



european network
of transmission system operators
for gas

Network Code Interoperability and Data Exchange Rules

kick-off Workshop

Brussels – 26 Sep 2012



Welcome



Network Code Interoperability and Data Exchange Rules

Kick-off Workshop

Panagiotis Panousos
Business Area Manager, System Operation

Brussels – 26 Sep 2012

ENTSOG

European Network for Transmission System Operators for Gas

- > Founded by European Gas Transmission System Operators (TSOs) Dec 1, 2009
 - Two years ahead of formal implementation under the Third European Legislative Energy Package
- > 39 Members + 2 Associated Partner + 3 Observers
- > 24 Countries represented

ENTSO-G - Membership



39 Members and 2 Associated Partners in 24 EU countries

3 Observers from EU affiliate countries

- Gassco AS (Norway)
- Plinacro Ltd (Croatia)
- Swissgas AS (Switzerland)

REN Gasodutos

entsog

ENTSOG's Mission & Vision

... by fulfilling its tasks under the 3rd package and offering a platform for a truly European TSO cooperation, ENTSOG shall

- > enable easy grid access
- > facilitate cross-border gas flows
- > promote the integration of the European energy market
- > be a fair partner to all stakeholders

ENTSOG

Articles of Association, Rules completed Oct 2009

- > Reviewed on December 2010 and February 2011
- > Formally dispatched to Commission and ACER on 28 February 2011
- > First opinion from ACER on May 2011
- > Preparation of the new Articles/Rules by December 2011
- > Final approval of the AoA and RoP on March 6th 2012

Co-operation with EC and ACER

- > Organization of the next three years work (Commission's Three Year Plan)
- > Support to EC in the preparation of documents

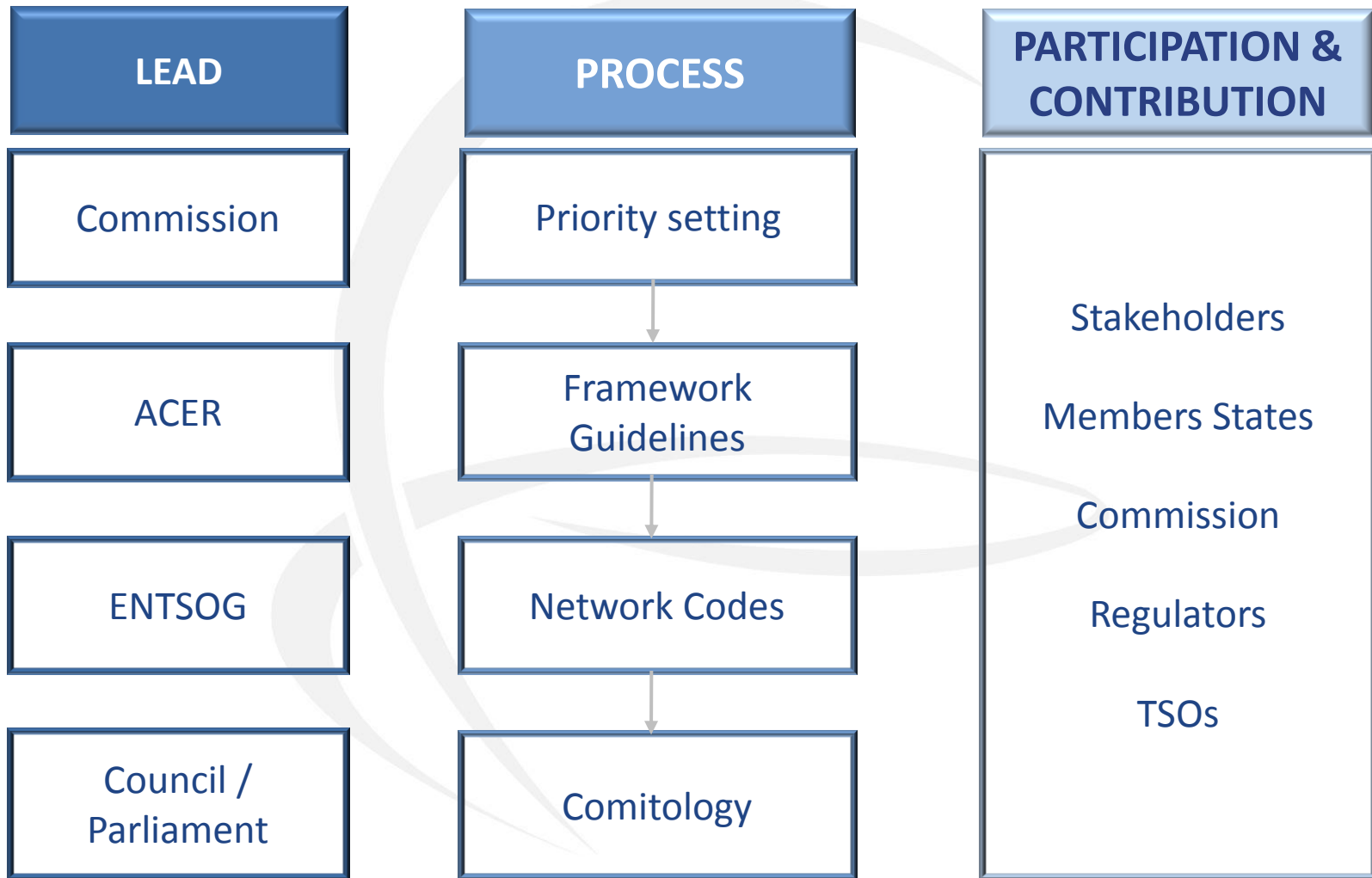
Network Code Development

- > CAM/Balancing/Tariff/Interoperability

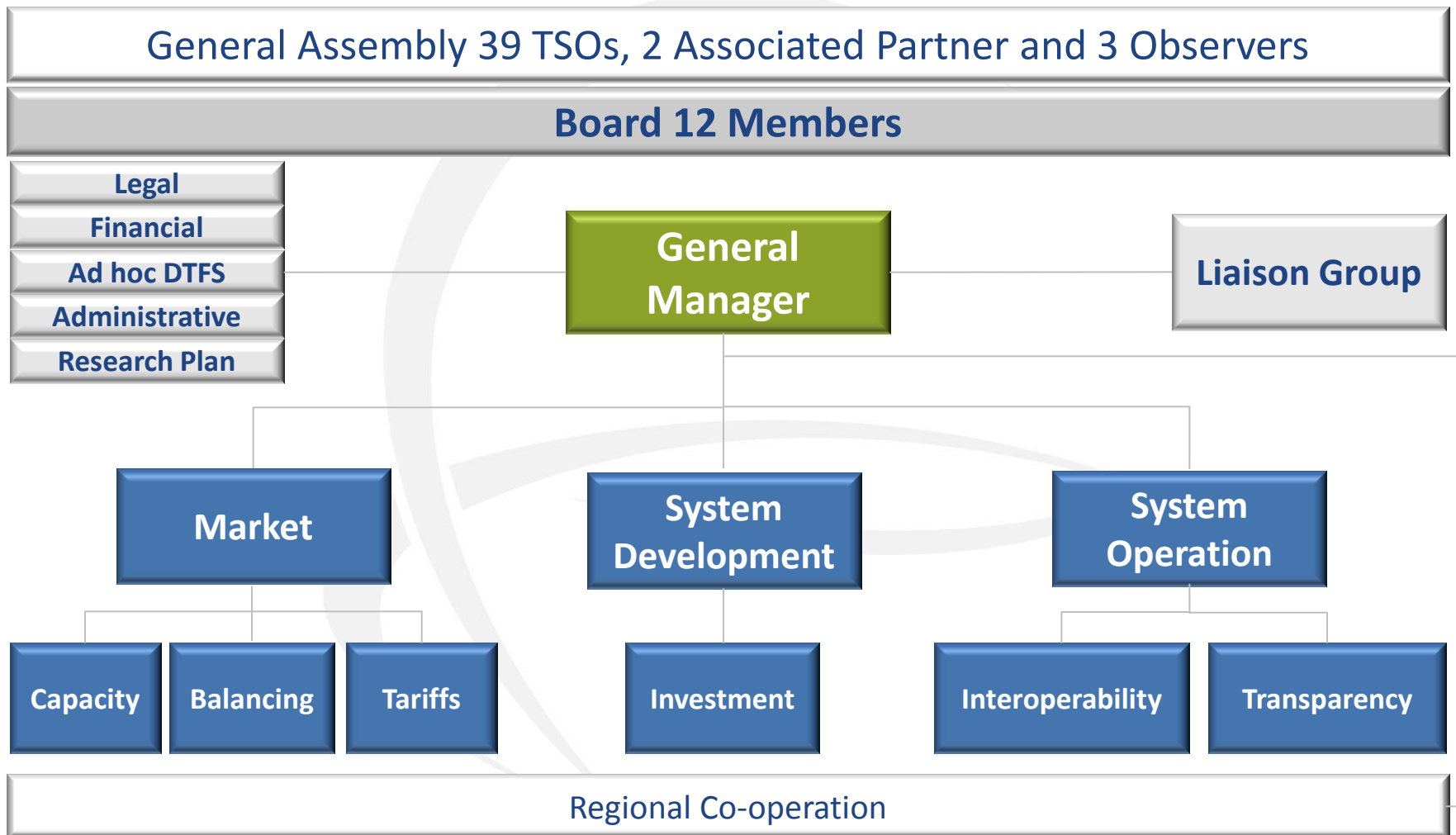
Transparency

TYNDP, Summer and Winter Supply Outlook

Roles and Participation



ENTSOG structure



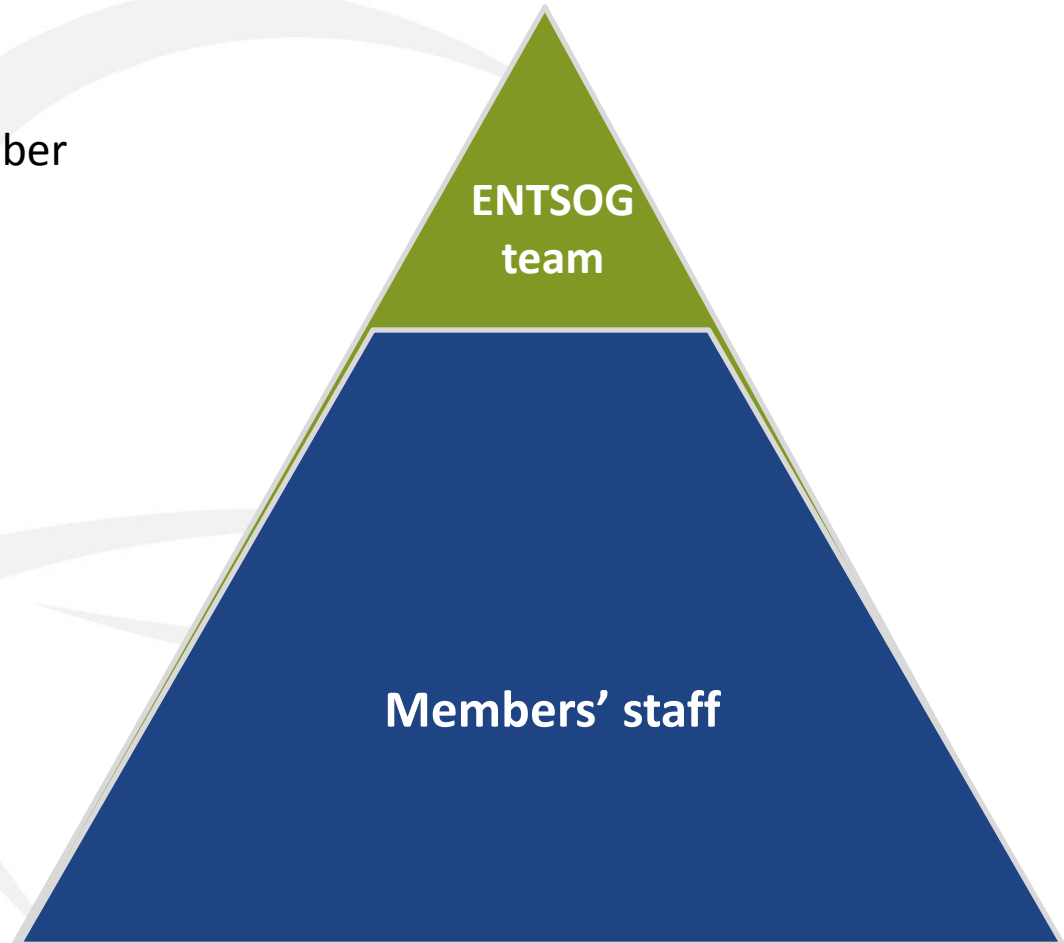
TSOs' Commitment to ENTSOG

Brussels based

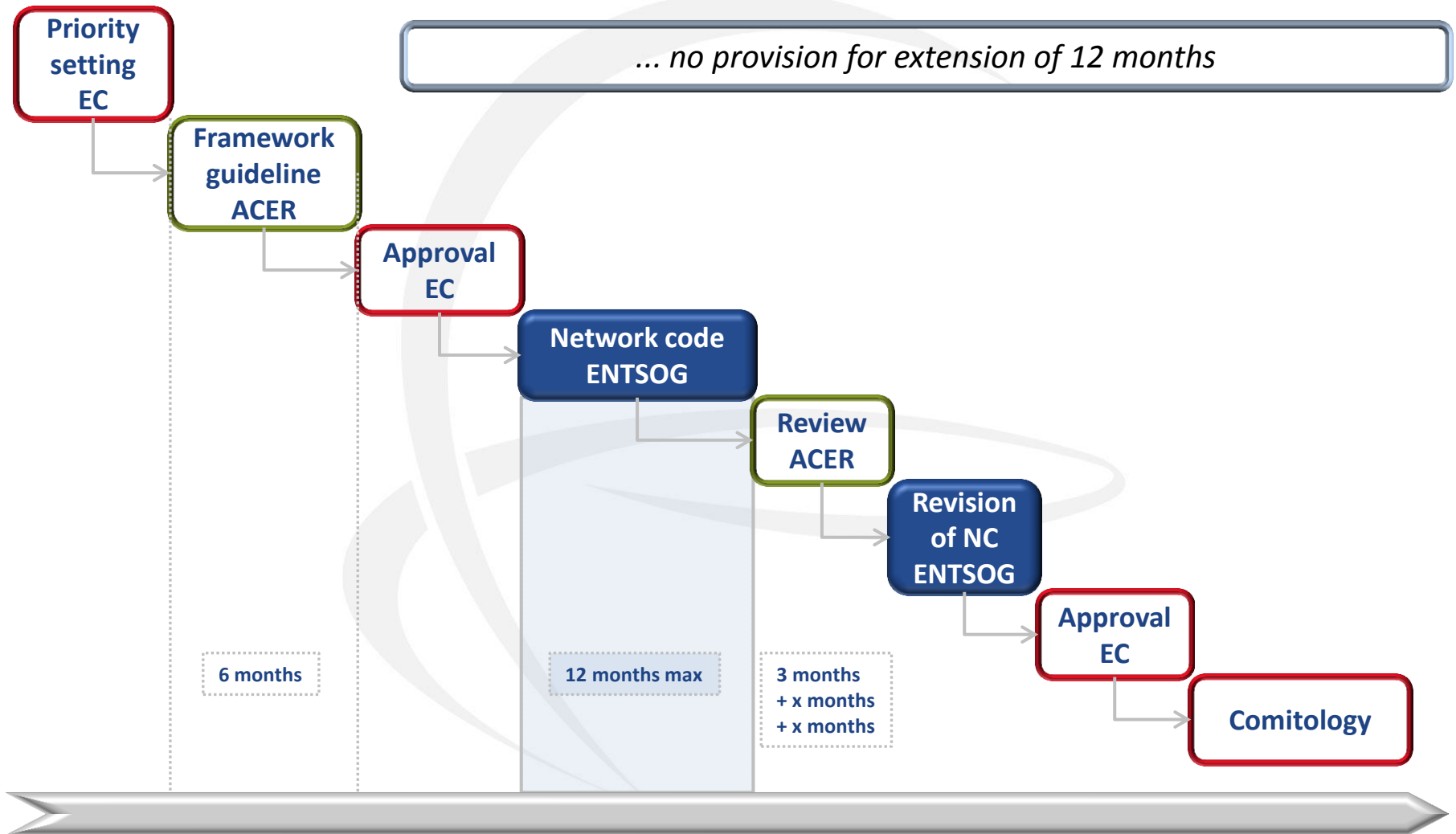
> Small ENTSOG team working with extensive inputs from member companies

ENTSOG Members'

> Working Group participants



NC Development: timings



NC preparatory activity

So, the race has just started..?



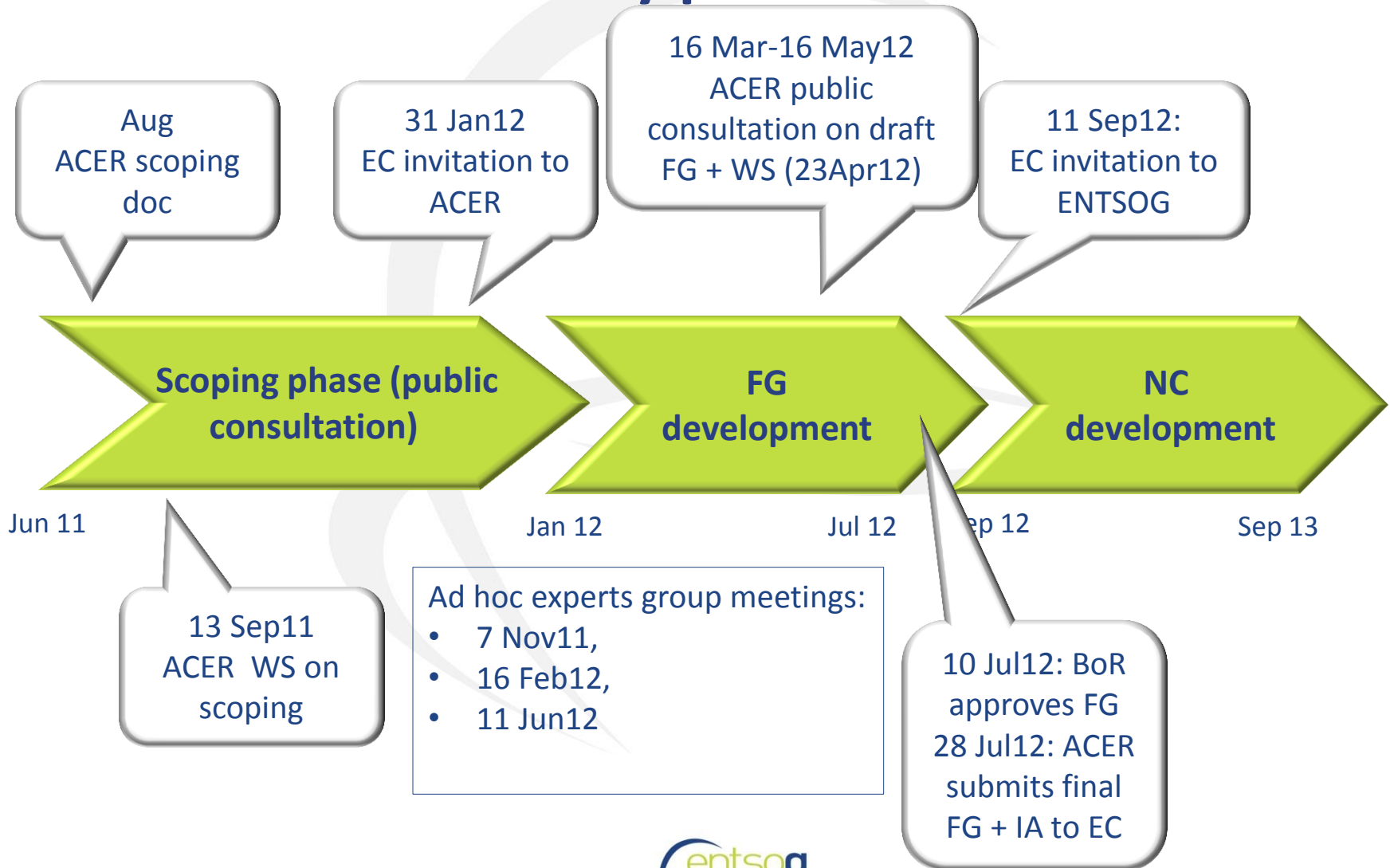
...regular discussions
with ACER and EC

...informal meetings
with most of the
stakeholders

...participation in fora
and workshops

...a lot of preparatory
work by our team

Interoperability NC development: dates and activity performed



ENTSOG Interoperability team

System Operation

Michel
Van den Brande

Panagiotis
Panousos

Interoperability

Transparency

Advisory KG

Platform Development
KG

IT&C Roadmap
KG

Business Rules
KG

Gas Quality KG

Technical Solutions Adoption
and Implementation Group

Jef
De Keyser

Hendrik
Pollex

Monika
Kaldonek



Structure of event

No	Description	Time
1	Opening (ENTSOG) <ul style="list-style-type: none"> > Welcome / Introduction / Structure of Event > Objectives 	10:00-10:15
2	ACER view on Framework Guidelines/Initial Impact Assessment (ACER)	10:15-11:15
	Coffee Break	11:15-11:35
3	Project Plan Presentation and Network Code Development Process (ENTSOG): <ul style="list-style-type: none"> > Presentation of the process > Discussion about development process 	11:35-12:05
4	ENTSOG general views on NC (ENTSOG)	12:05-12:45
	Lunch	12:45-13:45
5	Stakeholders' general views on NC (10' per Stakeholder) <ul style="list-style-type: none"> > CEDEC + EUROGAS DSO > EASEE-gas > EFET > GEODE > GIE > IFIEC > MARCOGAZ > OGP 	13:45-15:30
	Coffee Break	15:30-15:45
6	Closing remarks (ENTSOG)	15:45-16:00

General info

Regulators view on the FG

Project process

ENTSOG early views

Stakeholders' voice

Objectives

a public hearing on:

- > Framework Guidelines and Impact Assessment
- > Initial thoughts on Network Code Development by Stakeholders
- > Project Plan Network Code Development Process and optimization

Detailed thoughts and positions to be discussed in planned SJWS

Stakeholders' involvement is necessary



Thank You for Your Attention

Panagiotis Panousos
Business Area Manager, System Operation

ENTSOG -- European Network of Transmission System Operators for Gas
Avenue de Cortenbergh 100, B-1000 Brussels


EML: Panagiotis.panousos@entsog.eu

WWW: www.entsog.eu

ACER presentation



ACER

 Agency for the Cooperation
of Energy Regulators

Framework Guidelines on Interoperability and Data Exchange Rules for European Gas Transmission Networks

ir. Geert Van Hauwermeiren, CREG

Chair Task Force Interoperability, ACER

Thomas Querrioux, ACER

Framework Guidelines and Network Codes officer

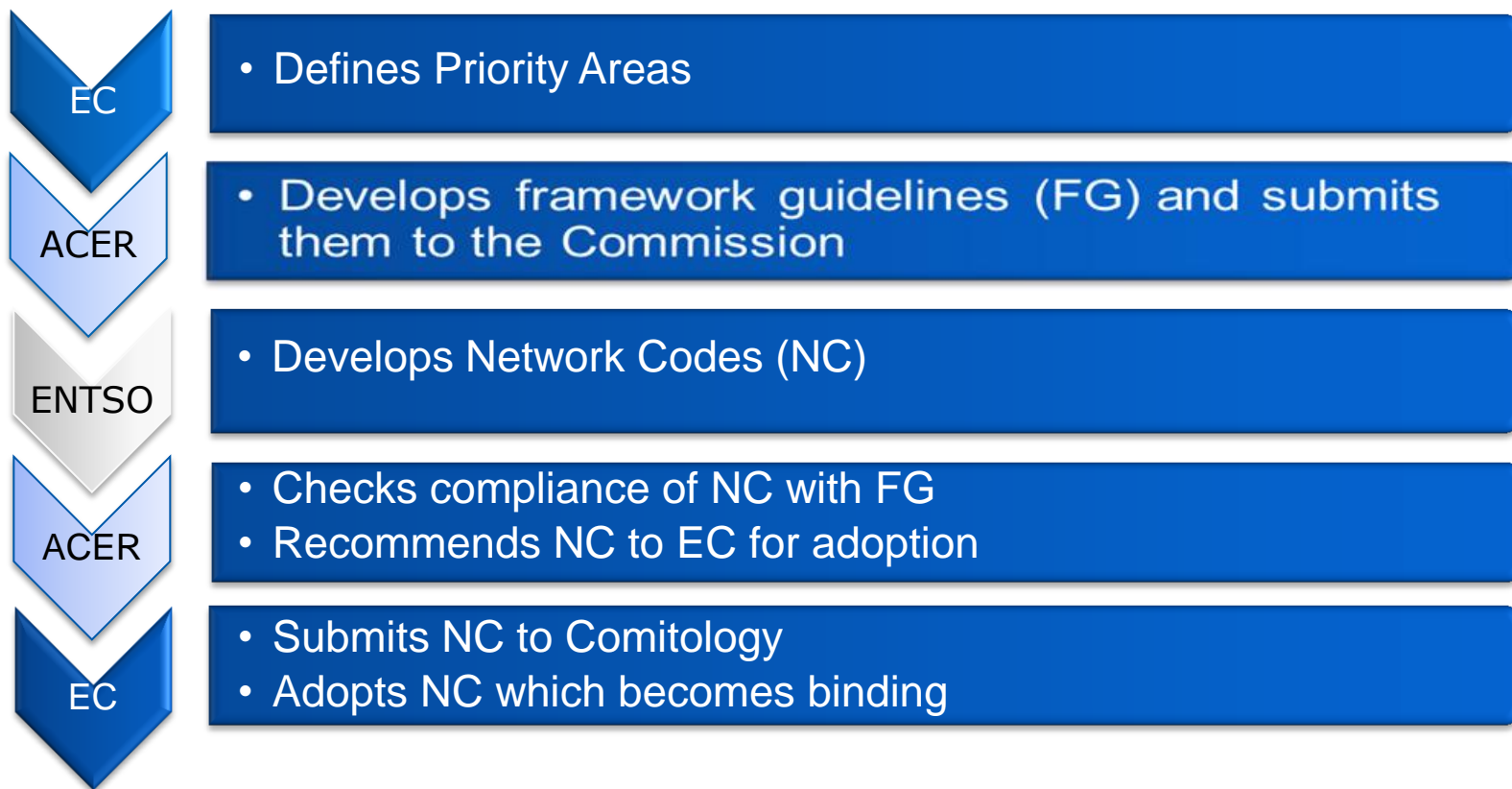
ENTSOG Kick-off workshop

26 September 2012

Agenda

- Introduction
 - Overview of the Process
 - Overview of the FG and Initial Impact Assessment
- The FG issue by issue
- Feedback received from stakeholders

The overall process of FG/NC



The FG process

- On 31 January 2012 the European Commission requested that ACER, in accordance with Article 6 (2) of Regulation (EC) No. 715/2009, drafts the Framework Guidelines on Interoperability and Data Exchange Rules by 31 July 2012;
- These Framework Guidelines are connected to Article 8 (6)(d) and 8 (6)(e) of Regulation (EC) No. 715/2009.

➤ ACER adopted the FG on Interoperability & Data Exchange Rules on 26 July 2012.

The Procedural issues and consultation of interested parties

Article 10 - Agency Regulation

- an informal "ad hoc" group of experts was set up, aiming at provide expert support to ACER during the development of the Framework Guideline on gas interoperability & data exchange;
- the scoping process included bilateral meetings with key stakeholder organisations as well as an informal consultation. A workshop on 13 September 2011 was held to allow interested stakeholders to help the Agency gain a full understanding of the scope of issues stakeholders expected to be treated in the Framework Guidelines.
- as part of the drafting process, a public consultation was held from the 16th of March 2012 until the 16th of May 2012. In total, 34 responses to the consultation were received. An Evaluation of Responses was prepared and published by the Agency;
- during the consultation period, a stakeholder workshop was organised on the 23rd of April in Ljubljana and bilateral meetings with key stakeholder organisations were held.

Background - Timeline



06-09/2011: Scoping Exercise

13/09/2011: Stakeholder Workshop – Scoping
Bilateral contacts

07/11/2011: Ad Hoc Expert Group meeting (1)
Intensification of Problem Identification work

31/01/2012: Invitation letter from the EC

06/02/2012: Ad Hoc Expert Group meeting (2)

16/03/2012: Launching of the Public Consultation

23/04/2012: Stakeholder Workshop

06/05/2012: End of the Public Consultation

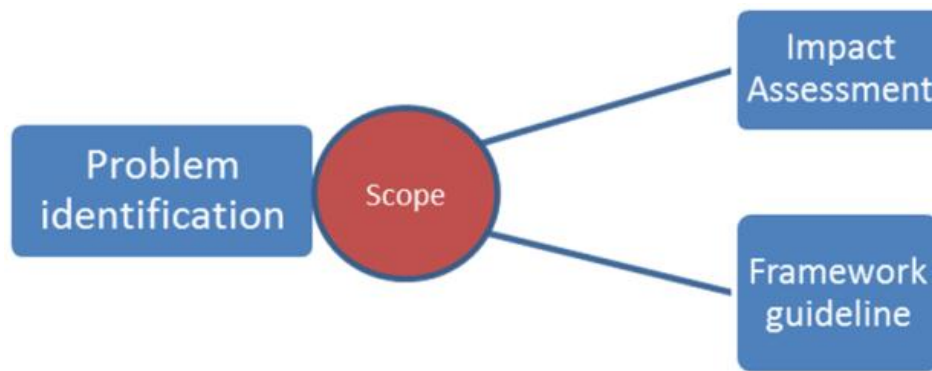
11/06/2012: Ad Hoc Expert Group meeting (3)

26/07/2012: Adoption of the Framework Guideline

Agenda

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Initial impact assessment



- Developed on request from the EC as mentioned in the invitation letter of 31 January 2012;
- Based on the problem identification and scoping exercise conducted by ACER including evidence gathered by Stakeholders and Expert Group;
- To be further completed by ENTSOG

Initial Impact Assessment : Rationale

Focus on obstacles to market integration and cross-border trade:

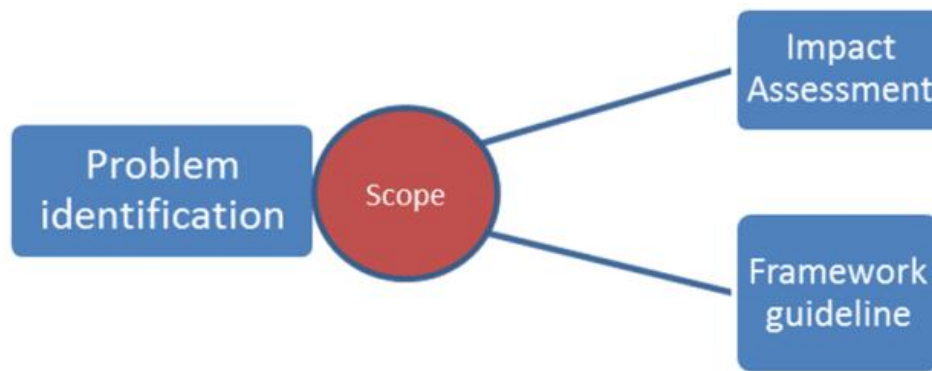
1. describe the nature of problem in clear terms and support the description with clear evidence;
2. set out clearly the scale of the problem;
3. set out clearly who is most affected by it;
4. identify clearly the drivers or underlying causes of the problem;
5. identify a clear baseline, i.e. describe how the problem is likely to develop in the future without further EU action;
6. identify clearly assumptions made, risks and uncertainty involved.

Initial Impact Assessment: feedback

- Difficulties in gathering **quantifiable** evidence for some issues;
- Problem identification needs to meet stricter requirements (IA guidelines of EC);
- **Cooperation** between stakeholders and drafting team remains important to ensure all problems are appropriately addressed.

➤ ACER welcomes further involvement of ENTSOG and stakeholders in the process.

Framework Guideline



- Developed on request from the EC as mentioned in the invitation letter of 31 January 2012;
- Based on the problem identification and scoping exercise conducted by ACER including evidence gathered by Stakeholders and Expert Group;
- To be used by ENTSOG to develop the network code.

Framework Guideline: Rationale

- The aim of interoperability is to ensure that users of two or more transmission systems operated by separate entities in Europe do not face technical, operational, communications or business-related barriers higher than those that would be reasonably expected, if the relevant networks were efficiently operated by a single entity.
- Data exchange rules are set out to streamline practises and facilitate technical, operational or business related communications.

Framework Guideline: feedback

In total, six issues are defined in the Framework Guideline. After the problem identification and scoping exercise :

- the issue of **nomination and re-nomination** was handed over to the balancing process:
 - except for the related matching process, which is still addressed in the FG, as part of the interconnection agreement;
- the issue of **odourisation** was added to the list:
 - differentiated from the gas quality issue.

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Interconnection Agreements issue

Business Rules (shipper's registration, **matching rules, flow control/imbalance handling, exception notice in case of deficient gas quality, allocation regime (OBA)**);

Technical Rules (maintenance, **measurement**, right of access, exceptional flow conditions in circumstances which might cause capacity reductions, delivery conditions (pressure, temperature, **gas quality**), energy conversion;

Data exchange: Communication and Online Data Transmission

Duration of the Interconnection Agreement

Confidentiality

Liability and Circumstances Excluding Liability

Governing Law and **Dispute Resolution**

Amendment of the Interconnection Agreement

Force Majeure

Interconnection Agreements policy option

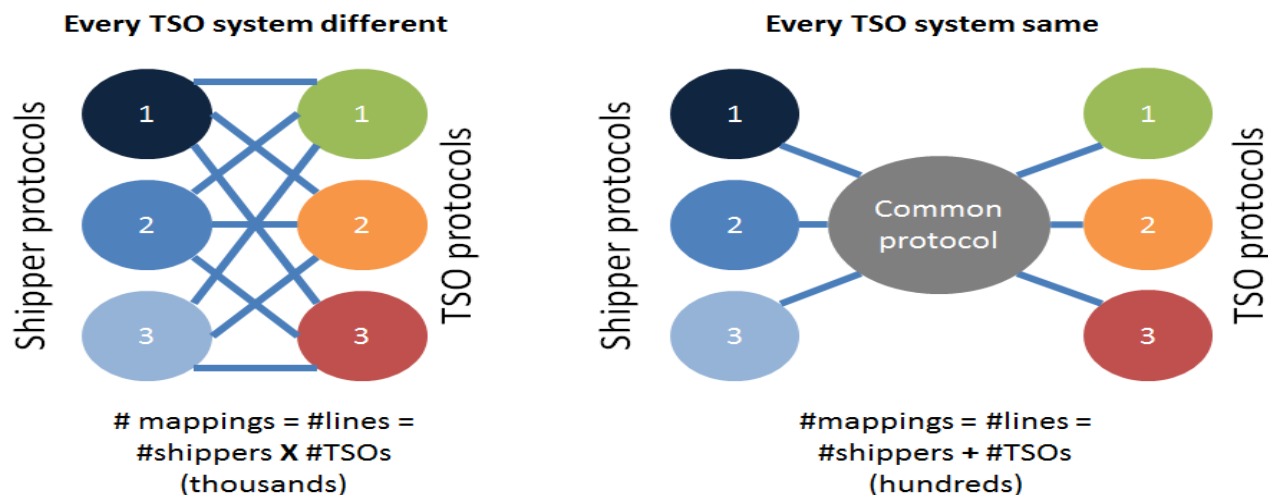
- Evidence based on:
 - Problems identified due to **gaps and nonexistence of agreements** on interconnection points;
 - The **time consuming** process jeopardizing the market integration objective by 2014;
- Option taken
While the bilateral setting of interoperability principles is favoured, the **imposition of default rules in addition to a specific dispute settlement procedure** will preclude protracted negotiations between parties

Interconnection Agreements FG text

- Focus is on TSO cooperation, to avoid that cross border trade is hampered by operational and/or technical mismatches between TSOs;
- Agreements to be communicated to the concerned NRAs (no approval necessary);
- FG foresees to focus where no agreement exists on 7 particular topics between TSOs;
- The Network Code shall deliver a mandatory model with at least minimum requirements on the 7 topics – TSOs are free to add additional issues.
- The Network Code shall also define default rules on those topics ready to implement when no agreement is reached after 12 months.

Data Exchange issue and policy option

- Evidence :



- Option taken:

Harmonisation is necessary to allow system users to overcome the difficulties they are currently facing in relation to the lack of harmonisation currently observed regarding data exchange practices. The most feasible approach to harmonisation is to address format at first.

Data Exchange FG text

- Take into account costs already partly imposed by other developments (CAM, transparency, CMP);
- Scope on exchange of data among TSOs and all counterparties;
- Problem of **flexibility vs. mandatory** taken care of in implementation time :
 - **Full harmonisation on "how"** to communicate (to exclude wrong implementation);
 - The **"what"** to communicate to be determined by other network codes.
- Choices have to be based on a list of selection criteria.

Units issue, policy option and FG text

- Evidence based on errors in the market due to mistakes in the use of units;
- Option chosen: to keep possible conversion mistakes within the organisation of TSOs, away from communication with external parties;
- Scope in line with “Data Exchange” option;
- Harmonisation of units for energy, volume, pressure and GCV in the prolongation of other legislative work, to the benefit of system users.

Gas Quality issue and policy option

- Evidence based:
 - On a lack of cooperation, transparency and predictability on short and long term;
 - On no prove that differences in parameters is to be classified as a European barrier for trade;
- Option taken:

A close monitoring of the issue, combined with enhanced TSO cooperation and transparency will address at best the concerns over locally observed issues and their possible European wide evolution.

Gas Quality FG text

Focus is on TSO cooperation, transparency and monitoring:

- An agreement is needed between TSOs at each interconnection point how to handle gas quality differences (**dispute settlement applicable**);
 - a) Based on technically feasible and financially reasonable solutions;
 - b) To remove barriers to cross-border trade;
 - c) Joint solution, with cost-benefit analysis, to submit to the relevant NRAs for approval, following a consultation with the market;
- **Classify the cases, identify the relevant information and define frequency** to provide information to end-users on fluctuations of gas quality in order to **allow for preventive actions**
- **An gas quality outlook review** to be delivered by ENTSOG every two years for the next 10 years.

Odourisation issue and policy option

- Evidence: based on barrier on the North-South axis;
- Option taken: harmonisation is the solution where a different approach result in a clear barrier to cross-border trade, with cross regional consequences.



Odourisation FG text

- Open for bilateral agreements to address effectively differences in odourisation practices;
- Such agreements have to be reached within 6 months after the entry into force of the network code;
- In the absence of such agreement, within the following 12 months, a detailed plan to implement a shift towards physical cross border flows of non-odorised gas should be defined.

Capacity Calculation issue and policy option

- Evidence based:
 - On **black box** mentality of TSOs;
 - On the **lack of TSO cooperation**, risk of barriers higher than those expected if operated by a single TSO (aim of interoperability) – **discrepancies, risk of unused potential** to maximize capacity offered.
- Option taken: Harmonisation should come as an **answer to the observed lack of transparency and cross-border cooperation** over observed discrepancies in the capacity offered.

Capacity Calculation FG text

The Network Code shall require measures to ensure the maximisation of the offered capacity at both sides of an interconnection point:

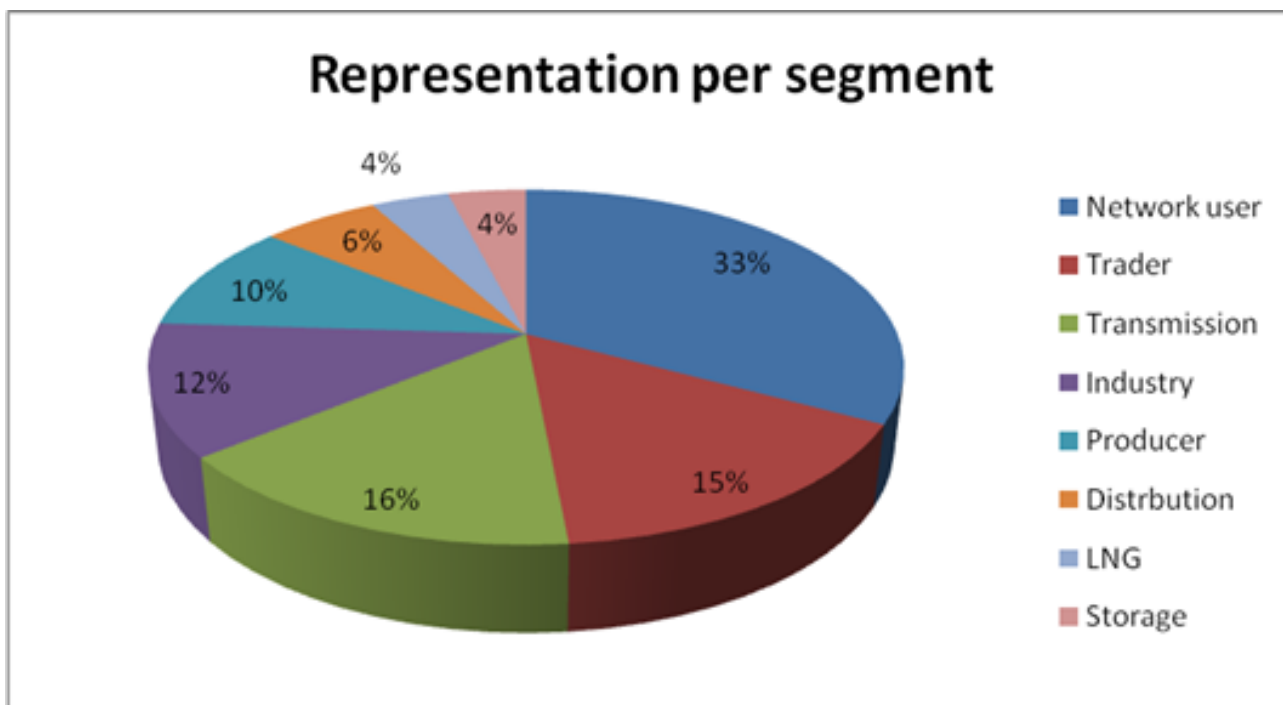
- a) Information provision is asked on the calculation methodology (with a minimum of quarterly updates) and process, on parameters and on key assumptions;
- b) A procedure is asked for identifying and reasonably dealing with discrepancies;
- c) Cooperation to reduce discrepancies shall be installed, including in preparation of extreme network scenarios;
- d) ENTSOG shall provide a reasonable timeline for capacity discrepancy reduction which is consulted with stakeholders and report on a yearly basis to ACER.

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Outcome of the Public Consultation (1/3)

- Interest of the market for the issue illustrated by a good level of participation: a total of 34 responses, 12 of which were provided by European Associations.



Outcome of the Public Consultation (2/3): Good support from the stakeholders

- **Interconnection Agreements**
 - 16 out of 27 respondents support the introduction of a common template.
 - 22 out of 25 answers are in favour of a dispute settlement procedure.
- **Units** : 27 out of 29 respondents, do think that there is a need for harmonisation of units.
- **Gas Quality** : 19 out of 32 respondents assess positively the guideline.
- **Odourisation** : 26 out of 30 respondents agree on the issue and agree on the default of non-odourised gas.
- **Data Exchange**: 16 out of 24 respondents agree on the benefit to be gained from harmonisation data exchange.
- **Capacity Calculation**: 13 out of 25 respondents reacted positively to the guideline.

Outcome of the Public Consultation (3/3)

The consultation documents, all individual responses received and the evaluation of these responses are available on:

http://www.acer.europa.eu/Official_documents/Public_consultations/Closed%20public%20consultations/PC-07_Draft_FGs_on_Interoperability_and_Data%20Exchange%20Rules/default.aspx

Conclusion

- ACER defined the Framework Guidelines based on a set of policy options selected along a problem identification exercise:

http://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Framework_Guidelines/Pages/FG-on-Interoperability-Gas.aspx;

- Stakeholders support is experienced;
- Further contribution of ENTSOG to the Impact Assessment along the development of the Network Code is still necessary.

Thank you for your attention!



www.acer.europa.eu



Coffee break



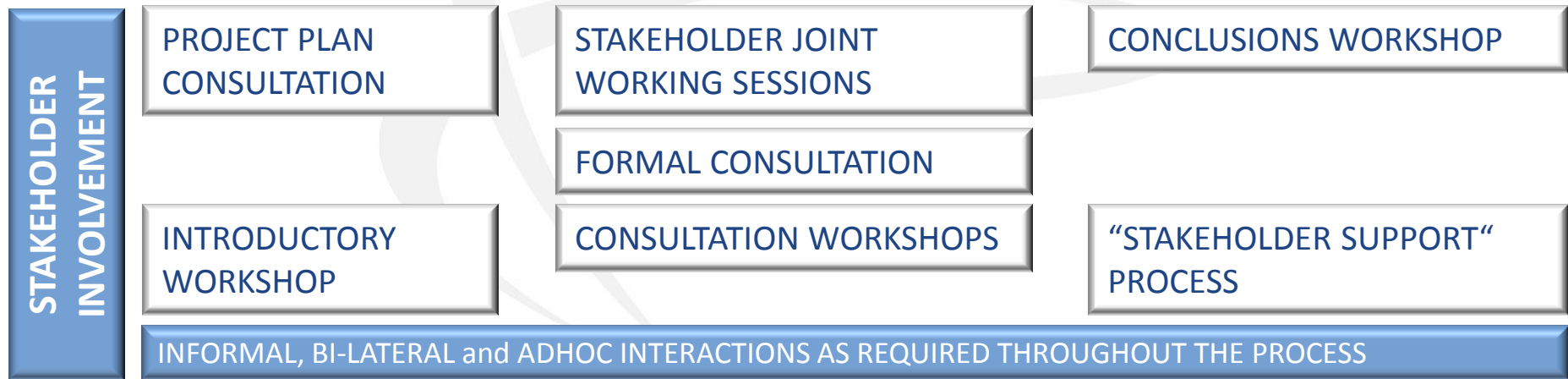
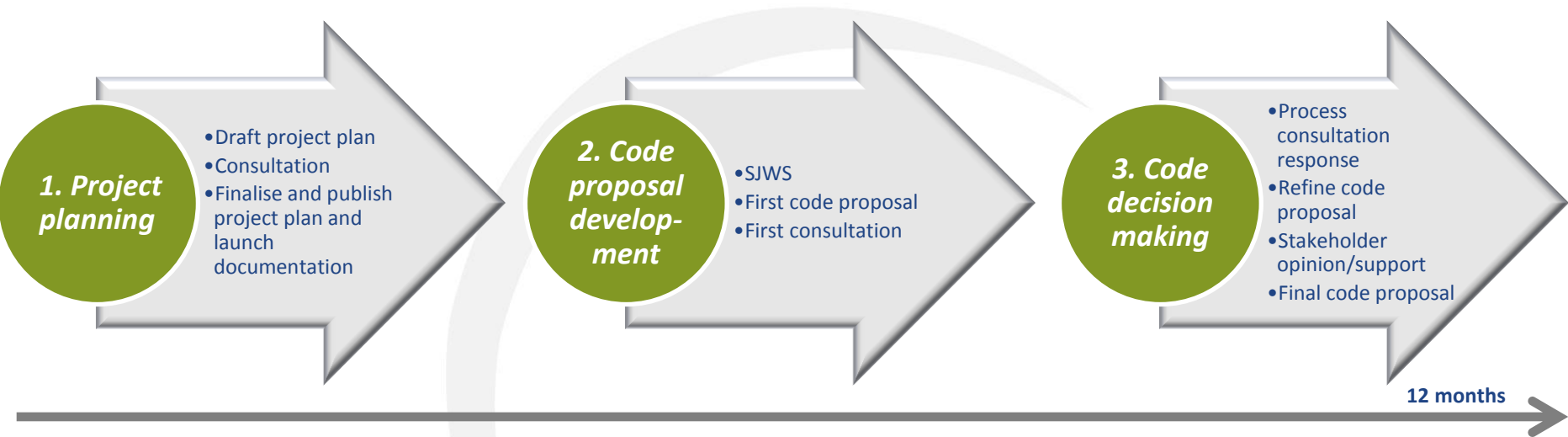
Project Plan and Network Code Development Process

ENTSO-G Network Code Interoperability and Data Exchange Rules Kick-off Workshop

Michel Van den Brande
Subject Manager Interoperability

Brussels - 26 September 2012

NC Development: process



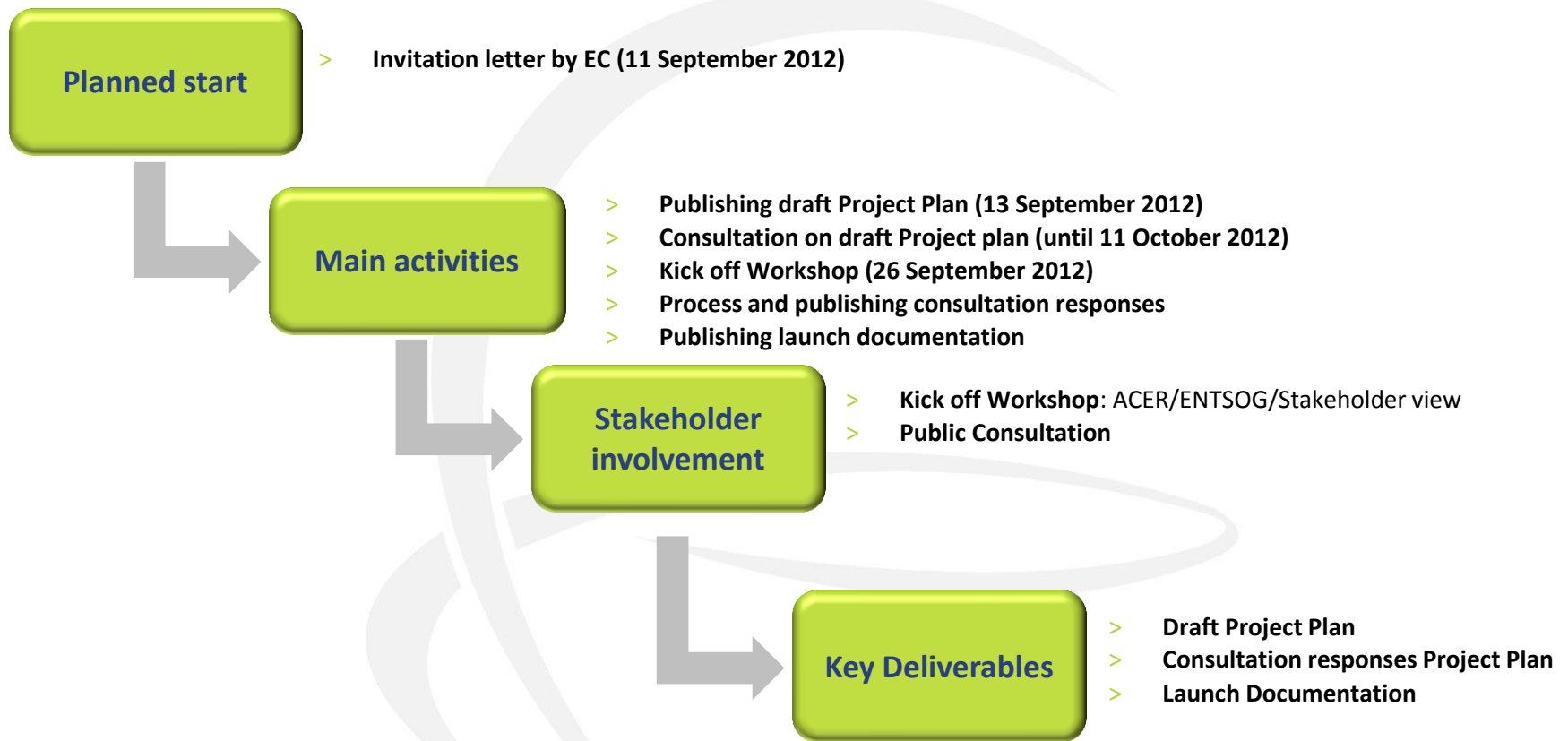


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PHASE 1

Project Planning

Project Planning



Project Plan

- > ENTSOG process is designed to maximize stakeholder involvement
- > ENTSOG aims to keep all **interested** stakeholders **involved** and **informed** during all 12 months of the project
- > In order to do this, ENTSOG uses:
 - Workshops
 - Stakeholders Joint Working Sessions
 - Publication of detailed questions for Stakeholders' input
 - Additional meetings with most active stakeholders (Prime Movers)
 - All relevant materials available on ENTSOGs website

ENTSOG → fair partner to all parties

Project Plan Consultation

“One-month consultation on the process ENTSOG intends to use for network code delivery”

- > Will provide an description of the three phases of the network code development
- > Including a Project timetable
- > Specifically looking for feedback on:
 - The overall detailed planning
 - The level of Stakeholders’ involvement - four categories proposed
 - The proposed timeline
 - The proposed topics for each of the SJWSs
- > Feedback received from CAM/BAL network code consultation process has been taken into account in the project plan

Stakeholders involvement structure

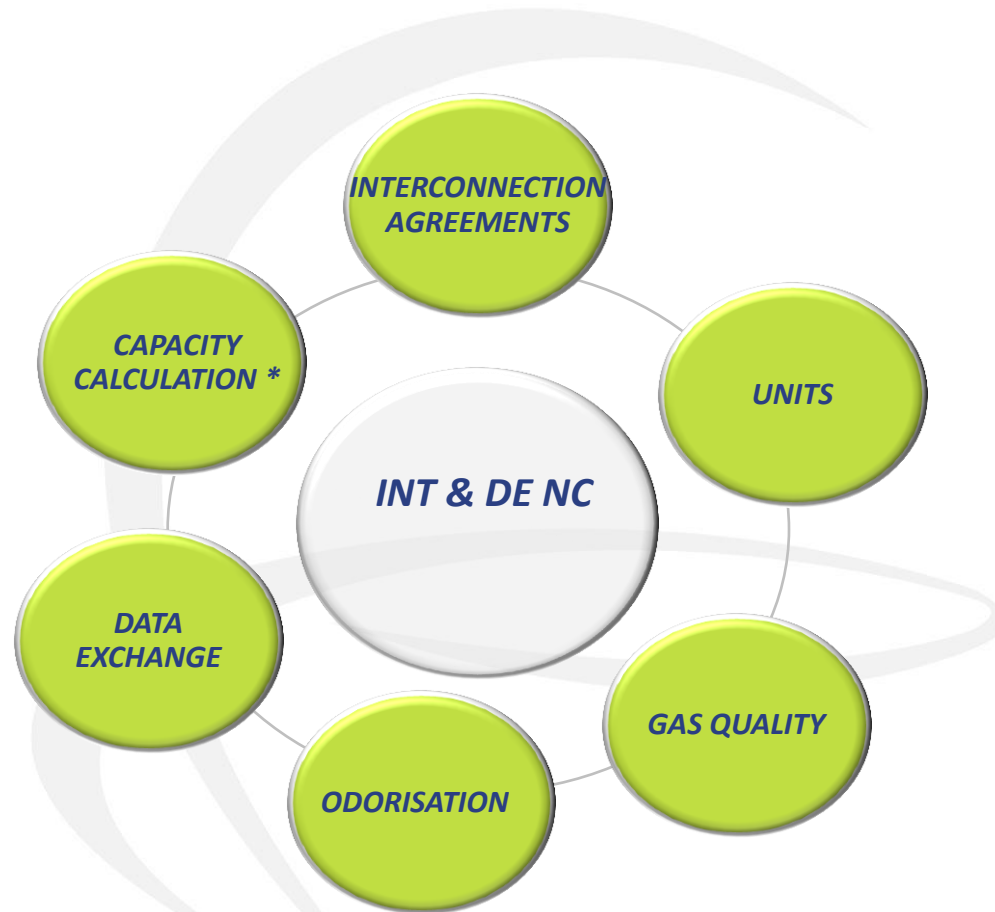
LEVEL	DESCRIPTION	COMMENTS
1	Prime Mover	Committed to work on a bilateral basis and dedicate a lot of resources to assist, formulate and evaluate/refine ideas/proposals for SJWS consideration – commitment to be intensive and involving many days during intensive phases of the network code development
2	Active SJWS Participant	Expected to attend all SJWS and to read and review all material prior to meetings and to be prepared to explore detail within SJWS – commitment of around 2 days per month during intensive period of activity
3	Consultation Respondent	Will respond to consultations
4	Observer	Expected not actively contribute to the development effort or to participate in the formal consultations

Launch Documentation

Launch documentation is intended to:

- > Analyse framework guidelines and include current situation and different policy options.
- > Provide the basis for the discussions in the SJWS and it therefore contains questions for Stakeholders' input.
- > Describe the interactions with other areas, for example:
 - CAM network code
 - CMP guidelines
 - BAL network code
 - TRA guidelines

Framework Guideline: Content



* EC is considering making use of its right of proposal to put forward a text for comitology in NC CAM.

Rules applicable to TSOs + cooperation with stakeholders and as much as possible with Third Countries TSOs + implementation within 12 months after entry into force

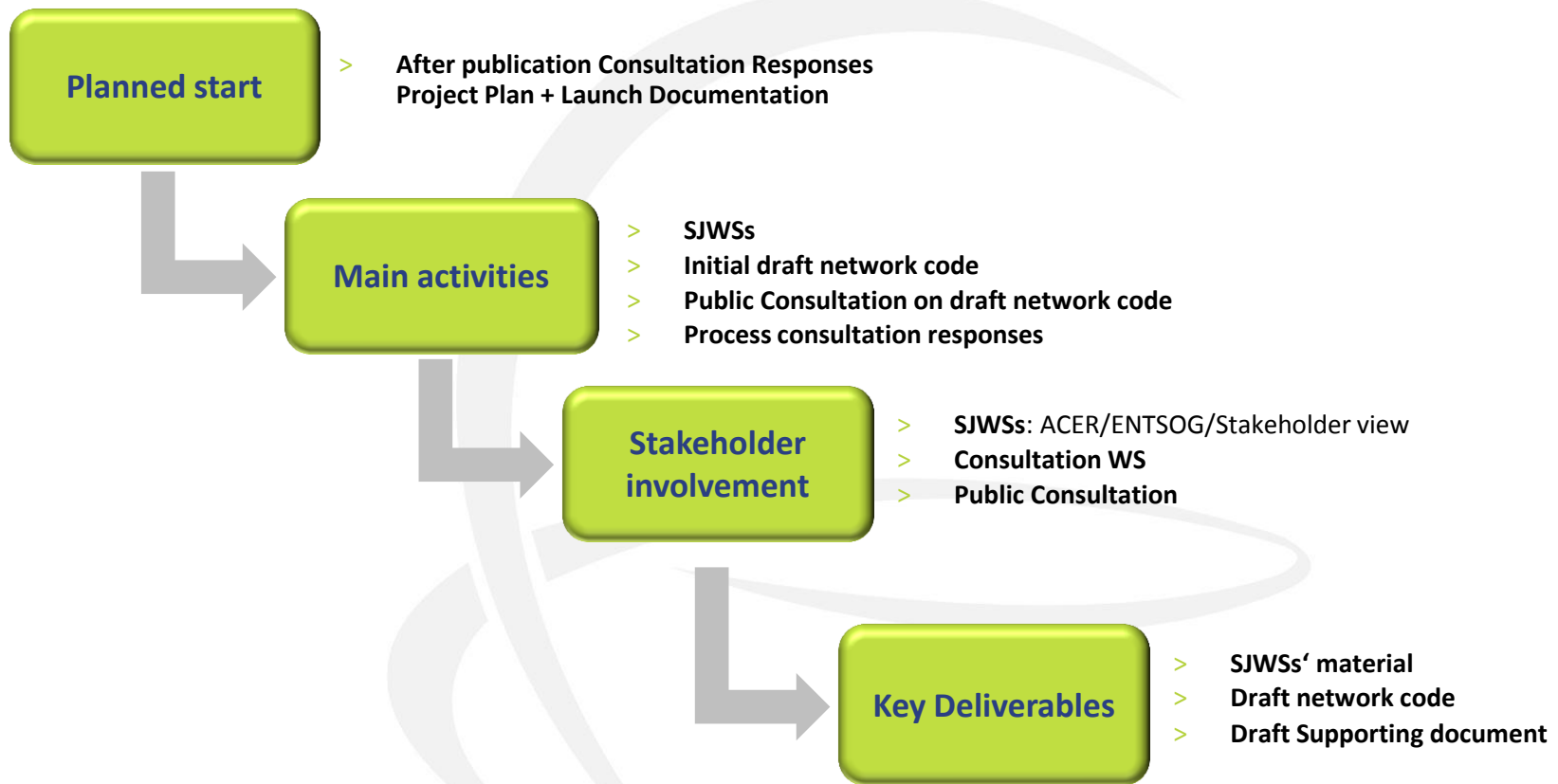


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PHASE 2

Code Proposal Development

Code Proposal development



SJWS

SJWS have been successfully used in CAM&BAL process:

- > It is a round table session on specific topics for the network code in order to get Stakeholders views early in the process, thereby helping to shape the development of the network code
- > An essential tool in the timely development of a robust network code proposal
- > Held in Brussels

ENTSOG provide:

- > Invitation
- > Agenda
- > Supporting material
- > Meeting notes
- > Webcasting

We strongly encourage stakeholders to comprehensively examine the launch documentation and pre-meeting materials in advance of the SJWS

SJWS: Proposed Time Schedule

SJWS process:

- > For each SJWS ENTSOG will:
 - provide pre-meeting materials in advance
 - ENTSOG will provide minutes and conclusions shortly after the meeting

SJWS 1

Interconnection Agreement +
Gas Quality + Odorization

SJWS 2

Data Exchange + Units

SJWS 3

Wrap up + Summary

Formal Consultation draft NC

ENTSOG will release a consultation package:

- > A draft network code
- > A supporting document
 - Rationale for decisions
 - Highlighting specific area seeking feedback
- > A Consultation workshop within the 2 month consultation period
 - Address any initial queries stakeholders may have

Stakeholders will have 2 months to respond to this consultation

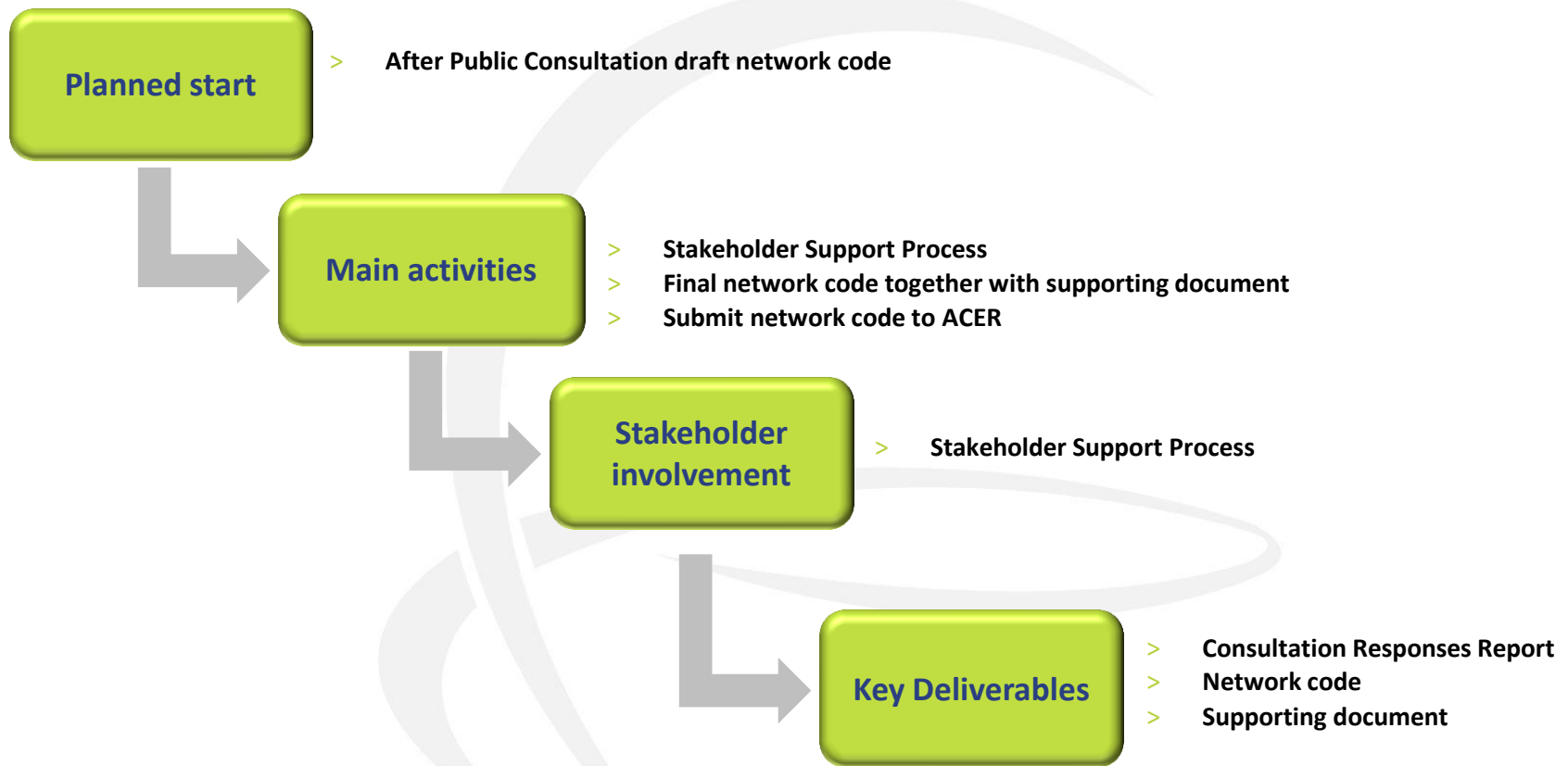


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PHASE 3

Code Decision Making

Code Decision Making

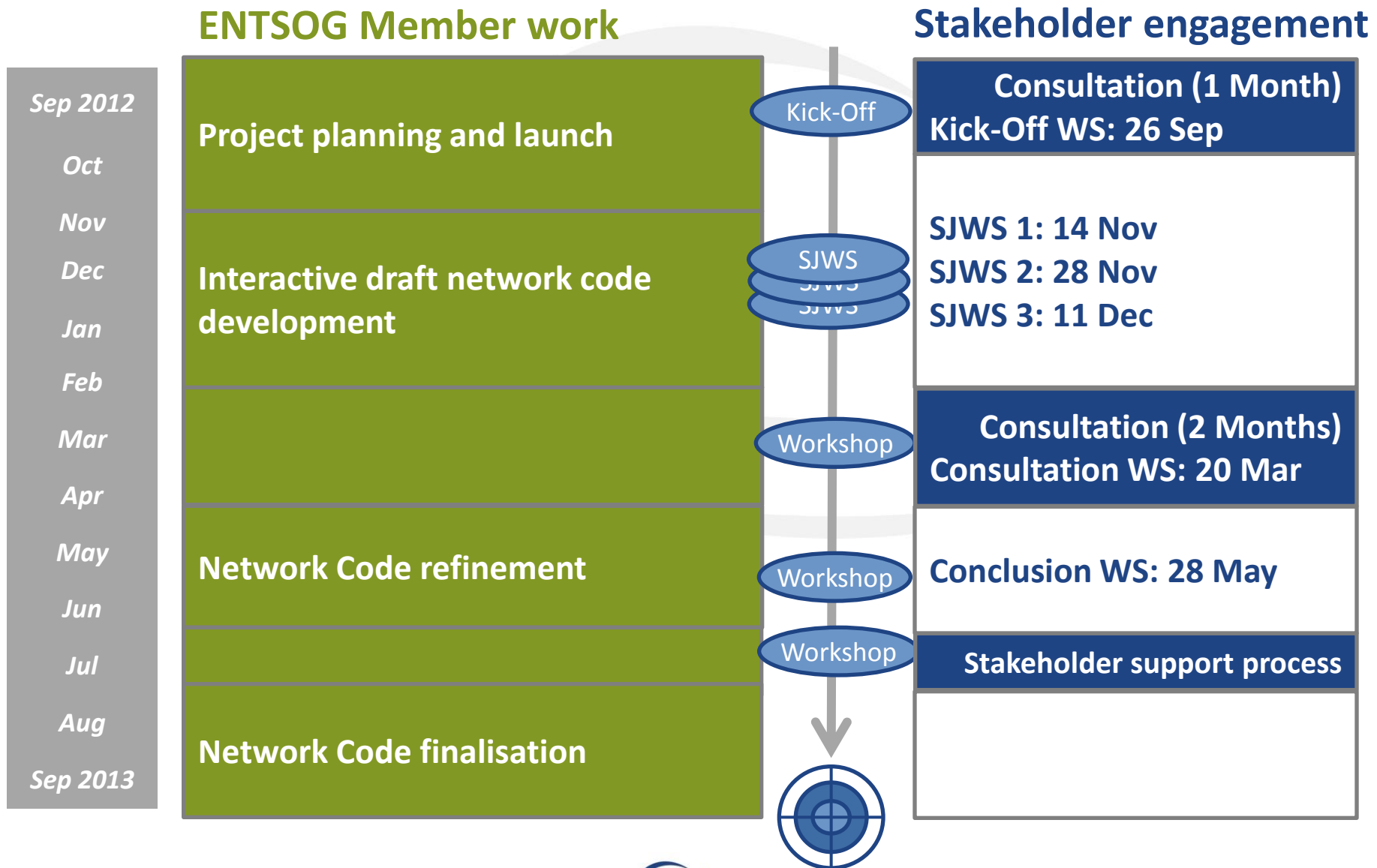


Code Decision Making

ENTSOG intend to interact with Stakeholder in several ways for this phase:

- > Conclusions Workshop
- > Stakeholder Support Process

Development Process for Network Code



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QuickLinks

[Balancing Network Code](#)[CAM Network Code](#)[INT Network Code](#)[EVNDP](#)[GRIPs](#)[Transparency Platform](#)

Press Releases

ENTSOG starts the development of a network code for Interoperability and Data Exchange Rules - stakeholder participation essential - Launch Public Consultation draft Project Plan

3 Aug 2012

European Network of Transmission System Operators for Gas (ENTSOG) calls on stakeholders to sign up for participation in the 6th Transparency workshop on 11 September 2012.



The European Network of Transmission System Operators for Gas (ENTSOG) works to promote the completion and functioning of the internal market and cross-border trade for gas and to ensure the optimal management, coordinated operation and sound technical evolution of the European natural gas transmission network.

Join us on



EXTERNAL CALL FOR CANDIDATES

Deadline **28 September 2012**
click for more information

For **5 Advisers** to start during last quarter 2012
and start of the potential **candidates' selection** for 2013

network code Interoperability and Data-Exchange Rules
Kick-off Workshop
26/09/2012 - Brussels Registration now available

network code Interoperability and Data-Exchange Rules
Project Plan Consultation
Online Response Form

Balancing Network Code
Stakeholder Support Process

ENTSOG AWP 2013
Public Consultation





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▼ System Operation
└ INT Network Code
└ Transparency
Regional Co-operation

Publications



ENTSOG > Interoperability Network Code

[2008](#) [2009](#) [2010](#) [2011](#) [2012](#)

Besides the development of network codes, ENTSOG has the obligation to adopt common network operation tools to ensure coordination of network operation in normal and emergency conditions, including a common incidents classification scale, and research plans, as well as recommendations relating to the coordination of technical cooperation between Community and third-country transmission system operators.

ENTSOG shall be active in areas such as gas quality, business rules, units, IT communication and data format in collaboration with other stakeholders in order to provide the necessary tools in the development of Network Codes.

For further information please contact:

Panagiotis Panousos

panagiotis.panousos@entsog.eu

T +32 (0)2 894 51 06

F +32 (0)2 894 51 01

Michel Van den Brande

michel.vandenbrande@entsog.eu

T +32 (0)2 894 51 11

F +32 (0)2 894 51 01

▶ Project Plan & Launch Documentation

- ▶ **Press Release** * ENTSOG starts the development of a network code for Interoperability and Data Exchange Rules - stakeholder participation essential - Launch Public Consultation draft Project Plan (PRD26-12) 13 Sep 2012 0.38 Mb
- ▶ Draft Project Plan on Interoperability network code Development for Public Consultation INT0161-120711 12 Sep 2012 0.89 Mb

▶ EC & ACER Communication

- ▶ Invitation letter from EC to ENTSOG to draft Network Code on Interoperability and Data Exchange 11 Sep 2012 1.31 Mb
- ▶ ACER Framework Guidelines on Interoperability and Data Exchange Rules for European Gas Transmission Networks (FG-2012-G-007) 26 Jul 2012 4.63 Mb
- ▶ Annex 1 to ENTSOG's response to ACER's INT FG Public Consultation 11 May 2012 0.63 Mb
- ▶ ENTSOG's response to ACER's draft Framework Guidelines on Interoperability and Data Exchange Rules Public Consultation (INT0252-120426-Rev2) 11 May 2012 0.51 Mb
- ▶ ACER's Framework Guidelines on Interoperability and Data Exchange Rules - DRAFT 16 Mar 2012 0.12 Mb
- ▶ Questionnaire to Framework Guidelines on Interoperability and Data Exchange 16 Mar 2012 0.37 Mb
- ▶ Invitation letter from EC to ACER to draft FG on Interoperability and data exchange rules 31 Jan 2012 0.29 Mb



Conclusions

- > Feedback from our project plan consultation most welcome
- > Please note the dates of our SJWSs / workshops
- > The greater the preparation on all our parts for these the more robust a network code we can consult upon....experience to date has shown that front-loading is key!



Thank You for Your Attention

Michel Van den Brande
Subject Manager Interoperability

ENTSOG -- European Network of Transmission System Operators for Gas
Avenue de Cortenbergh 100, B-1000 Brussels

EML: michel.vandenbrande@entsog.eu

WWW: www.entsog.eu

Network Code Interoperability and Data Exchange Rules

General views

Michel Van den Brande

Brussels, 26 Sep 2012

General provisions

Stakeholder involvement

- > Same open transparent process as NC CAM and BAL with a lot of Stakeholders' involvement
- > Cooperation with "Third Countries" TSOs

Scope

- > First technical NC with focus more on TSO-TSO cooperation
- > Rules for TSOs + inspiration for national provisions other IOs
- > Capacity Calculation: not included in EC invitation letter
- > Gas Quality: standardization by CEN

Implementation

Implementation timing of 12 months can be very challenging (e.g. changing IT-systems, managing interactions with other NC): a migration path to a common solution (e.g. Data Exchange) in cooperation with Stakeholders can be appropriate

Level of detail

Level of detail has to be suitable for comitology process (e.g. message development in Data Exchange is too detailed)



Network Code Interoperability and Data Exchange Rules

Interconnection Agreements - Units

Panagiotis Panousos

Brussels, 26 Sep 2012

Interconnection Agreements

Interconnection Agreement' means an agreement entered into by and between adjacent TSOs, whose systems are connected at a particular Interconnection Point, which specifies terms and conditions, operating procedures and provisions, in respect of delivery and/or withdrawal of gas at the Interconnection Point with the purpose of facilitating efficient interoperability of the interconnected transmission networks

Key issues

- > Who signs: involved (adjacent) TSOs
- > What is the application area: IPs
- > Who is informed: NRAs (on request)
- > What is the content: at least mandatory terms
- > What's the Deadline: 12m from entry into force of NC
- > When do default rules apply: when TSOs don't reach agreement within 12m



FG requires IAs to be in place for all IPs

IAs: Different cases per IP

Existing IP with no IA

- > TSOs to conclude IA within 12m, at least with mandatory terms
- > Submit to NRAs on request
- > If no agreement, default rules apply and dispute resolution foreseen

Existing IP with existing IA

- > TSOs check if requirements of NC are met
- > Renegotiate and amend as appropriate
- > Conclude within 12m if amended
- > Submit to NRAs on request if amended

New IP

- > TSOs negotiate and try to conclude the soonest
- > Early start of negotiation is advised so that an IA is in place prior to first gas flow

IA content

Modification

- Reason
- Process,
- communication

Rules for flow control

- Who and how steers flow
- NUs not affected

IA min. content

Measurement principles

- Procedures
- Methods
- Corrections

Matching

TSO-TSO communication to align flows

Allocation rules for qnty

- responsibility
- manage steering errors
- OBA proposed in FG

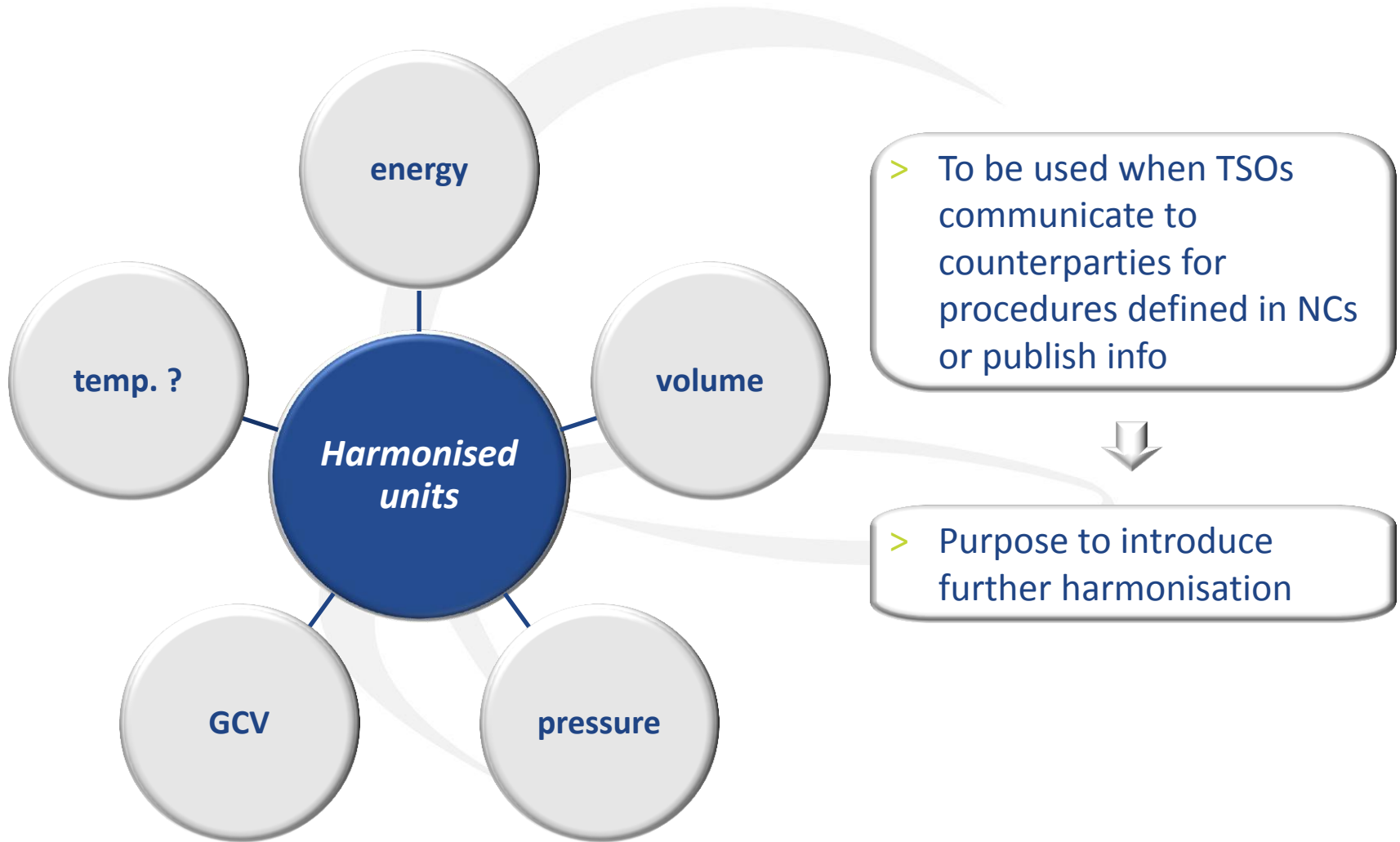
Exceptional events

- TSO-TSO coordination
- TSO-NU communication

Dispute resolution for TSOs

Use of arbitrators

Units





Network Code Interoperability and Data Exchange Rules

Gas quality and Odourisation

Monika Kaldonek

Brussels, 26 Sep 2012

GAS QUALITY & ODOURISATION

Framework Guidelines ask to develop:

- > TSO ↔ TSO cooperation to handle gas quality differences
- > Provision of gas quality information:
 - Short term monitoring
 - Long term monitoring – 10 year outlook
- > Odourisation



Not covered by NC

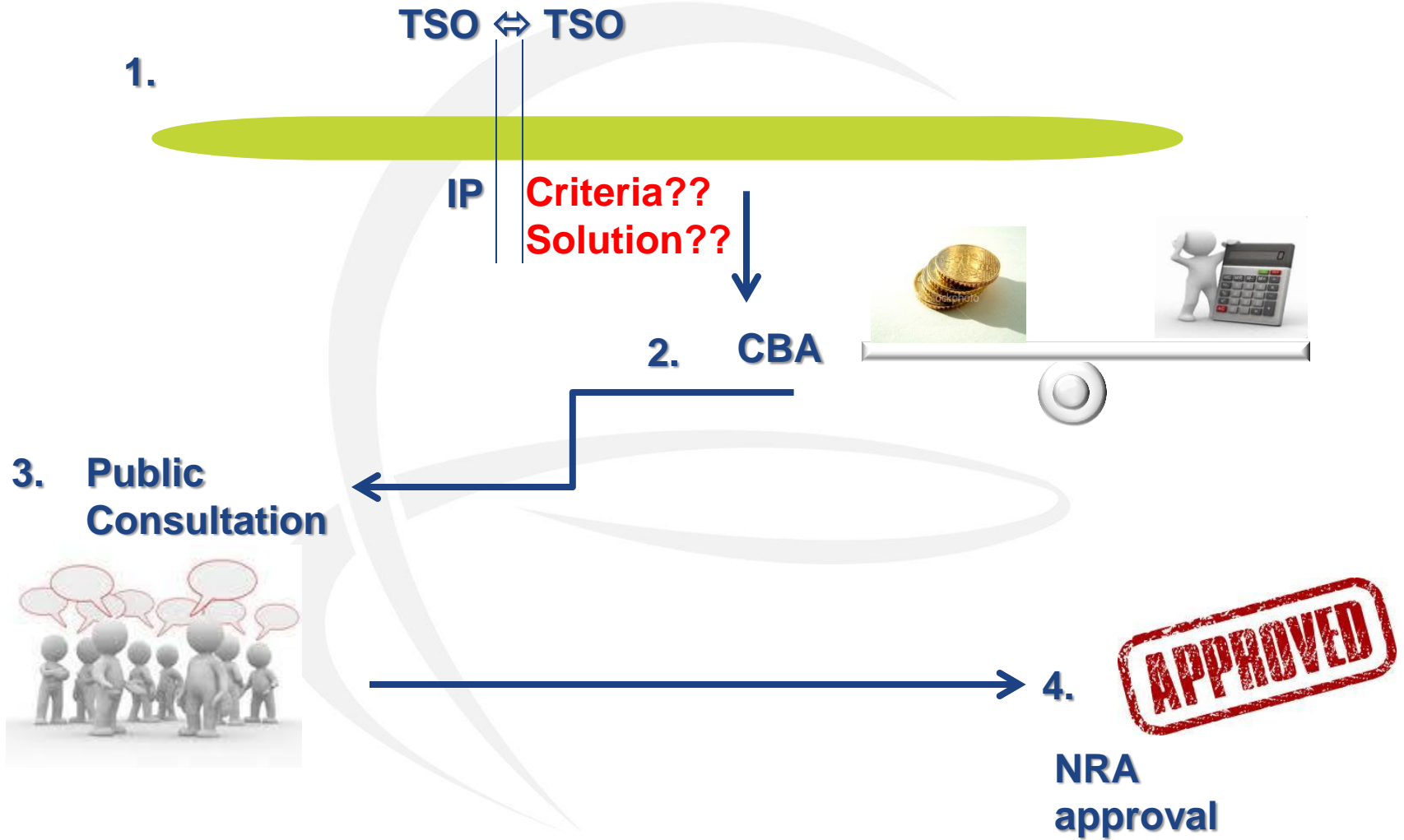
STANDARDISATION:

- continuation of the development of a European standard for H-Gas in the context of **CEN mandate M/400** and for biogas injection into the gas grids in the context of **CEN mandate M/475**; ENTSOG is a liaison with CEN;
- **launch of a pilot** aimed at assessing and addressing the practical implementation of the H-Gas standard in a selected group of Member States;

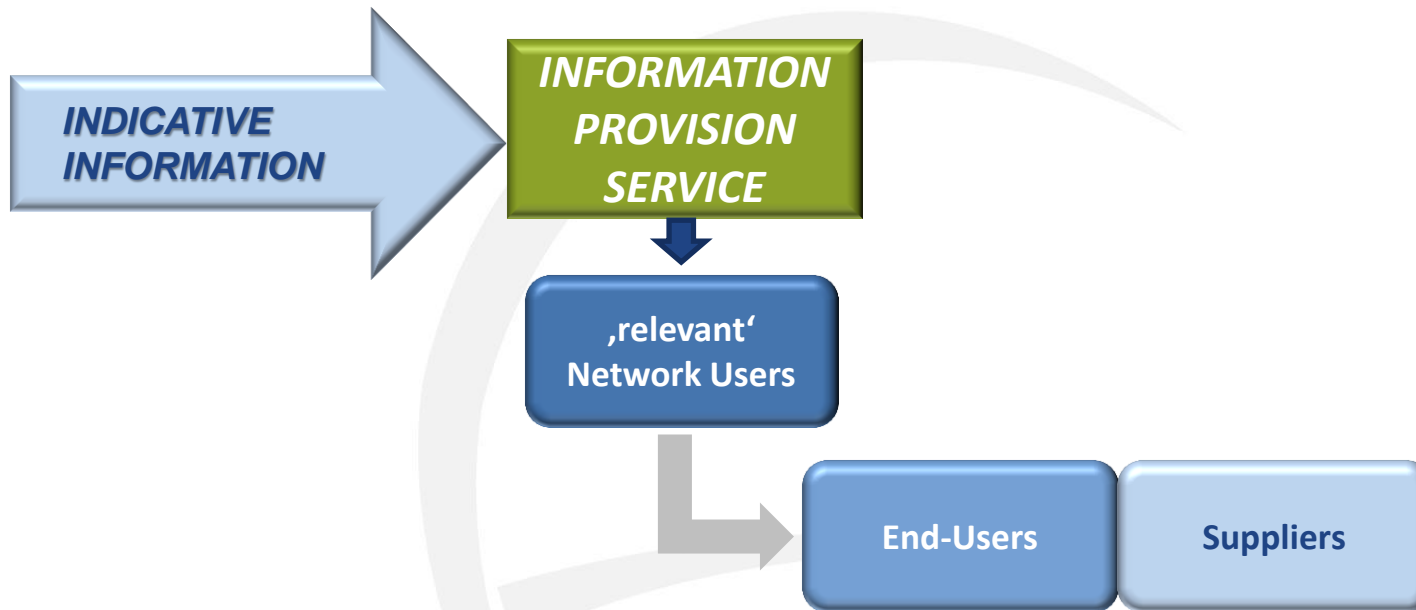
DEFINING RESPONSIBILITIES

- Remains under national rules

HANDLING GAS QUALITY DIFFERENCES



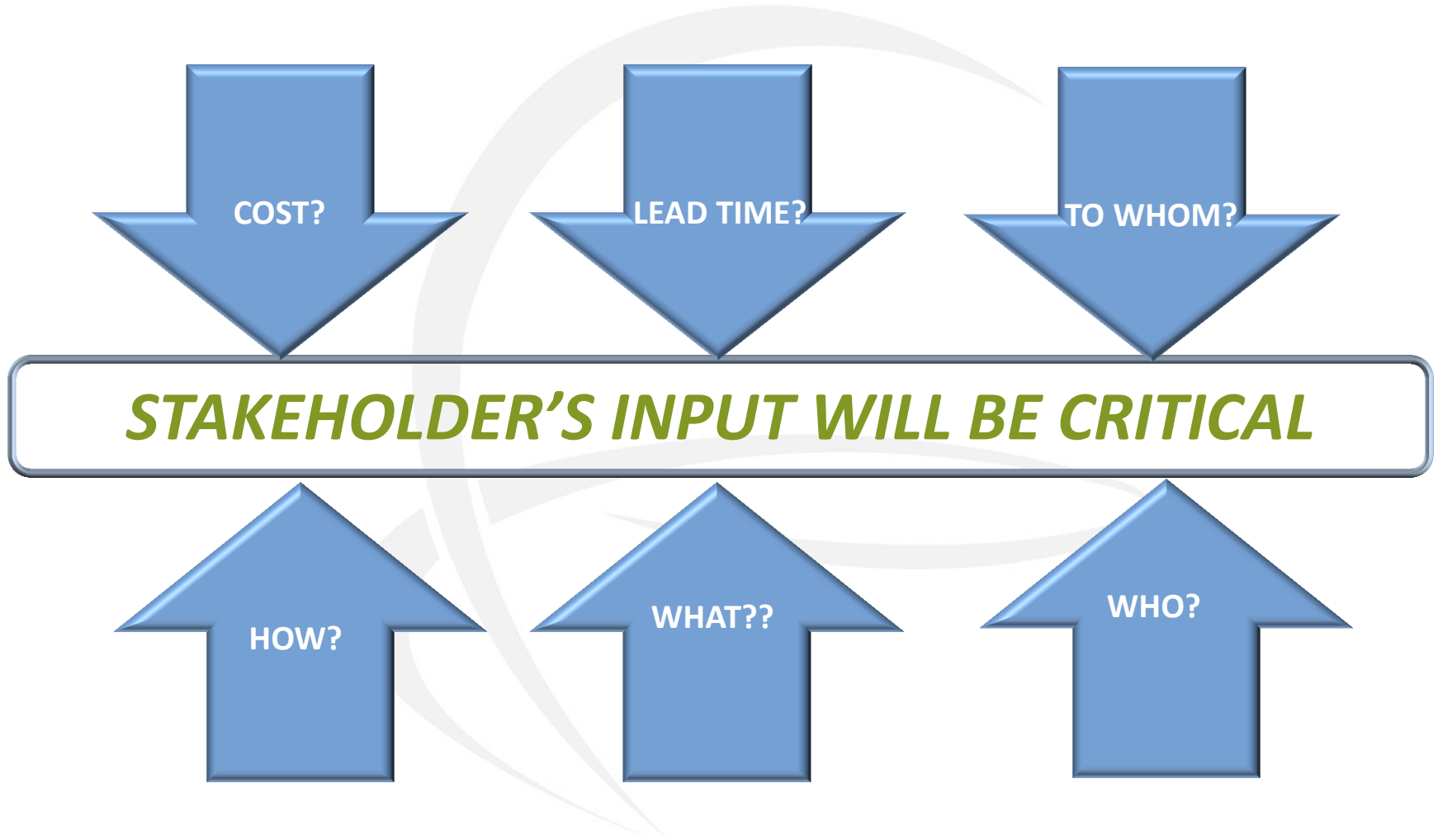
SHORT TERM MONITORING



Depends on:

- ✓ ***Nominations from upstream/downstream parties***
- ✓ ***Flow pattern***
- ✓ ***Design of the system***
- ✓ ***Availability of data on gas quality***

SHORT TERM MONITORING



LONG TERM MONITORING

Regulatory requirements and background

- > Identification of possible change in gas quality on a **10-year range every other year**
- > Assessment made at **European level** using a **regional accuracy**
- > The Agency acknowledges the fact that gas quality of future supply is unknown

Ensuring appropriate stakeholders' involvement is key in order to ensure access to data and keep the report focus

If such involvement is not sufficient which assumptions ENTSOG should make ?

Drafting process of future report → potential future interlink with TYNDP in term of process and publication



ODOURISATION

If flows are hampered due to different odourisation practices between TSOs, they should cooperate:

- ✓ *Bilateral agreements*

In case, TSOs fail to reach the agreement -> shift towards physical flows of non-odourised gas:

- ✓ *Deodourisation of gas at IPs:*
- ✓ *change in national policy on odourisation - **national issue to be decided by Members States***



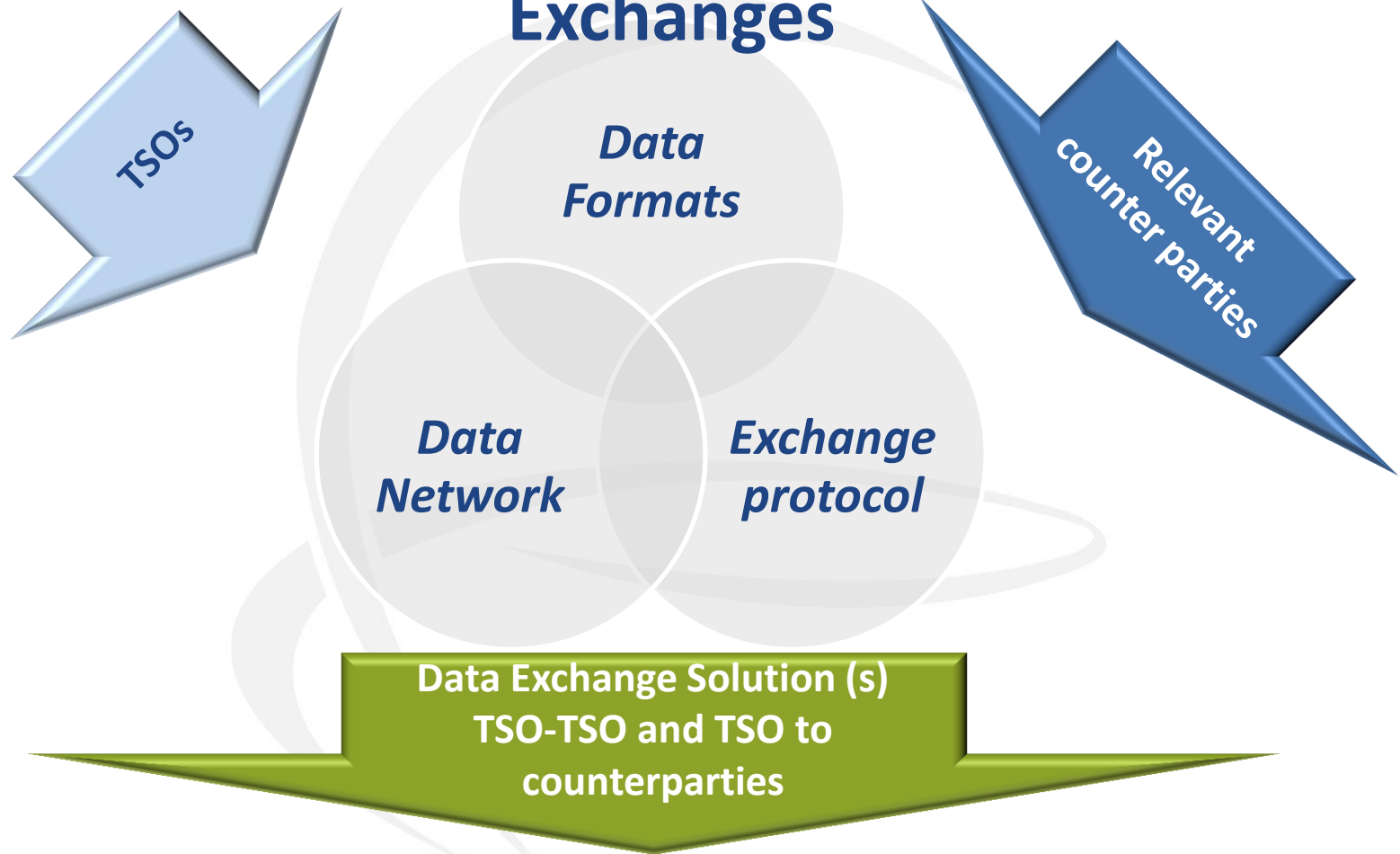
Network Code Interoperability and Data Exchange Rules

Data Exchange

Jef De Keyser

Brussels, 26 Sep 2012

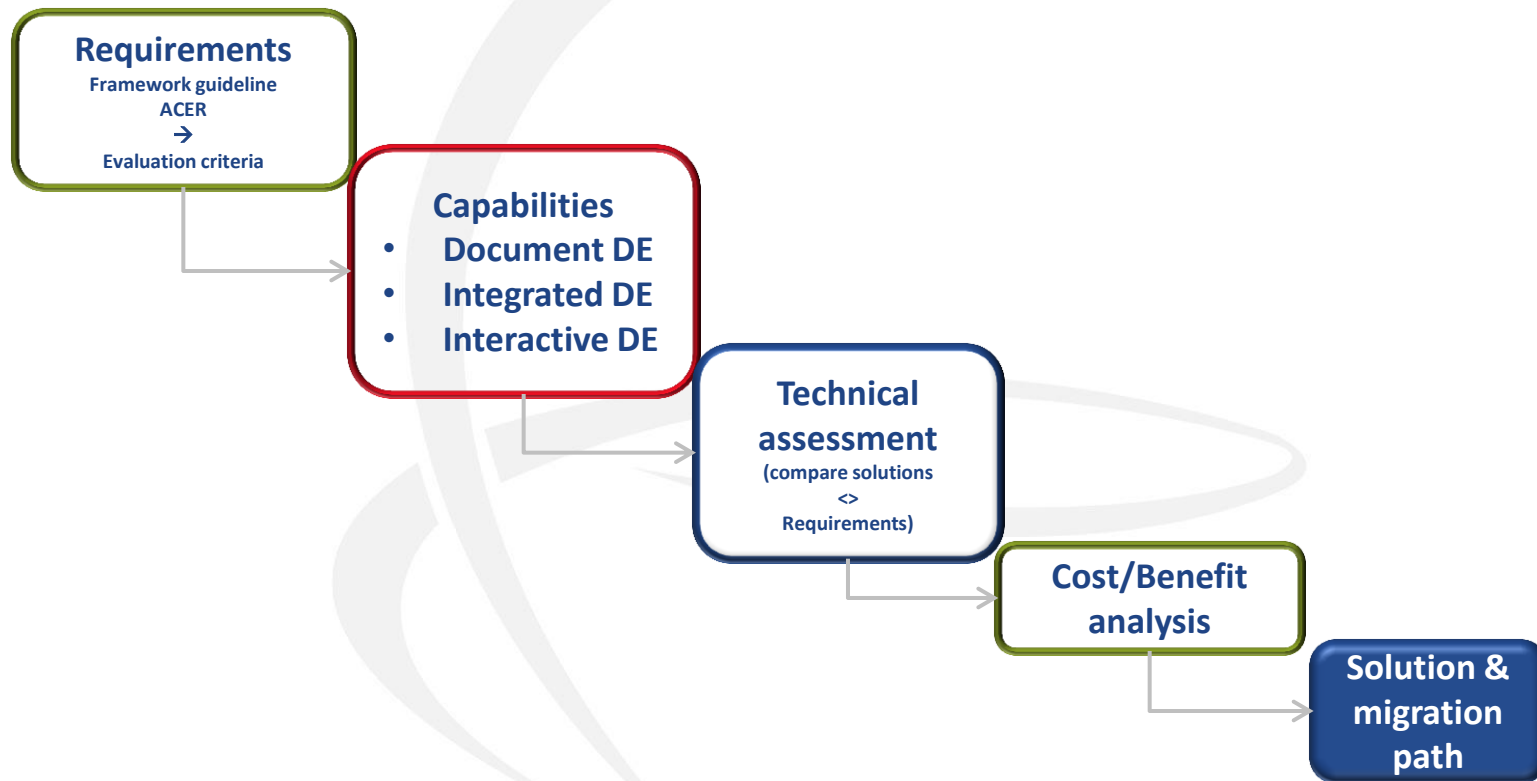
Data Exchange- Harmonisation of Data Exchanges



Network code on Interoperability - Data Exchange section

DATA EXCHANGE – Selection Process

The selection of any solution can only come after following the sequence:



DATA EXCHANGE

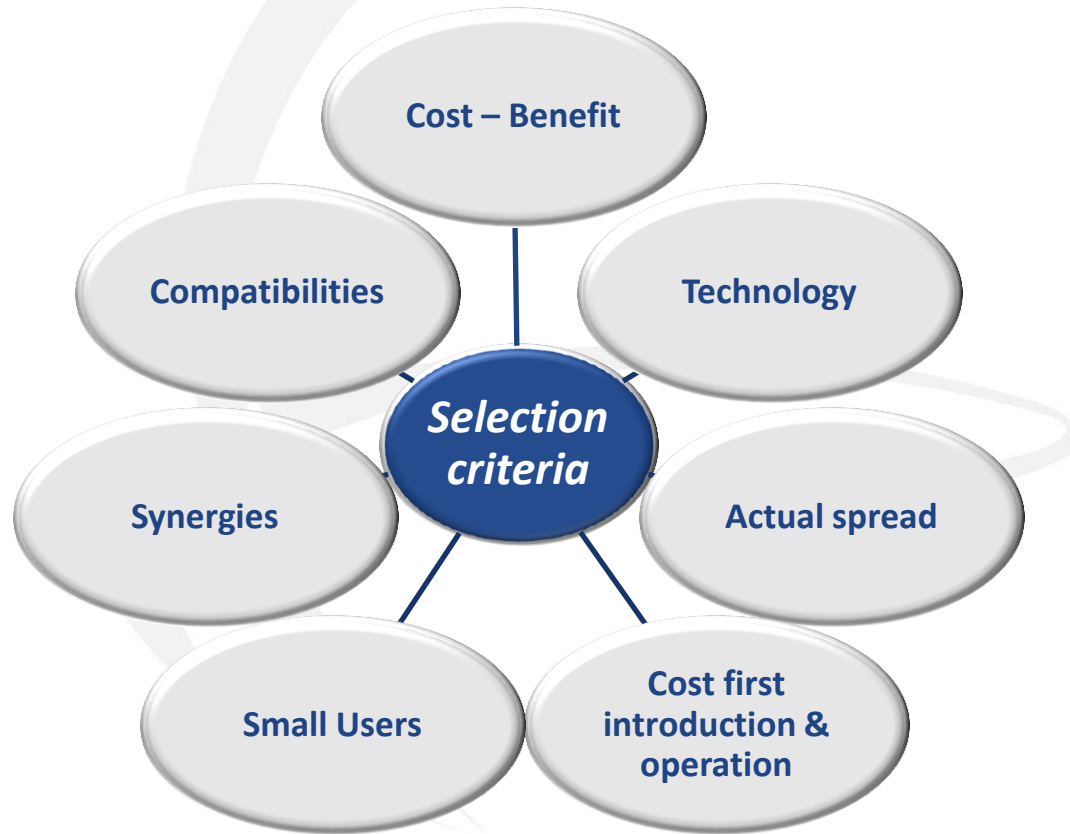
Harmonisation of Data Exchange solutions:

1. Define Evaluation criteria
 - Reliable and secure
 - Smooth
2. Identify possible solutions for
 - DE types – document based, integrated & interactive
 - „How“
 - DE network
 - DE protocols
 - DE formats
 - Out of Scope: „What“ = Content (refer to business process)

DATA EXCHANGE

Harmonisation of Data Exchange solutions:

3. Selection of Data Exchange solution



DATA EXCHANGE

Key messages & points for consideration

- > Migration path from the current situation to a harmonized DE
 - Timing (implementation time of 12 month ref FG)...
 - Data Exchanges that are not part of the NC

- > Need for a full harmonisation (national-EU wide)

- > Possible use of handbook for technical details
 - Data format details (e.g. message)
 - Communication parameters...

- > Cost benefit approach (individual/global/relative cost...)

ENTSOG welcomes Stakeholders' input and experience during the SJWS to work towards the communication solution for data exchanges with TSOs in Europe.



Thank You for Your Attention

Interoperability Team

ENTSOG -- European Network of Transmission System Operators for Gas
Avenue de Cortenbergh 100, B-1000 Brussels

EML: Interoperability@entsog.eu

WWW: www.entsog.eu



Lunch break

Stakeholders' presentations



DSO - Interoperability and Data Exchange Rules

Brussels, 26 September 2012

Presentation by Paul de Wit



Agenda

- DSO overview
- DSO involvement with the Framework Guideline
- Interoperability:
 - Gas quality
 - Odourisation
- Data Exchange Rules:
 - Information flows

TSO – DSO Overview

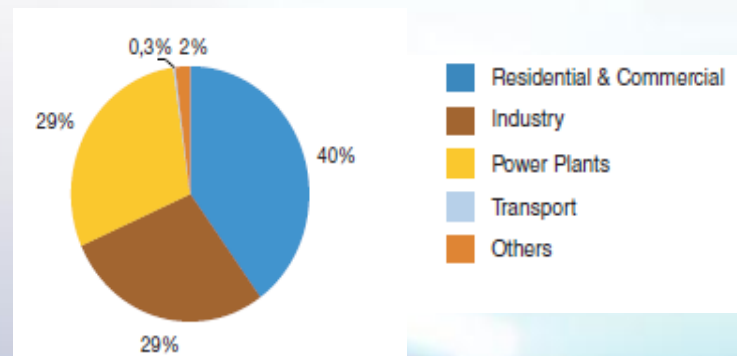
	TSO	DSO
Number of organizations in the EU	39	2.000+
Number of organizations per MS	1–3	5–800
Number of customers per organisation	50–500	100.000–10.000.000
Market facilitation	✓	✓
- Switching (Shipper / Suppliers)	✓	✓
- Customer usage measurements	✓	✓
- Allocation process	✓	✓



Total length of pipelines:
2.043.476 km
Number of gas connections:
115.800.000



2011 Natural gas sales by sector



Interoperability: Gas quality



- Gas quality
- DSO's are responsible (and sometimes accountable for delivering the right gas quality)
- In most Member States (MS), DSO's are responsible for informing their customers of any changes to the quality of their gas
- A TSO-TSO protocol on gas quality has a different impact on DSO's in different MS (operational, legal, responsibility, accountability)



Interoperability: Odourisation



- Odourisation
- The FWGL provides a rule that within a MS a bilateral agreement on odourisation is possible, therefore this is a DSO issue, but can be handled on a MS-level.
- Therefore no action of EU associations at this point is required here.

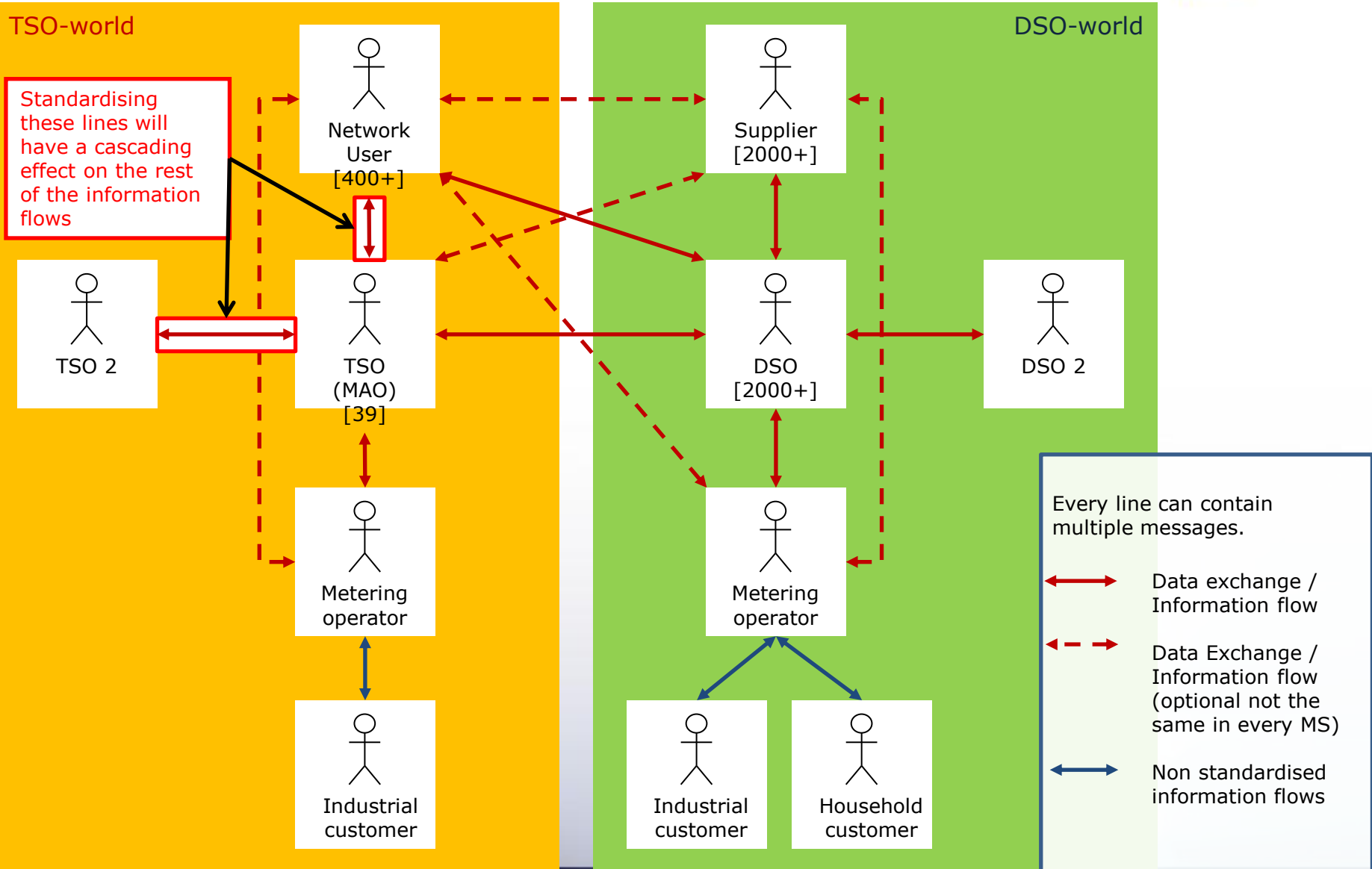


Data exchange

TSO-world

DSO-world

Standardising these lines will have a cascading effect on the rest of the information flows



Interoperability and Data Exchange

Data Exchange

- The information flows per MS are based on the market design of the MS (roles and responsibilities per party).
- Technical and market information is exchanged between network user, TSO and DSO (such as switching, allocation, nomination, usage measurements, etc.).
- This information is on both an aggregated level and on an individual level (large industrial customers).

Interoperability and Data Exchange

Data Exchange

- DSO IT-systems and processes are implemented to facilitate the information flows in their particular market.
- In the NC on balancing the TSO expects the same format from the DSO's as is used between the TSO and the Shipper/Network users
- Changing TSO-TSO or TSO-Shipper data exchange rules, will have a cascading effect and influence not only the IT-systems but also on the business processes within DSO's

Questions



EASEE-gas

European Association for the Streamlining
of Energy Exchange - gas



Peter Meeuwis
Chairman Executive Committee



GasTerra B.V.
Advisor Operational Optimization
t: +31 50 364 8628
m: +31 6 1100 5105
e: peter.meeuwis@gasterra.nl

Background

Established 2002

- ➔ Aim is to develop and promote the **simplification** and **streamlining** of both the **physical transfer** and the **trading of gas across** Europe.
- ➔ Creation of EASEE-gas fully supported by the European Commission and Madrid Forum

Establishment achieved through the work of a dedicated Task Force supported by EFET, Eurogas, Eurelectric, GEODE, GTE, OGP and the Edigas group.

Topics in NC Interoperability & Data Exchange

- ➔ Interconnection Agreements.
 - ➔ Gas Quality.
 - ➔ Odourisation.
 - ➔ Capacity calculation.
 - ➔ Units.
 - ➔ Data exchange.
 - ➔ Feedback & Summary
- 14
November
2012**
- 28
November
2012**
- 11
December
2012**

Interconnection Agreements

- ➔ Minimum set of topics
- ➔ Supported & in favour of IA.
 - ➔ Allocation rules
 - ➔ Conversion factor
 - ➔ Measurements
 - ➔ Nominating & Matching process
- ➔ Default rules.
 - ➔ (dis)advantage for one of the parties

Gas quality & Odourisation

- ➔ Variability of gas quality is increasing.
 - ➔ Difficulties for end users.
 - ➔ Enhanced communication between TSO ↔ (Industrial) End user.
- ➔ TSO information.
 - ➔ Frequently provided for network users.
 - ➔ End users stay responsible within the agreed ranges.
- ➔ Odourisation is regulated by NRAs.

Gas Quality Harmonisation

- ➔ EASEE-gas holds Liaison Status with CEN TC 234 “Gas infrastructure”.
- ➔ Objective to contribute to TC/234 WG 11 “Gas Quality” discussion
- ➔ Pilot Project on Gas Quality Harmonisation
 - ➔ EASEE-gas is co-conducting a Pilot study on adoption of a common gas quality specification

Capacity calculation

- ➔ Capacity calculation is a TSOs issue
 - ➔ Transparent
 - ➔ Maximal available
- ➔ Challenge on (un)bundled capacities
 - ➔ One or two nomination processes
 - ➔ Allocation
 - ➔ Several TSOs in one pipeline

Units

- ➔ Technical communications TSOs.
 - ➔ Matching
 - ➔ Allocation
- ➔ Commercial communications TSOs ↔ network users
 - ➔ Transport nomination
 - ➔ Allocation

Data Exchange in the FG

- ➔ Reliable, secure and smooth exchange of information among TSOs, as well as from TSOs to relevant counterparties.
- ➔ Security Certificates
- ➔ Set of data formats.
 - ➔ EDIG@S-messages
- ➔ Data network and Exchange protocol.
 - ➔ Internet & AS2

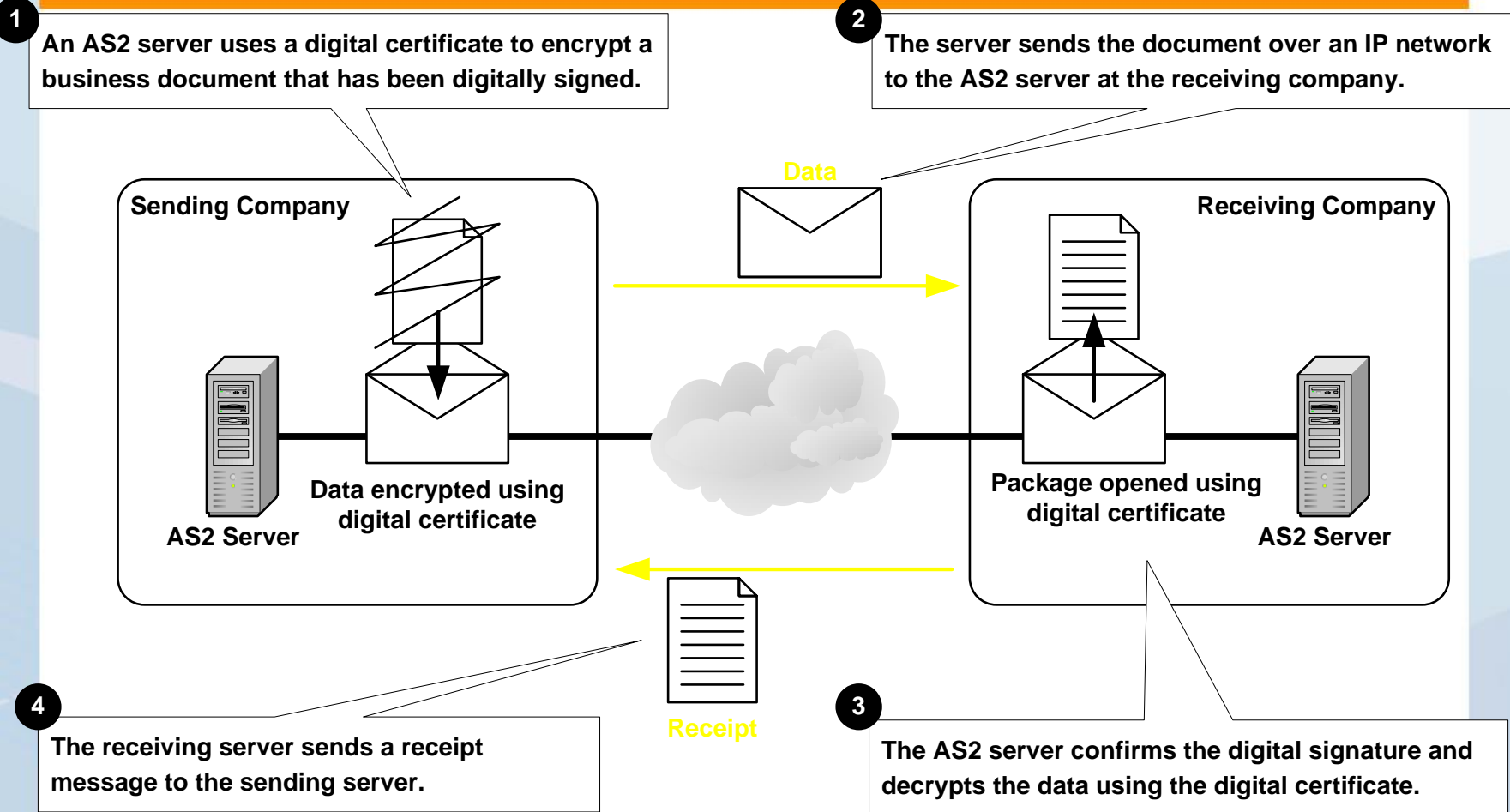
Data Exchange B2B conditions

- ➔ All parties interpret the information the same way.
- ➔ Each party understands how to act on the received information.
- ➔ All parties know what to expect from each other.

Data Exchange B2B scenario

- ➔ Information which is exchanged is not informational but legally binding.
- ➔ Information is a legal *Document* with a begin and an end.
- ➔ You want to be sure who sent the Document and that it has not been tampered with during transfer.

AS2 How does it work



http://easee-gas.eu/docs/cbp/approved/CBP2007-001-01_MessageTransmissionProtocol.pdf

Thank You

<http://easee-gas.eu/newsletter>

EFET presentation to
Kick-Off WS on NC
Interoperability and Data
Exchange Rules
Brussels, Sep 26nd 2012

Filip Sleeuwagen

f.sleeuwagen@efet.org



European Federation of Energy
Traders



1. Intro
2. EFET's position on:
 - Scope and Application
 - Interconnection Agreements
 - Gas Quality
 - Odourisation
 - Capacity Calculation
 - Data Exchange
 - Units
3. Additional Remarks

- The objective is not complete but **efficient harmonization**
- Current ways round many of the barriers involve an additional layer of complexity or, worse still, are **papering-over-the cracks** to hide the differences and increase the level of unpredictable risk.
- Improved interoperability is essential if the single market is to operate efficiently with well connected balancing zones established over the whole of Europe. The forthcoming Network Code (and its Impact Assessment) should aim to help this process by **looking forward to what will be necessary in 5-10 years time** rather than relying solely on analysis the status quo.

2. EFET's Position on: Scope and Application













- **Interconnection Points between EU member states** and between TSO systems if they are operated separately within a Member State. Optimal to extend to Interconnector Points with non-EU States if practical.
- **Consistent approach for all communication protocols, processes and procedures** between the user and the 'national' TSO regarding all their operations within the EU. The use of standard data formats and content needs to be specified in the Network Code.
- if **DSOs, SSOs & LSOs cooperate in applying the same rules**, it would enhance the FG's application and help to facilitate greater interoperability, since they are integrant part of the gas market. A pragmatic approach must be found to achieve this recognizing the **implementation times** involved and the need to keep the primary focus on the services provided by TSOs.

2. EFET's Position on: Scope and Application



- We favour a **very high level of harmonisation** within the whole EU in order to achieve the creation of the single gas market.
- “Business as usual” is not acceptable, ‘full’ harmonisation is necessary for units, conversion rules and data exchange, and possibly for Odourisation depending on the resolution of current issues. A very high level of harmonisation with built-in contingency between TSOs is essential for interconnection agreements and for capacity calculation, but if these are extended to inter-governmental agreements or arrangements between TSOs and SSOs, DSOs and LSOs, then only partial harmonisation (standardised principles, local implementation) should be required for those cases
- The level of harmonisation is difficult to separate from the geographic installation scope of the Framework Guidelines.

	<i>IAs</i>	<i>Units</i>	<i>Gas Quality</i>	<i>Odourisation</i>	<i>Data Exchange</i>	<i>Capacity Calculation</i>
<i>Full harmonization</i>						
<i>Partial harmonization</i>						
<i>Business as usual</i>						

2. EFET's Position on: Interconnection Agreements



- A **common template for Interconnection Agreements** will be a useful tool to help TSOs to elaborate and implement IAs between them. Provided that the common template obliges sufficiently high standards to be implemented and the standard Interconnection Agreement will be the default between the adjacent TSOs, in case they fail to reach an agreement within a specific period, these measures are considered sufficient.
- The details of Interconnection Agreements are primarily a matter for TSOs, but **shippers need to be kept informed of the scope of these agreements** and consulted if any issues would have commercial consequences for shippers.
- Special concern is needed about the **interconnection agreements with TSOs of non-EU member states**, since they are not subject to EU regulation.
- **Stronger involvement of the NRAs on interconnection topics**, which could be seen as too technical issues, can help to solve potential disputes between TSOs and would also help to ensure that NRAs are better informed about the cross-border issues that TSOs are having addressing.

2. EFET's Position on: Gas Quality



- There should be greater clarity that once gas has been accepted into a TSO's system then the **control of gas quality within the TSO system is the responsibility of the TSO.**
- Considering the likely evolution of gas supplies to Europe in the mid -to long-term, managing gas quality may require more active measures. The first step is to ensure greater transparency of information about actual **gas quality variation.** The second step is to address **gas quality conversion rules.**
- A gas quality solution should be developed **cross-border** by the TSOs and approved by the NRAs, following a market consultation. A cost-sharing mechanism between the adjacent TSOs could be established

- Odourisation can be a **major hurdle** that prevents cross-border trade.
- The measure proposed should be made more **explicit**, for example: TSOs shall implement non-odorised gas on all high pressure transmission infrastructure unless there is an lower cost alternative to free-up cross-border gas flows.
- Because the odourisation problem is a **local one with regional consequences, implementation should be made through bilateral agreements** that take into account the special needs and characteristics of the adjacent systems. In case of failure to agree within a specific time frame, the Code's provisions on the issue will be applied.

- The objective of harmonisation must be addressed to ensure TSOs **efficiently maximise the provision of available capacity at all times** rather than encouraging a 'lowest common denominator' approach
- Support the need to establish **common minimum requirements for the calculation of the maximum available capacity offered to the market** without leading TSOs to be extremely conservative limiting the capacity at interconnector points Some clear definitions of what 'capacity' is being calculated would be helpful.
- Cooperation between adjacent TSOs must go far beyond reducing the discrepancies between the maximum capacities on either sides of an interconnection point. The overall benchmark, however, is that TSOs must also **jointly calculate the capacities** that an equivalent ISO (responsible for the optimal operation of both systems) would be able to offer to the market.
- The level of harmonisation of capacity calculation should aim to reproduce what an ISO would do if they had responsibility for both systems and an obligation to maximise the capacity that could be offered to the market at the interconnection point.
- Currently the methodology to calculate maximum physical available capacity at one interconnection point may differ between TSOs on each side of a given border due to **technical assumptions** (such as calorific value, temperature, pressure, etc.) and the status and assumptions (e.g. on security of supply) of the transmission networks connected through that IP. As a starting point it would help to resolve these differences and be beneficial to the market by having a transparent process in which TSOs **publish** their underlying assumptions.
- strong support for a **standardised interruptible capacity product** to be adopted throughout Europe, however, we are unclear whether or not this is in the scope of these Framework Guidelines.

- Data exchange is crucial for gas trading. The more data communicated then the more cross-border trading is made efficiently. **Harmonization of the data format and data content is** also necessary to avoid undue discrimination between traders. Furthermore, EFET has a strong preference that the **same format for Data exchange is used also by SSOs and LSOs** to ensure their integration into a fully interoperable EU gas market.
- EFET is in favour of a **full harmonisation process for data exchange with a standardised messaging protocol**: the format of this protocol must be harmonised, but the content should be more flexible and adapted to the context.
- **Capacity bookings** (real and estimations), **gas flows** (real and estimations), **actual gas quality, maintenance periods** (scheduled and unscheduled) and the data required for **nomination and re-nomination processes** must all have standardized and clearly defined format and content.
- The **open standard** for Data exchange should define **format, content and communication (messaging) protocol** to standardize at maximum the processes to be implemented, minimize the implementation efforts by potentially offering a reference non-exclusive software implementation. Such data format must be maximally based on existing market data standards as currently in place for the energy community (**Commodity product Markup Language – CpML**)
- **Information disclosure** on real time is essential for the EU market functioning, its liquidity and integration. Both the format and content needs to be standardized if data processing is to be practical and the efficiency benefits realized.
- Voluntary rules lead to interpretation and implementation variants, which increase the operational issues of such a process exponentially (e.g. difficulties in connecting the implemented process variants to TSOs, operation burden to foresee reconciliations between the different variants, etc.) It is crucial to lay down all of these rules (process, content, data format and messaging/communication topics) in **strict mandatory**

- Although the current situation does not appear to be a major barrier that prevents trading opportunities within the more liquid markets, the **use of non-standardised units**, however, **introduces unnecessary operational risk**, complexity and costs to the daily activities of shippers and could therefore discourage new entrants or limit cross-border trading activity.
- Harmonization of units principally **eases the communication** among TSOs and between TSOs with other involved parties and contributes to efficient market functioning, whilst contributing positively to the management of measurements.
- EFET is in favour of **full harmonisation of units** (especially any units underlying capacity bookings, nominations and balancing) across Europe. Harmonisation should include **all units that are used for capacity, nominations, gas flows, gas quality or balancing**. Whilst extending beyond that is not necessary from a network user perspective, it would be helpful to have official naming conventions for other units and an official conversion table.

3. Additional remarks



- All proposals in these Framework Guidelines that improve interoperability are welcomed, whether by bringing simplifications that reduce risk (harmonisation of units for instance) or by tackling major hurdles to cross-border trade such as odorisation. But there are other interoperability issues that may have been missed. EFET suggests to write the Framework Guideline in such a way that it **allows for small but important interoperability issues to be raised during the Network Code development process.**
- **Harmonisation of nomination and renomination** seems to have disappeared from these FG on interoperability. The lack of harmonization related to the nomination procedure as a whole (deadlines for nomination & renomination by shippers and confirmation by TSO) is an obstacle to the efficient functioning of the market, as it affects the efficient allocation and use of capacity with a direct impact on the efficiency of the gas market. We fully support the establishment of harmonised timelines for Day-Ahead and Within-Day Nomination/Re-nomination/Confirmation procedures.
- Whilst it is helpful that at a high level an outline standardised timeline is now proposed in the Balancing Network Code, this does not cover all the **nomination procedures**, nor does it provide the **detailed level of harmonisation** that is required for full interoperability. It is essential that these issues are fully addressed. To the extent that this proves not to be the case in the balancing network code then the topic will need to be included in this **interoperability Framework Guideline.**



Thanks for your attention



European Federation of Energy Traders

**Amstelveenseweg 998
1081 JS Amsterdam**

**Tel: +31 (0)20 5207970
Email: secretariat@efet.org
www.efet.org**

- **EFET Gas Committee has responded to the Questionnaire**
- **Summary of our response :**
 - **We strongly support sufficient harmonization to enable efficient operation of wholesale gas trading markets throughout Europe: “what would an ISO do?”**
 - **Some parts of the framework guidelines on interoperability, in particular data exchange rules, will need to apply to DSOs, SSOs and LSOs.**
 - **Need standard units to be used for TSO communication (e.g. for information provision, capacity bookings, nominations etc)**
 - **Open standard data formats, content definitions, processes and communication protocols that must be applied between TSOs, Shippers, Traders, Regulators and all relevant market participants**
 - **Harmonization of nomination and re-nomination processes is necessary (and will need to be in the scope if it is not in other Network**

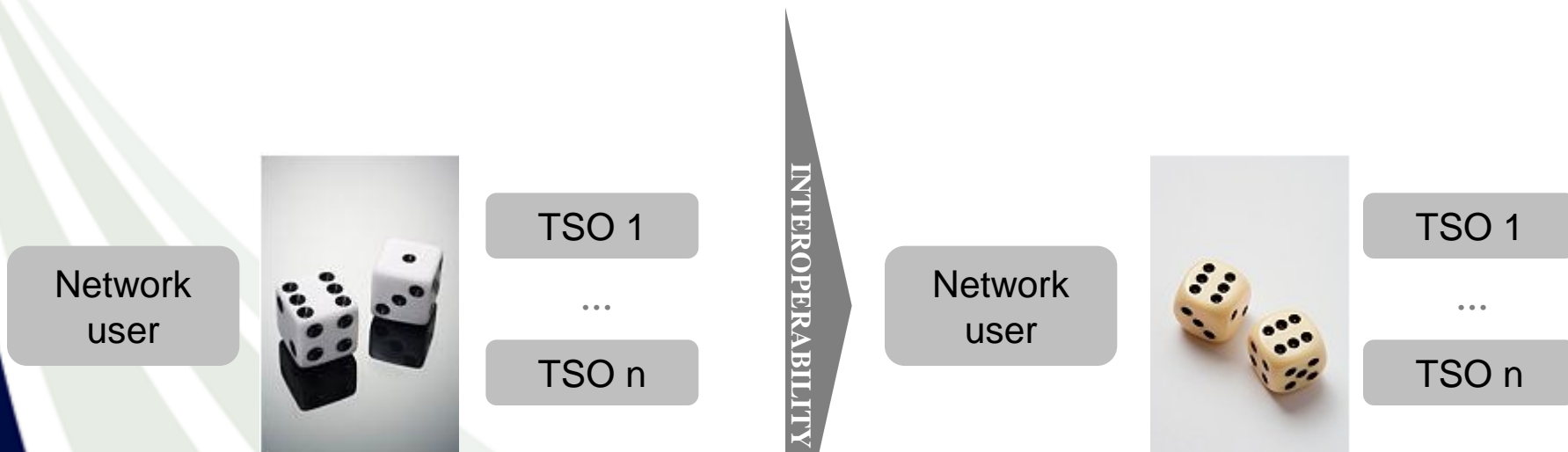
Network Code Interoperability and Data Exchange Rules: kick-off Workshop

GEODE's position

Eszter Varga

Brussels, 26.09.2012

Although Interoperability still often seen as TSO issue...



„to ensure that users of two or more transmission systems operated by separate entities in Europe do not face technical, operational, communications or business-related barriers higher than those that would be reasonably expected if the relevant networks were efficiently operated by a single entity”

... most of the topics with large consequence at DSO level!

„shall apply to TSOs, with the aim to reach full market integration”

Network user



TSO 1

...

TSO n

„TSOs shall cooperate with stakeholders, including distribution system operators, in developing and implementing the Network Code”

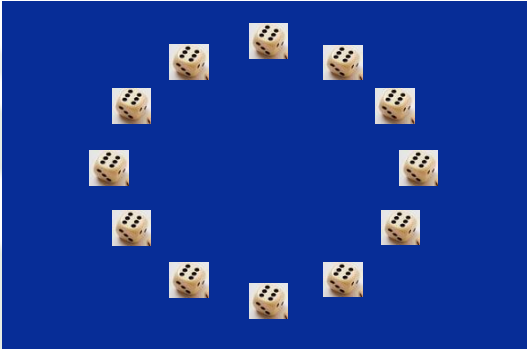
DIRECT

INDIRECT

- TSOs
- NRAs
- network users

DSO level

DSO perspective to be included in the NC!



Topics

1. IA
2. Units
3. Gas Quality
4. Odourisation
5. Capacity Calculation
6. Data Exchange

Potential impact on DSOs

INDIRECT

DIRECT

DIRECT

DIRECT

INDIRECT

DIRECT

DSO-level impact shall be thoroughly assessed, as there is great variety depending on prevailing market and regulatory context

Harmonization of Units with enormous effect at DSO level

- Many countries with currently differing practice from GCV, 0/25 °C, kWh standard
- Already TSOs facing massive costs of unit harmonization
- Harmonization costs at DSO level could substantially exceed costs arising at TSOs

Therefore implementation details should be consulted with DSOs and sector-wide consequences shall be considered!

Case example

In Hungary, normal units are defined in NCV, 15/15 °C, MJ. Changing of units (including temperature conditions) will have direct effect at DSO level. Full harmonization could **theoretically** lead to reprogramming (where possible) or change of DSO pressure regulators, remote terminal units and end-user meters (!)

Gas quality could remain a TSO-TSO issue, if solution is reached without modifying prevailing nation standards defining gas quality requirements

In any other case, change of gas quality have a direct effect on end-users and DSOs

Case example

In Germany, there are two types of gas, H-gas (high-calorific gas) and L-gas (low-calorific gas). Since only H-gas shall remain the DSOs start conversion projects: customer systems must be adopted.



The odourisation provisions have a direct impact on DSOs through the TSO / DSO interconnection points

Both systems must be compatible

Case example

In several countries, odourisation is a task of DSOs.
In Germany, a big problem linked to odourisation arises when biogas is fed in from the DSO grid to TSO system.



The FG itself requires further harmonisation of ‘data exchange solutions’ among TSOs and from TSOs to counterparties

- Thus, direct impact on DSOs (and other stakeholders) is inevitable

Costs of implementation and ongoing operation therefore need to be assessed and considered as sum at all stakeholders

GEODE offers its close cooperation and is ready to provide the DSO perspectives in this hopefully interactive process!

Case example

In Hungary, the national NC obliges all stakeholders to use the common informatic platform, operated by TSO. Any change at TSO level likely to have direct impact on DSOs and all other parties involved. Therefore cost of any modification is much higher than those arising directly at TSO.

Most topics of the Interoperability and Data Exchange NC will have an impact on DSO level

- Depending on the current legal-regulatory and operational circumstances of the member states, topics have different impact on DSOs

Both direct and potential indirect effects on DSOs have to be considered

GEODE is ready to cooperate with ENTSOG in the elaborating process of the Network Code

A good example for such a fruitful cooperation is the elaboration process of the NC on Gas Balancing where numerous ENTSOG-DSO meetings have been held

THANK YOU!



**Thank you for your
attention!**

GEODE

**Avenue Marnix 28
1000 Brussels**

**Tel. +32 2 204 44 60
Fax +32 2 204 44 69
www.geode-eu.org
info@geode-eu.org**



GIE position on Interoperability FG

Philipp Daniel Palada

Brussels, September 2012



GIE views on Interoperability FG

GIE Focus:

- Scope
- Interconnection agreements
- Gas quality
- Data exchange

Scope

“LSOs and SSOs shall facilitate interoperability and support the provisions related to TSOs laid down in this FG”

- Commits LSOs and SSOs beyond their obligations laid down in the 3rd package, anyhow GIE and its members support the idea of cooperation and will contribute to the process
- TSO harmonisation should not negatively impact business opportunities of other infrastructure operators (eg zone merger defines market borders)



GIE views on Interoperability FG

Interconnection agreements

- GIE agrees with the proposal included in the FG -> harmonization of the interconnection agreements between TSOs and at all cross border interconnection points
- Harmonisation may not be extended to the rest of the points, due to the specificities of LNG terminals and UGSs and also to the possible incompatibility with the provisions of the existing interconnection agreements
- Anyhow, within the Entry-Exit system network users are not influenced

Gas quality

- GIE supports gas quality standardisation and contributes to current activities (liaison organisation with CEN)
- To allow for a liquid European gas market gas specifications shall be as wide as safely and technically possible
- Responsibility for quality compliance lies with the owners (importer/producer/shipper)



GIE views on Interoperability FG

Data exchange

- Where existing data exchange solutions are deemed satisfactory by the concerned parties, these should be maintained. Unsolicited modifications would lead to generate costs with no added value
- ENTSOG should take into account the compatibility with counterparties' data exchange solutions



Thank you for your kind attention

Network Code Interoperability and Data Exchange Rules: kick-off Workshop

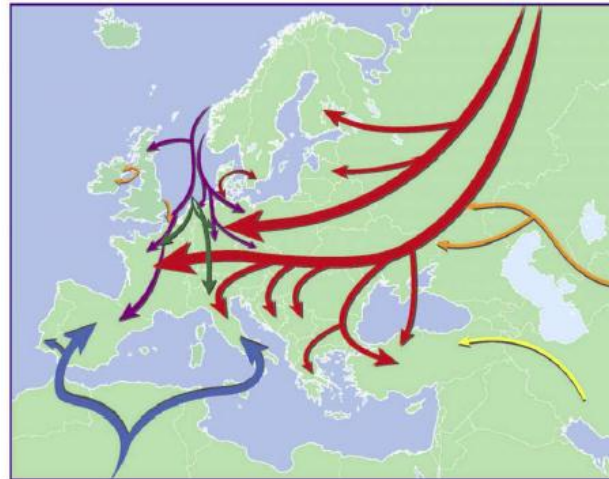
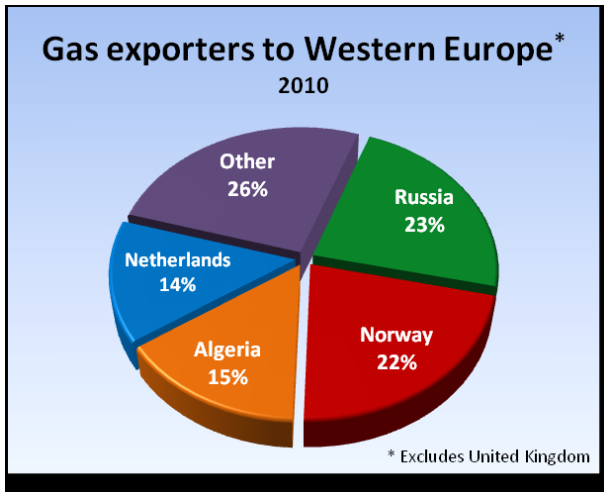
IFIECs general view

Valentin Höhn

26 September 2012, Brussels

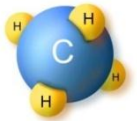
History of natural Gas

- 1959: Discovery of the Groningen field in the Netherlands
- Few years later: Discoveries of natural gas in the UK sector of the North Sea
- 1970s: Substantial discoveries of gas in the Norwegian sector
- Between 1970 and 1980: Increasing deliveries of Soviet gas to Western Europe
- 1990s: new developments in technology made LNG more competitive
- 2012: **Industry** consumes at least **20 % of the whole gas consumption** (500 bcm) in Europe
- 2014: IFIEC welcomes the **free flow of gas** and the **2014 goal of an internal gas market**



Gas transport routes to Europe

Gas quality is not a new kid on the block



- Industrial gas consumers in Europe are or have been used to receiving gas of a rather constant quality and composition which in turn has led to national gas quality specifications.
- As a consequence domestic appliance and industrial equipment set-ups have been determined in line with those national or regional standards
- Gas quality and composition have to some extent already lead to changes and are expected to do so much more in the future with unpredictable flows
- Costs of full quality harmonisation (179 bln €) exceeds possible benefits (0,2 bln €) by far and is neither realistic nor necessary;
- Physical differences in gas quality do not need to hamper trade.
- Too wide quality bands and high speed quality changes jeopardise end users operation: (safety, emissions and efficiency)

Gas Quality: Not just the Wobbe-Index

- **Gas quality is more than Wobbe-index** and other transport-related parameters (dew point, etc.)
- End users require **application parameters**: PE, MN, S, CO₂, Calorific value / density
- **Risks** for **industrial consumers**
 - **Turbine operators** (flash-back, blow out, increased emissions and a changed combustion dynamic)
 - **Chemical industry** uses gas as a feedstock
- **Limitations** for these application parameters need to be **legally specified**



*Flashback damage to burners has been linked to high levels of higher hydrocarbons
Source: E-ON, David Abbott; EDI Quarterly Volume 4 No 1 April 1012*

Measures: gas quality should be user-led, not supplier-led nor political-led

USA stakeholder involvement

15 LNG suppliers

12 pipeline companies

24 gas selling utilities

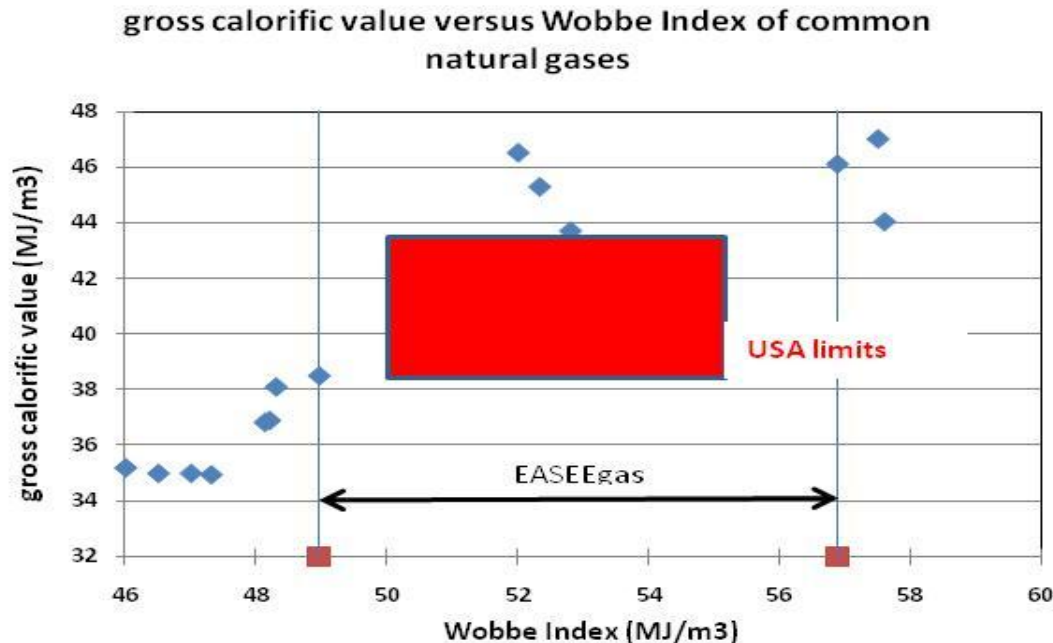
11 power producing companies

5 feedstock companies

4 appliance manufacturer representatives

Aspects:

- Combustion efficiency
- Emissions
- Flame stability
- Operational efficiency



Near real time information is crucial



- Fluctuating gas qualities lead to high risks for industrial consumers
- At least, risks are more manageable, when information is available reasonably ahead of the occurrence of the change.
- NC Interoperability and Data Exchange should mandate European TSOs to inform industrial customers and power plant operators in near real time about changes in gas quality in the system
- By timely publishing the quality of the gasses that are injected in the grid, TSOs are able to improve their services as far as short term information is concerned, but this is insufficient for the structural measures that need to be taken.

Gas Quality Information needed by Industrial Consumers (different values for different areas)

Composition	unit
Total Sulphur	mg/m ³
Inorganic Sulphur (H ₂ S/COS)	mg/m ³
Mercaptans (R-SH)	mg/m ³
Oxygen (O ₂)	mol %
Carbon Dioxide (CO ₂)	mol %
Nitrogen (N ₂)	mol %
Hydrogen (H ₂)	mol %
Methane (CH ₄)	mol %
Ethane (C ₂ H ₆)	mol %
Propane (C ₃ H ₈)	mol %
i-Butane (C ₄ H ₁₀)	mol %
n-Butane (C ₄ H ₁₀)	mol %
i-Pentane (C ₅ H ₁₂)	mol %
n-Pentane (C ₅ H ₁₂)	mol %
neo-Pentane (C ₅ H ₁₂)	mol %
Hexane+ (C ₆ +)	mol %
dust/solids	mg/m ³

Calorific characteristics	unit
Wobbe Index (WI)	MJ/m ³
WI variation	MJ/m ³ /h
Methane number	
Standard density (ρ)	kg/m ³
Relative density (d)	
Water dew-point	°C@70 bar
Hydrocarbon dew-point	°C@ 1-70 bar
Superior calorific value (H _s)	MJ/m ³
Inferior calorific value (H _i)	MJ/m ³
H _i /H _s	
Emission factor	t CO ₂ /TJ
Maximum CO ₂ content	mol %
Minimum combustion air quantity	m ³ /MJ



Questions ?

Valentin Hoehn

Rapporteur IFIEC Working Party Oil and Gas



securing competitive energy for industry

Avenue Louise, 250, box 80, B1050 Brussels; tel 32 2 888 52 69; email ifieceurope@ifieceurope.org; web www.ifieceurope.org
a.i.s.b.l. NI 436 343 513 Vat Nr BE0436 343 513

marcogaz

TECHNICAL ASSOCIATION
OF THE EUROPEAN NATURAL GAS INDUSTRY



ENSTOG Workshop on Network Code September 26, 2012.

Some views and information from Marcogaz

- Marcogaz supports the process of harmonisation in this field
- Marcogaz stresses the fact that standardisation work has already been completed internationally and in EU
- As a result of these works standards are expressing energy (GCV) and subsequent parameters (Wobbe index) in MJ with reference conditions of 15°C, 1013.25 hPa
- In particular standards such as EN 437 and other CEN documents VERY relevant for the gas industry are using these units and reference conditions
- **To promote other units or reference conditions seems in our view not a way to harmonise in this field.**

- Marcogaz is and has been heavily involved in the harmonisation of gas quality and support the current harmonisation process
- Under mandate M 400, CEN is currently preparing a standard for gas quality with a parallel work being conducted in a small number of states on the implementation of a Wobbe index range of 46-54 MJ/m³ (Pilot Project)
- The standard in preparation aims at defining specifications for natural gas. Their acceptance and thus their definitions may depend on the way the standard will be implemented
- **As the network code may impact this implementation it is crucial that a common understanding is established between CEN and ENTSOG on this topic.**

- Marcogaz has just finished a survey of odourisation practices in EU
- Various odorant and practices are existing for both transmission and distribution grids, among the different countries.
- Harmonisation in this field could be difficult, because changing odourisation practices is a lengthy and costly process with **potential impact on the general public safety**
- Would a change of practices be necessary it should be justified by a cost benefit analysis
- More to be presented by Marcogaz WG odourisation convenor at the dedicated ENTSOG workshop

A light blue graphic of a globe is positioned in the background on the left side of the slide. It features several curved lines representing latitude and longitude, with a prominent circle on the left side representing the equator or a similar line of latitude.

Preliminary views on Interoperability and Data Exchange NC

**ENTSOG Workshop
Brussels, 26 September 2012**

Kees Bouwens, ExxonMobil



**International
Association
of Oil & Gas
Producers**

More about OGP: Our membership spans the globe and accounts for more than half of the world's oil output and about one third of global gas production. From our London office, we foster cooperation in the area of health, safety and the environment, operations and engineering, and represent the industry before international organisations, such as the UN, IMO and the World Bank, as well as regional seas conventions, such as OSPAR, where we have observer status. OGP Europe in Brussels represents before the EU OGP members who are active in Europe.

- OGP support the overall aim of Interoperability as laid down in the Framework Guidelines:

The overall aim of the *interoperability* rules is to ensure that users of two or more transmission systems operated by separate entities in Europe do not face technical, operational, communications or business-related barriers higher than those that would be reasonably expected if the relevant networks were efficiently operated by a single entity.

- OGP support the purpose of Interconnection Agreements between adjacent TSOs to facilitate efficient operation of interconnected networks
- It would be wrong to consider Interconnection Agreements as a matter exclusively for TSOs, or limited to IPs only
- Where Interconnection Agreements could affect or prejudice connection arrangements between TSOs and other parties, they should be duly consulted, aiming to reach a mutually acceptable agreement
 - Includes SSOs, LSOs, DSOs, producers and consumers connected to the system
 - This would set a more ambitious harmonisation target

- When only considering IPs, how are network users directly impacted by Interconnection Agreements (based on the FG)?
 - Matching process: *mismatch is resolved at the lowest cost*
 - Allocation: *consistent allocation of quantities to users*
 - Operational balancing account: *simplify gas accounting for network users*
 - Exceptional events: *capacity reductions for network users*
 - Default rule: *data exchange between TSOs and users*
- OGP would welcome agreement by TSOs to accept each other's network users without additional registration/licensing

- Network users should only be responsible for meeting gas quality specifications at the EU market entry point
- TSOs should be responsible for gas quality in the system and in particular the quality at exit points towards consumers
- In managing gas quality issues, TSOs should use the most cost-effective measures, subject to NRA endorsement
- Users providing solutions for gas quality issues (e.g. flow commitments) should be compensated
- The process by which TSOs contract such services should be transparent and non-discriminatory
- TSOs should share information on gas quality with network users, but this should not imply sharing of responsibility

- TSOs should maximise capacity that is offered to the market
- OGP support a common approach in calculating capacity at IPs, including:
 - Baseline capacity (technical firm capacity)
 - Additional capacity (§ 2.2 of Annex I to Reg. 715/2009)
 - Interruptible capacity (+ how and when this is interrupted)
- Where capacity differences remain other tools should be used:
 - Oversubscription and buy-back scheme
 - Interruptible capacity
 - Incremental capacity
- Network Code should not delay full implementation of Annex I

- OGP support harmonisation of data exchange solutions and suggest the widely used EDIGAS protocol as standard solution
- Network Code process may not be sufficiently flexible to deal with changes
 - Also level of detail may not be suitable for Comitology
- Network Code might establish a basis for ENTSOG proposal of a data exchange handbook with detailed rules

Thank you for your attention !



Coffee break



Closing remarks

Closing remarks

- > Thanks for participation – attendees through webcasting to identify themselves
- > Different opinions and views heard – sometimes conflicting: challenge for us to handle them and produce a NC that fits all
- > Invitation to react on public consultation (project plan) and define level of preferred involvement (11 Oct)
- > Mid-Oct Launch Doc to be published a lot of questions included to steer up SJWS and further meetings
- > Remain open and always available for bilateral meetings when requested
- > All material from WS to be published the soonest



Thank You for Your Attention

ENTSOG -- European Network of Transmission System Operators for Gas
Avenue de Cortenbergh 100, B-1000 Brussels

EML: interoperability@entsog.eu

WWW: www.entsog.eu