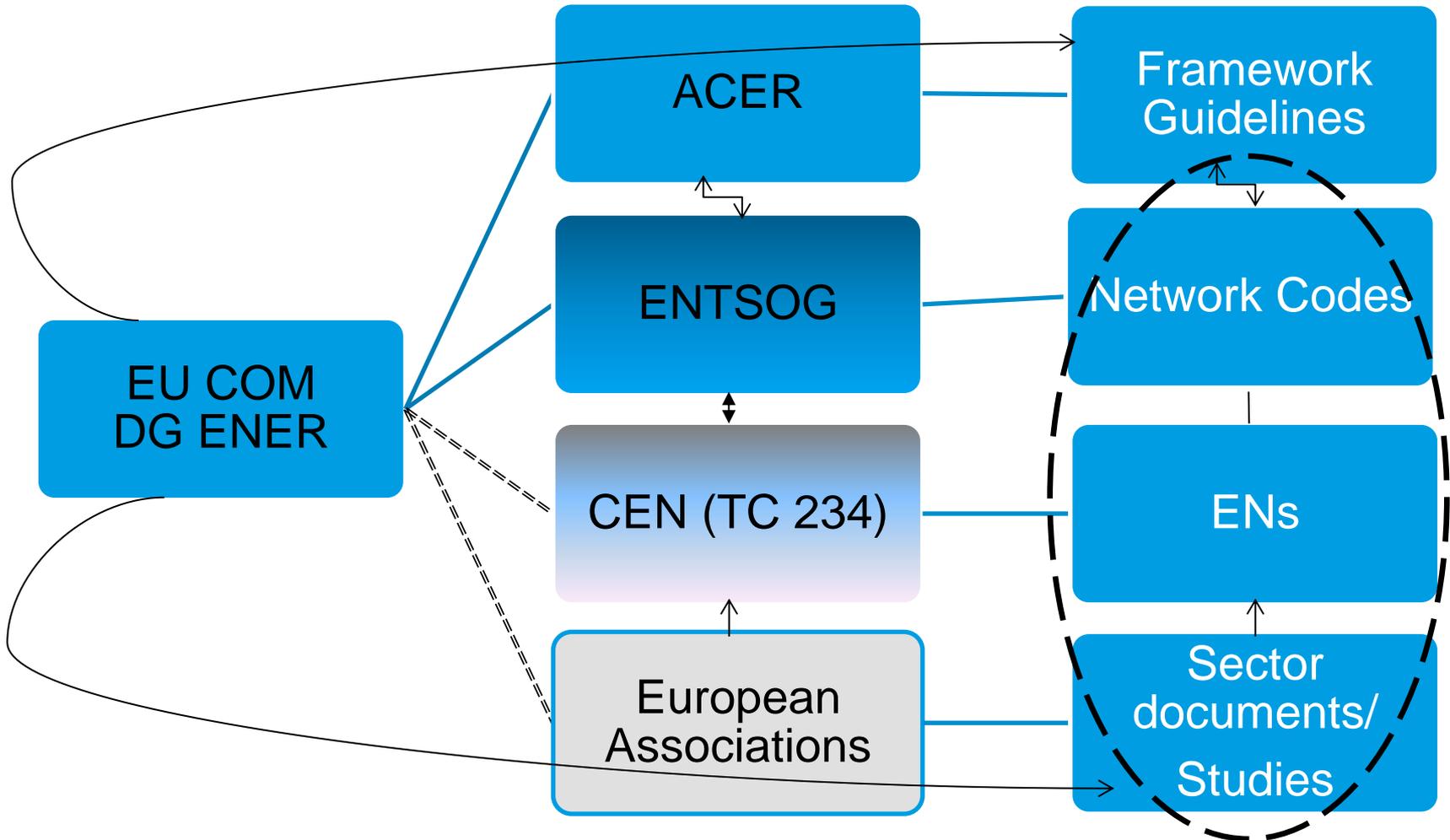
ENTSOG Network Code on Interoperability - CEN/TC 234 comment and proposal

Yes, European Standards (EN 1776) are voluntary, but

- EN 1776 was worked out by experts from the same stakeholders than the ENTSOG Network Code;
- EN 1776 describes basic requirements and reflects the European consensus
- there is a Self-commitment of Member Countries to implement European Standards;
- EU Commission bases regulation policy also on European standardisation for technical aspects!



EU COM DG ENER approach of regulation: Example Gas quality





ENTSOG Network Code on Interoperability - CEN/TC 234 comment and proposal

EN 1776 is in revision:

- Regular review
 - Enlargement for gas measuring systems used in residential, commercial and „light industrial“ areas
 - Harmonisation with M/441 „Smart meters“
- **Public consultation is scheduled for August 2013 to February 2014.**



Thank you for your attention !

For any request, also on the technical content of EN 1776, please send me your concern. If necessary, I connect you with the relevant expert:

Hiltrud Schülken

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Question 22

Q 22: Do you agree with the proposed process and timeline for transmission system operators to handle possible physical flow barriers due to difference in gas quality specifications?

Stakeholders generally support the process described under Art 17 and fully agree with the proposed timeline.

14

11

→ reference to CEN gas quality standard; stakeholders triggering the process; avoid unnecessary costs; process for new IPs; responsibilities;

1

→ responsibilities

Additionally identified issues through the public consultations:

>Defining responsibilities for TSOs under NC:

- *...For ensuring only quality compliant gas will enter a network through an IP and for the management to resolve trade barriers associated with gas quality in order to foster liquid cross border markets...*
- *...For the quality of gas transported through the networks...*
- *...For the gas quality of the gas that is shipped on the grid...*

Refinement of the draft Network Code

Q 22: Do you agree with the proposed process and timeline for transmission system operators to handle possible physical flow barriers due to difference in gas quality specifications?

- > Potential solutions included in the Code in order to avoid unnecessary investments: *swapping, co-mingling, flow commitments and gas treatment*
- > All stakeholders are involved in triggering the process : *...brought to their attention by other parties...*
- > New paragraph defining TSOs cooperation in case of differences on gas quality for the new IPs
- > Defining responsibilities: TSOs are responsible for measurement and monitoring of gas quality at IP (Art. 8), but TSOs cannot be responsible for the product quality itself
- > Not feasible to make reference to non-binding and non-existing CEN standard in the NC

Question 23 + Refinement of the draft NC

Q23: Do you agree with the proposed way of early involvement of national regulatory authorities in the process?

Identified issues

> Member States shall be involved in the process as well

Refinements:

> *...and to the relevant national authorities for information...*

24

3

→ Member States involvement

0

Question 24

> Q 24: Do you agree with the proposal of Regulation to define minimum list of requirements for short term monitoring at EU level and shift the selection process of eligible users at the national level?

6

17 → avoid unnecessary costs → NRAs involvement; DSOs liabilities; correctness of the published data; min list of parameters (WI, GCV, emission factor, MN); monitoring is not a comprehensive solution; list of eligible parties to be published; subscriber service; information provision based on duly motivated request

5 → avoid unnecessary costs → NRAs involvement; DSOs liabilities; MN shall be added; shorter intervals; information publicly available;

Stakeholders generally support the proposal of short term monitoring to shift the process to the national level.

Refinement of the draft Network Code

Q 24: Do you agree with the proposal of Regulation to define minimum list of requirements for short term monitoring at EU level and shift the selection process of eligible users at the national level?

- > TSOs use their existing equipment and their dispatchers' knowledge
- > An information provision is applicable for prudently selected end-customers, whose operation may be affected by gas quality variations and the information is provided using existing equipment
- > Details of the process are defined in close cooperation between end-customers and TSOs
- > No requirement under FGs to publish these data
- > Details of the information provision may vary and shall be defined from customer to customer → impossible to define min list
- > NRAs involved through general article about cost recovery (2.2)
- > Refinement of the warranty close
- > Liability for DSOs are out of scope NC INT
- > Detailed list of 'eligible parties' may be confidential

Question 25

Q 25: Would you find it useful to have access to real time information on WI and GCV on IPs?

CONCLUSIONS

Stakeholders appreciate real time data publication on IPs and find it useful for their operation

18

10

→ NUs request to receive data automatically; other parameters to be published: sulphur content, MN, emission factor

1

→ costs exceeds benefits,

Refinement of the draft Network Code

Q 25: Would you find it useful to have access to real time information on WI and GCV on IPs?

Refinements:

- >Refinement of warranty clause
- >Data shall be available to everyone

Conclusions:

- >More precision of data publication deadlines due to the transparency guidelines is required
- >This information may be useful for end customers, in case of countries with rather stable gas quality

Question 26

Q 26: Do you agree with the proposal of defining a stand-alone gas quality outlook, based on flow pattern scenario used by ENTSOG in TYNDP-process?

21

3

→ ENTSOG doesn't have access to future gas quality data owned by upstream parties
→ obligation for upstream parties to give necessary data for the outlook; based on operational ranges;

3

→ ENTSOG does not have access to the upstream supply and gas quality data; add MN, PE-number; liquidity of the market is increasing; almost impossible to deliver robust estimation about future LNG; based on operational ranges

Refinement of the draft Network Code

Q 26: Do you agree with the proposal of defining a stand-alone gas quality outlook, based on flow pattern scenario used by ENTSOG in TYNDP-process?

Refinements and conclusions:

- > Outlook is useful for efficient cross border trading
- > Network Code cannot put any obligation on the producers in order to provide reliable data for the outlook purposes
- > Outlook will be prepared in line with the process and timing of the Union wide Ten Year Network Development Plan

Question 27 + Refinement of the draft NC

Q 27: Do you agree that the report should focus on Wobbe index changes?

14

5

→ GCV; S; CO₂; all specification

4

→ no reliable data; MN, PE-number, all spec; focus on the operational ranges

Refinement:

>ENTSOG identified that the most crucial from the stakeholders' point of view is to include **GCV** in the Outlook

Question 28

Q 28: Do you find it useful to produce a long term gas quality outlook?

- 24 → Needed and helpful for manufactures in order to develop products which are well-suited for the demands of the future; can be of a great value for end-customers to identify upcoming problems
- 1 → not clear what ENTSOG means by scenario concept
- 3 → ENTSOG is not in the position to predict future LNG flows and future supplies, shorter period of time (2-3 years), based on assumptions which makes the outlook unreliable

Most of the stakeholders found it useful and necessary to produce LTM gas quality outlook

Question 29

Q 29: Do you agree with ENTSOGs' proposal that if cross-border flows are hampered by differences in odourisation practices between adjacent systems and transmission system operators cannot reach a bilateral agreement they should shift towards flow of non-odourised gas?

- 6** → sulphur has a detrimental effects on industrial customers; different odourisation practices may compromise a barrier to trade; MSs shall have opportunity to chose the preferred odourant ; THT is not present in natural gas – polluters pay principle;
- 10** → the most cost efficient option – after CBA and public consultation;
- 10** → odourant may hamper future emission targets (sulphur free odourant); flow of non-odourised gas shall be only one of possible options; sulphur based odourant shall be treated as sulphur; complete shift towards flow of non-odourised gas might be impossible (accumulation at storage); flow of non-odourised gas is only possible in theory as H₂S and mercaptans naturally occur in gas; NC shall encourage to choose the most cost efficient option – after CBA and public consultation; odourisation is member States' responsibility; moving odourisation downstream will impose costs for DSOs

Refinement of the draft Network Code

Q 29: Do you agree with ENTSOGs' proposal that if cross-border flows are hampered by differences in odourisation practices between adjacent systems and transmission system operators cannot reach a bilateral agreement they should shift towards flow of non-odourised gas?

>TSOs shall seek to reach an agreement to solve any barriers identified under paragraph 1, (a) of this Article by actively cooperating together **with the relevant national authorities including national regulatory authorities** to identify and assess the consequences related to:

- **a conversion towards non-odourised gas in the odourised transmission network or part thereof;**
- the potential physical flow of odourised gas into the non-odourised transmission network or part thereof **and interconnected downstream systems;**
- **an acceptable level of odourant for the interconnected transmission networks.**

Question 30

Q 30: Do you think that ENTSOGs' proposal encourage transmission system operators at each interconnection point to reach an agreement to address effectively barriers resulting from differences in odourisation practices?

6

8

→ sulphur act as a catalytic poison (i.e. chemical feedstock) - stakeholders consultation (end-users involvement);
default solution creates a possibility for TSOs not to actively cooperate; acceptable level of odourant; timeframe; third countries inclusion

7

→ too soft proposal not in line with FGs;
default solution creates a possibility for TSOs not to actively cooperate or to assess the barrier; MSs responsibility, acceptable level of odourant, de-odourisation shall not increase the tariffs; TSOs are not the only one that are affected; timeframe

Refinement of the draft Network Code

Q 30: Do you think that ENTSOGs' proposal encourage transmission system operators at each interconnection point to reach an agreement to address effectively barriers resulting from differences in odourisation practices?

- > Concept of acceptable level of odourant
- > Involvement of NRAs and MSs in 6m period in order to increase the cooperation between adjacent TSOs
- > In period of 12 months new requirement for public consultation on the possible solution

Question 31 (1)

Do you agree with the proposed rules for data exchange in the Regulation?

(33 answers received: 58 % YES+, 42% NO)

9

- Support for Edig@s

10

- Involvement of member states in the implementation schedule required
- Existing DE solutions should be used in parallel to the common solution
- Guidelines required (CNOT)

14

- DE rules go beyond IPs
- DE rules should only apply to TSOs (and NUs at IPs)
- National DE rules shall stay with approval of NRA
- Stakeholder involvement in the development process
- All TSOs have to offer the same DE type for the same business process

Question 31 (2)

Do you agree with the proposed rules for data exchange in the Regulation?

Conclusion/ Refinements

- *Define counterparties: NUs at IPs*

“In this Chapter **counterparties refer to network users.**”

Reg. 715/2009 – definition Network User

- 11) ‘network user’ means a customer or a potential customer of a transmission system operator, and transmission system operators themselves in so far as it is necessary for them to carry out their functions in relation to transmission;

Question 31 (3)

Do you agree with the proposed rules for data exchange in the Regulation?

Conclusion/ Refinements

- *Common Network Operation Tools (Art 8 Reg. 715/2009)*
 - *Guidelines*
 - *Stakeholder involvement*

ENTSOG shall develop **common network operation tools** in accordance with Article 8, (3), (a) of Regulation (EC) No 715/2009 and shall **publish** them on its website. The common network operation tools shall include a **transparent process** with the necessary **stakeholder involvement for the development** of data exchange **requirements and** the data exchange **requirements** themselves.

Question 32 (1)

Do you agree with the approach of the initial assessment to define the DE solution?
(28 answers received: 78% YES+, 22% NO)

9

- Edig@s format appreciated/recommended
- AS4 does not support all data formats? AS2 proven technology
- Any standard has to be subject to public consultation
- CBA should consider implementation in line with IT investment of CP
- AS4 configuration settings need to be defined

13

- DSOs have concerns on the scope
- Some AS4 functionalities are questioned (need for pull?)

6

Question 32 (2)

Do you agree with the approach of the initial assessment to define the DE solution?

Conclusion/ Refinements

- *Data format: EDIG@S-XML (*)*
- *AS4*
 - *not payload sensitive – all file formats are supported*
 - *For new implementations a “Pull” function available*
 - *setup is to be defined – ENTSOG shall take the lead*

Selection of the solution will be made based on the CBA study

(*) Use of EDIG@S is subject to legal evaluation (ENTSOG/ACER/EC)

Question 32 (3)

Do you agree with the approach of the initial assessment to define the DE solution?

Conclusion/ Refinements

- *Implementation time:*
 - TSOs have to offer the common solution within 12 month
 - Co-existence of the existing (compatible) solution and the common solution for Data Exchange
- Existing solutions: ...provided that the existing communication solutions are compatible with the business requirements ... a different implementation schedule can be agreed.
- Other network codes: The transmission system operators shall implement the necessary data exchange requirements in accordance with the schedules imposed by the different network codes developed under Regulation (EC) No 715/2009 for which data exchanges are required.



Thank You for Your Attention

Interoperability Team

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Network Code Interoperability and Data Exchange Rules

Conclusions Workshop

LUNCH TIME

Brussels – 28 May 2013



Network Code Interoperability and Data Exchange Rules

**CBA Data Exchange
Conclusions Workshop**

Brussels – 28 May 2013

Agenda

- 1. Introduction Cost-Benefit Assessment**
2. CBA Process
3. CBA Results

Data Exchange Harmonisation – FG 26 July 2012

> **Goal: Remove barriers to the free flow of gas in Europe**

- Data exchange rules to harmonise communication among market participants
- To streamline practices and facilitate technical, operational or business-related communications

> **Scope: Harmonisation of data exchange**

- All inter-TSO data exchange
- All TSO to counterparty exchange (including platform operators)

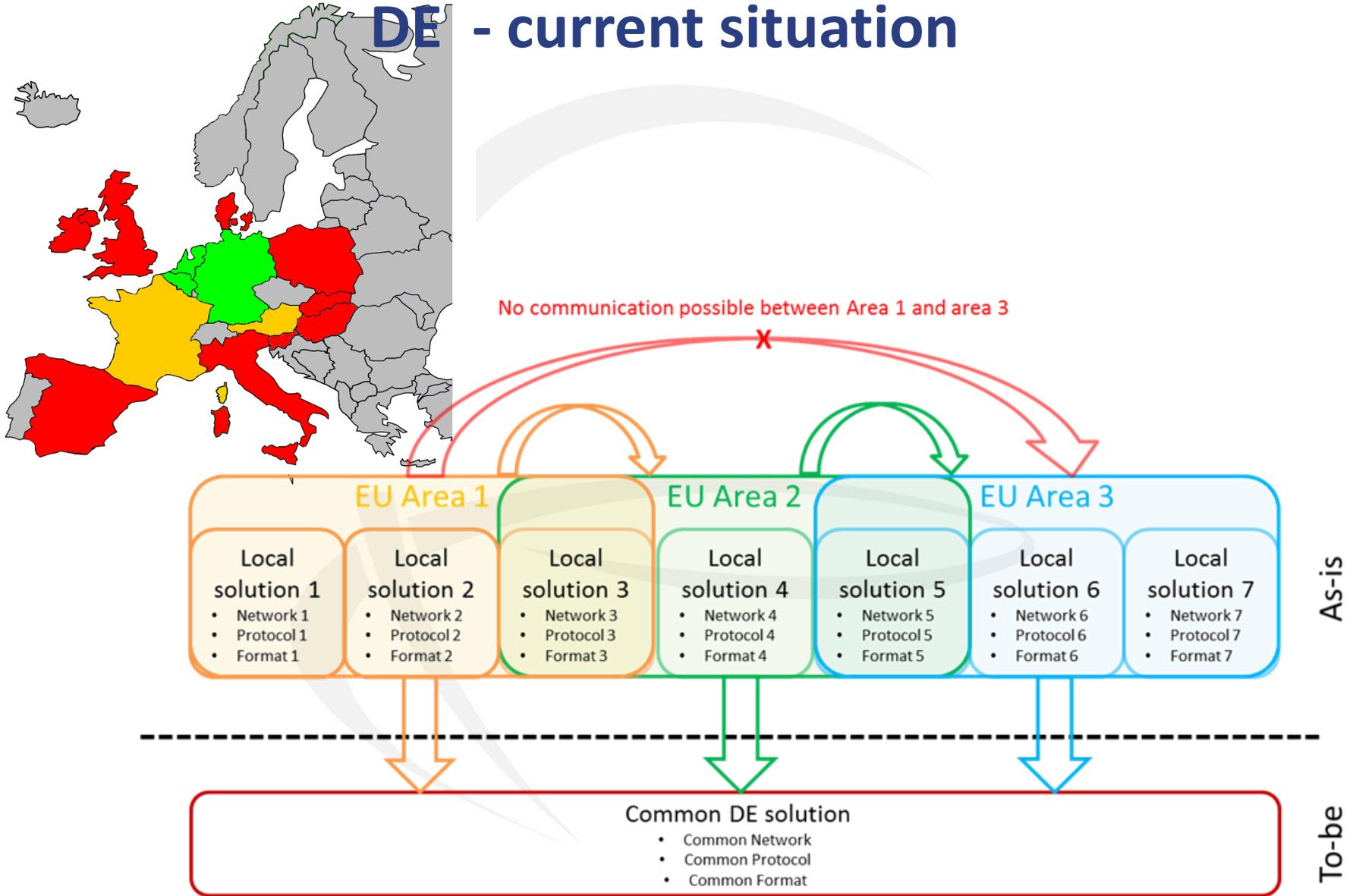
> **Selection of the Data Exchange solution:**

- **Based on CBA & public consultation**
- Criteria list defined in the Framework Guidelines (ACER)

> **Potential Counterparties:**

- DSO (Distribution)
- SSO (Storage)
- LSO (LNG)
- Network user

DE - current situation



FG requirement: Cost-Benefit Assessment

> Criteria for the selection of a communication solution:

- Best available technologies, particularly in terms of security and reliability;
- 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.

Data Exchange Solutions

> Components of data exchange solution

- Data Network
- Data Protocol
- Data Format

> Types of Data Exchanges

- Document based
- Integrated
- Interactive

Data Exchange Types

1. Document based Data Exchange

- File transfer between IT systems
- Traceability (documents)
- Typically needs translator software
- Technical: Multiple solutions available

CBA will define the best solution

2. Integrated Data Exchange

- Technical: One solution commonly used → Web services

CBA for network and data format

3. Interactive Data Exchange

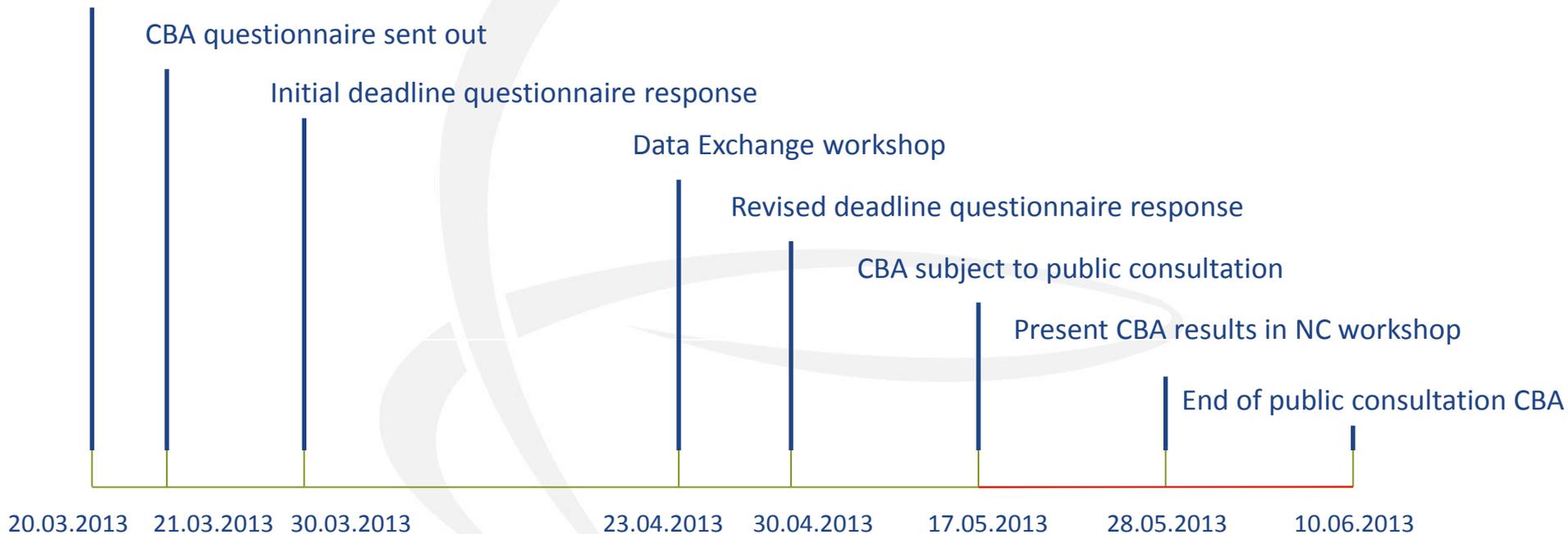
- Technical: One solution commonly used → Web browsers
- Implementation technology defined by each TSO or application (platform)
- Only standard functions (not browser dependent) shall be used
- No specific software is required by counterparty (browser)

CBA for network

Timing Network Code - CBA

> CBA process steps

CBA questionnaire approved by ENTSOG



- The outcome of CBA study will be integrated in the INT NC before stakeholder support process 9-23 July 2013

Agenda

1. Introduction Cost-Benefit Assessment
2. **CBA Process**
3. CBA Results

CBA Execution - Questionnaire

> CBA consists of two parts

- Technical evaluation is done with DE experts
- Macro-economical evaluation done through questionnaire

> Questionnaire content:

- Overview current DE situation (types, volumes, counter parties)
- Cost (current system cost, cost of common data format)
- Expected benefits of a common DE solution
- Synergies & benefits with electricity DE rules

> Questionnaire publication:

- Available on ENTSOG's website
- To gain maximum exposure the questionnaire was sent to:
 - Directly sent to: 100+ companies (TSOs, Participants SJWS)
 - EU representative organisations (Geode, Eurogas, Marcogas, GIE, EFET, EASEE-gas,...)

CBA questionnaire response

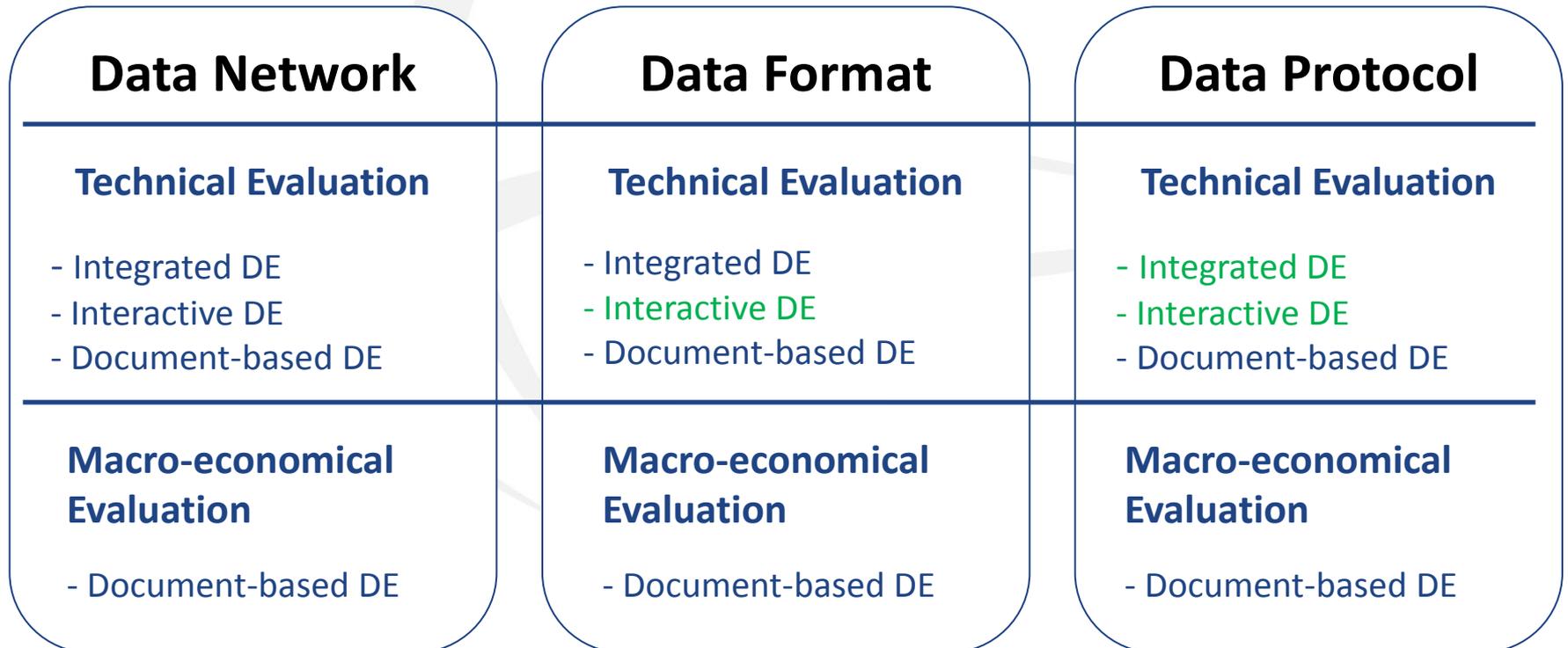
> Response (30.04.2013):

EU state	DSO	LSO	NU	TSO (*)	Other	Total
AT				1/1		2
BE				1/-		1
CZ				-/1		1
DE	4		1	5/2		12
DK				-/1		1
FR				2/-		2
GB				2/-	1	3
GR				-/1		1
HU				1/-		1
IE				1/-		1
IT			1	2/-		3
NL	9	1	1	1/-		12
PL				-/1		1
PT				1/-		1
SE				-/1		1
SI				-/1		1
SK				1/-		1
SP	1		1	1/-		3
Total	14	1	4	28	1	48

(*) Only qualitative TSO information behind the slashes (responses from the ENTSOG members questionnaire on the network code impact assessment)

CBA approach

- > The CBA is approached in three parts
 - Technical evaluation of DE solutions and types
 - Macro-economical cost evaluation of document based DE type
 - Further evaluation: volumes, discrimination and synergies



Agenda

1. Introduction Cost-Benefit Assessment
2. CBA Process
3. **CBA Results**



Data Network – Technical Evaluation (I)

Alternatives are scored against criteria set by ENTSOG's IT expert group

> Business requirements

- IP based
- Accessibility for all parties involved in the international gas business
- Operator independent network connections due to the geographical spread of connected user
- Easy and fast, flexible and worldwide accessibility
- Reliability and up-time of the network

> Technical solutions evaluated

- ISDN (digital telephone lines)
- X25
- Private owned networks
- Internet

Data Network – Technical Evaluation (II)



> Evaluation Matrix

Criteria	ISDN score	X25 score	Private network score	Internet score
Accessibility	2	1	1	3
Independent network	1	1	1	3
Fast network	1	1	3	3
Reliable	2	2	2	3
Totals	6	5	8	12

Scoring (1-3), where 1 is low and 3 high

Data Network – Macro Econ. Evaluation



> Market Spread

Spread of data exchange network (document based DE)											
	Internet		ISDN		VPN		PN		Others		
Country											
AT	X										
BE	X						X				
CZ	X										
DE	X		X		X		X				
DK	X										
FR	X		X				X		X		
GB	X		X		X						
GR	X								X		
HU	X										
IE	X										
IT	X		X				X				
NL	X		X								
PT	X										
SE	X										
SI	X								X		
SK	X										
SP	X		X								
	TSO	Non-TSO	TSO	Non-TSO	TSO	Non-TSO	TSO	Non-TSO	TSO	Non-TSO	
Used by % of respondents	86%	100%	24%	30%	14%	0%	17%	10%	14%	0%	



Data Network – Recommendation

- > Questionnaire results show the internet is most widely used as the data network for all types of data exchange
- > Internet as data network scores highest on technical evaluation
- > The following network type is proposed for the network code:

Data exchange type	Data network
Document based	Internet
Integrated	Internet
Interactive	Internet



Data Format – Technical Evaluation (I)

Alternatives are scored against criteria set by ENTSOG's IT expert group

> Business requirements

- Content standardisation needs to be possible
- The file format based on an open standard
- Limited overhead of the file format
- The file format used must be spread throughout the EU gas market
- The file format needs to be readable for human and machine

> Technical solutions evaluated

- CSV
- XLS (Excel)
- EDIFACT
- XML/Edig@s-XML

Data Format – Technical Evaluation (II)



> Evaluation Matrix

Criteria	CSV score	Excel score	EDIFACT score	Edig@s-XML score
Structure standardisation	1	1	3	3
Open standard	1	1	3	3
Format overhead	3	2	3	2
Spread	2	2	3	3
Complexity	1	3	1	3
Totals	8	9	13	14

Scoring (1-3), where 1 is low and 3 high

Data Format – Macro Econ. Evaluation



> Market Spread

Spread of data exchange format (document based DE)												
Country	XML		CSV		Excel		EDIFACT		Edig@s XML		Kiss-A	
AT									X			X
BE			X					X		X		
CZ									X			
DE	X							X		X		X
DK	X							X		X		
FR	X		X					X		X		
GB	X								X			
GR					X							
HU					X							
IE	X		X									
IT	X				X			X		X		
NL	X							X		X		
PL			X		X					X		
PT					X							
SE								X				
SK					X					X		X
SP	X		X		X			X		X		
	TSO	Non-TSO	TSO	Non-TSO	TSO	Non-TSO	TSO	Non-TSO	TSO	Non-TSO	TSO	Non-TSO
Used by % of respondents	38%	65%	24%	0%	28%	5%	34%	45%	48%	30%	17%	10%



Data Format – Recommendation

- > Questionnaire results: XML is wide-spread
- > XML receives highest scores on technical evaluation
- > The following data formats are proposed for the network code:

Data exchange type	Data format
Document based	Edig@s-XML
Integrated	Edig@s-XML
Interactive	N/A



Data Protocol (doc.)– Techn. Evaluation (I)

Alternatives are scored against criteria set by ENTSOG's IT expert group

> Technical criteria

- Timing of protocol (push / pull)
- Security of protocol
- Payload (the actual content of the message)
- Traceability of protocol (message logging)

> Risk criteria

- Expected life cycle
- Maturity of protocol
- Available solutions

> Technical solutions evaluated

- AS2
- ebMS v3
- AS4

Data Protocol (doc.)– Techn. Evaluation (II)



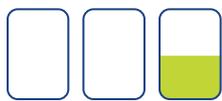
> Evaluation Matrix

Technology	AS2 score	ebMS v3 score	AS4 score
Timing	2	3	3
Security	2	3	3
Payload	3	3	3
Traceability	2	3	3
Total technology	9	12	12
Risk			
Life cycle	2	3	3
Maturity	3	1	1
Available solutions	3	1	1
Total Risk	8	5	5
Totals	17	17	17

Scoring (1-3), where 1 is low and 3 high

- AS4 (and ebMS) score best for technology
 - AS2 scores best for risk
- All evaluated protocols have a similar global technical score

Data Protocol (doc.)– Macro Econ. Eval. (I)



> Market spread

Spread of data exchange protocols (document based DE)														
Country	AS2		FTP		sFTP		HTTP		HTTPS		SOAP		SMTP	
	TSO	Non-TSO	TSO	Non-TSO	TSO	Non-TSO	TSO	Non-TSO	TSO	Non-TSO	TSO	Non-TSO	TSO	Non-TSO
AT	X				X		X		X					X
BE	X		X						X		X			
CZ	X										X		X	
DE	X		X				X		X		X		X	
DK	X										X		X	
FR	X		X						X		X			
GB	X		X		X		X		X					
GR														X
HU					X									X
IE			X						X					X
IT	X		X		X		X		X					X
NL	X		X		X		X		X					X
PT			X						X					X
SE														X
SI														X
SK	X													X
SP			X		X		X		X		X		X	X
Used by % of respondents	45%	35%	45%	30%	21%	10%	14%	5%	17%	55%	21%	0%	59%	25%

Data Protocol (doc.)– Macro Econ. Eval. (II)



Average (estimated) cost of implementation and maintenance per protocol

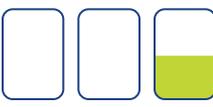
Questionnaire responses:

Data protocol	Average set up cost	Average maintenance cost/year
AS2	€ 157.000 (35.000-500.000)	€ 91.000 (4.000-500.000)
ebMS v3	€ 157.000 (10.000-600.000)	€ 96.000 (2.000-500.000)
AS4	€ 137.000 (10.000-435.000)	€ 108.000 (4.000-500.000)

- Initial set-up includes hardware, software and configuration
- Maintenance includes license, configuration and support for (new) communication partners (annual)

Comments:

- It is expected that the costs for all protocols are equal
- Estimated costs are influenced by uncertainties depending on the available expertise in the company



Data Protocol (doc.)– Macro Econ. Eval. (III)

Cost of one implementation and 10 year maintenance/support

> Assumptions:

- Life cycle of 10 years
- Annual effective discount rate to calculate the NPV: 7%
- Annual maintenance discount rate for ebMS and AS4 (spread of new technologies): 3%
- Benefits kept at €0

Data protocol	NPV
AS2	€ 686.000-
ebMS v3	€ 652.000-
AS4	€ 702.000-



Data Protocol (doc.)– Macro Econ. Eval. (IV)

> Scenario 1:

Cost of market wide implementation for one harmonised data exchange protocol for document based data exchange:

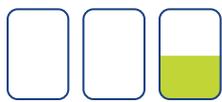
- 43 TSOs
- 2200 DSOs
- 1500 NUs
- 45 SSOs/LSOs

Data protocol	TSO market cost	Non-TSO market cost	Total market cost
AS2	€ 16.824.000	€ 2.187.943.000	€ 2.204.767.000 (*)
ebMS v3	€ 28.050.000	€ 2.446.244.000	€ 2.474.294.000
AS4	€ 30.165.000	€ 2.630.728.000	€ 2.660.893.000

(*) AS2 lower total cost due to already installed base.

- > Cost for non-TSOs = 90 x cost TSOs, depending on the scenario used.
- > Majority of non-TSOs are only involved in local (national) data exchanges

Data Protocol (doc.)– Macro Econ. Eval. (V)



> Scenario 2:

Cost for a limited implementation of a common data exchange protocol in parallel with the existing solutions

(Target: eliminate barriers for free flow of gas in Europe)

→ Impacted parties for cross-border harmonisation:

- 43 TSOs
 - 2200 DSOs
 - 1500 NUs
 - 45 SSOs/LSOs (*)
- (6% CP) 225 NUs are active at IPs – estimation 30/4/2013

Data protocol	TSO market cost	NU market cost	Total market cost	(*) Total market cost (+SSO/LSO)
AS2	€ 16.824.000	€ 131.277.000	€ 148.101.000	€ 178.971.000
AS4	€ 30.165.000	€ 157.844.000	€ 188.009.000	€ 219.599.000

Data Protocol (doc.)– Macro Econ. Eval. (VI)



Life cycle

- Previous protocols had an average life cycle of 20 year (examples X25, ISDN/FTP)
- AS2 standard defined in 2005 → ..2025 ?
- AS4 is based on existing technology (ebMS)
- The envisioned life cycle of the common solution should cover minimum 10 year >2025
- Do we take the risk to change protocol after ten year?
- It is expected that AS4 will stay longer than AS2 (more recent standard)

→ AS4 is expected to be more cost efficient over a long period taking into account a longer remaining life cycle



Criteria: Data Volumes

The figures presented in the tables below give an overview of the data exchanges that take place between TSOs and with their counterparties (used for the technical evaluation)

> Average number of messages per day (intensive market = >4000 msgs)

From \ To	TSO	Non-TSO
TSO	3500 (0-20000)	14600 (4100-40000)
Non-TSO	3600 (100-15200)	13900 (4000-15500)

> Average number of messages per day (non-intensive market)

From \ To	TSO	Non-TSO
TSO	300 (0-800)	100 (500-2800)
Non-TSO	400 (0-1000)	800 (100-2300)

→ All evaluated protocols are able to handle a multiple of these data volumes



Criteria: Synergies

- > 91% of the respondents see no benefits when harmonising gas and electricity DE rules
 - > Common points with other market areas (Electricity (MADES) and Traders (EFET solution):
 - Data network used: Internet
 - Data format used: XML→ A common data format for electricity and gas creates interdependencies:
 - Increased maintenance cost (without added value)
 - Increased risk for failures (more changes)
 - > Differences:
 - Data protocol used:
 - ebXML (ebMS v2) for EFET solution– include business practices for traders
 - MADES: Communication platform– legal issues responsibility is not set
 - Not all e-TSOs support MADES
- Not recommended to harmonise DE with other markets



Criteria: Discrimination

- > Avoid discrimination of small shippers and new market entrants
 - Keep existing DE solutions in place as long as compliant with the business requirements
 - Services offered by service providers avoid big IT investments in DE solutions
 - Interactive DE solutions (depending on the application) will allow simple access from a PC via a browser

Benefits of Data Exchange Harmonisation



- > Harmonised gas-market DE will remove cross-border trade barriers
- > Fewer communication solutions to maintain: reduced costs
- > Higher communication reliability with fewer DE solutions in place
- > Less expensive transactions due to more intensive use of harmonised data exchanges (harmonised procedures)



Data Protocol – Conclusions

Technical evaluation

AS4 is a “tailored” implementation of ebMS v3 that makes implementation easier. Therefore ebMS will not be taken into consideration for the final evaluation.

- AS4 (and ebMS) score best for technology
 - AS2 scores best for risk
- All evaluated protocols have a similar global technical score

Actual spread

→ Questionnaire shows that AS2 is used for document based DE and HTTP(S)/SOAP are used for integrated DE

Cost evaluation

→ If the expected life time is taken into account AS4 gives the best perspectives (to be confirmed by this study)



CBA recommendation (I)

> Based on:

- Criteria set in FG
- Technical evaluation
- Questionnaire feedback

> Proposal for the common solution in the network code:

Data exchange type	Data network	Data format	Data protocol
Document based	Internet	Edig@s-XML	AS4
Integrated	Internet	Edig@s-XML	HTTP(S)/SOAP
Interactive	Internet	N/A	N/A

To minimise cost (scenario 2): **keep** existing data **exchange solutions** that are compatible with the business and technical requirement in place to allow a different implementation schedule with involvement of national regulatory authority in the decision making process.



CBA recommendation (II)

In case AS4 is selected as a common solution for document based data exchanges, the risk identified in the technical evaluation has to be minimized.

> RISK minimisation/elimination for AS4

Although AS4 is based on existing and already used technology (ebMS v3), the configuration and setup of AS4 needs to be defined for the gas TSOs, based on their specific communication needs.

To eliminate the risk related to this new technology, it is recommended to **install a task force** to define all required AS4 specific definitions and to setup a **proof of concept** within a reasonable time frame.



Thank You for Your Attention

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Network Code Interoperability and Data Exchange Rules

Conclusions Workshop

COFFEE BREAK....

Brussels – 28 May 2013



european network
of transmission system operators
for gas

Network Code Interoperability and Data Exchange Rules

Conclusions Workshop

CLOSING REMARKS....

Brussels – 28 May 2013

Conclusions

- > **Interconnection Agreements:** only one strong remark on the application of EN 1776 for the use of measurement principle, no more strong remarks, most of the proposals seems to be accepted by Stakeholders
- > **Units:** conversion factor table to be set up by CEN at the beginning of June – stakeholders to decide on inclusion of the table in the NC, proposed units seems not create a barrier
- > **Gas Quality:** general support of the stakeholders for the processes described under GQ part
- > **Odourisation:** general support of the process; questioned if we should keep default rule in the NC
- > **Data Exchange:** counterparties - network users at IPs, CNOT to cover the stakeholders involvement and guidance; common solution can coexists with the current ones
- > **CBA:** feedback expected by 10 June



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