ACER
Agency for the Cooperation of Energy Regulators

Framework Guidelines on Interoperability Rules and Data Exchange

STAKEHOLDER WORKSHOP

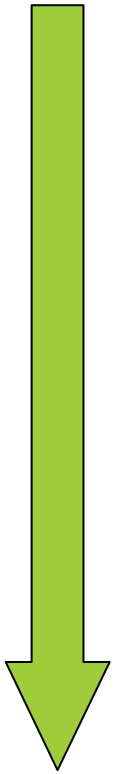
Ljubljana

23 April 2012

AGENDA

- Introduction
  - Background: Problem Identification and Scoping Process
  - Consultant Study
- The Framework Guidelines Issue by Issue
- Conclusions

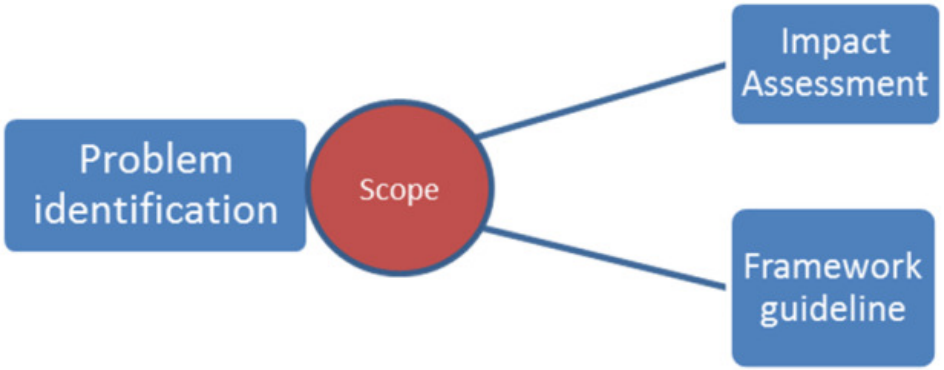
Background - Timeline



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)
30/03/2012: Consultant study
23/04/2012: Stakeholder Workshop

Problem Identification(*)

- A regulatory problem in a FG should:
- be specific enough to allow to establish the link between the remedies and the problem;
- require urgent solution, or happen along an identified timeline, as opposed to a problem that could only potentially occur (the latter to be tackled when it occurs -> amendment process);
- should affect market players on a broad scale;
- Should occur at EU level



* EC impact assessment guidelines

Problem Identification: Approach

- Focus on obstacles to market integration and cross-border trade - > this guides PI and decisions on scope

- Input from NRAs and stakeholders
- Difficulties in gathering quantifiable evidence for some issues
- Problem identification needs to meet stricter requirements (IA guidelines)
- Discussion on how to deal with problems likely to arise soon – making the FG fit for the future
- Decision to draw upon support from a consultant
- Cooperation between stakeholders and drafting team/consultant remains important to ensure all problems are appropriately addressed

PI: Interconnection Agreements

- This is a TSO-TSO issue.
- Problems occur where IAs are incomplete or implementation times are too long.
- A lack of dispute resolution mechanisms causes issues at several IPs.
- The provisions of the FG therefore concentrate on pushing TSOs to conclude complete agreements rapidly that cover all essential topics.

PI: Units Harmonisation

- A large number of units to be handled by network users and system operators causes transaction costs.
- Focus on communication between TSOs and 3rd parties
- Transparency guidelines and CAM partially respond to this problem.
- The FG intends to fill the gap and ensure units for the most important areas, as well as the essential parameters for measuring them (ref. temperature) are harmonised.
- Need for harmonisation to increase with development of platforms etc.

PI: Gas Quality

- Gas quality is both a contractual and a technical problem, at regional level.
- Stakeholders are divided about the scope of problems linked to gas quality differences.
- It is certainly a problem at some borders and likely to become one at others with changing flow patterns (reverse flow, new sources).
- Fluctuations in gas quality and a lack of end-user information were identified as additional problems.
- Problems identified are thus calling for a solid case-by-case approach.
- Close monitoring of future developments is required

PI: Odorisation

- A local problem with cross regional consequences
- Odorised gas cannot be accepted downstream into neighbouring countries carrying non odorised gas only at transmission level
- This restricts trade routes – obstacle to cross-border trade and market integration.
- Non-odorisation as a default rule

PI: Data Exchange

- To be tackled within FG Interoperability – No distinct FG on Data Exchange
- Transaction costs linked to multiple data formats
- Impact may be particularly important for smaller shippers
- Focus on "how" to communicate: format, protocols, safety
- "What" to communicate is not tackled here.

PI: Capacity calculation

- TSOs are requested by Regulation to make available maximum capacity.
- A problem was identified concerning a lack of cooperation between TSOs on capacity calculation
- Better cooperation on parameters, scenarios and assumptions is likely to carry potential for an increase in capacity offered
- Problems not tackled within the FG IO are those linked to a lack of financial incentives for some TSOs to maximise capacity offered to its full potential
- Tackling the problem is necessary also in the light of bundled products soon to be offered.

IA Structure

1 Introduction

2. PROCEDURAL ISSUES AND CONSULTATION OF INTERESTED PARTIES

3. Problem description

3.1 Context of the problem

3.2 Current regulation

3.3 Problem definition

3.4 Extent of the problem

4 .OBJECTIVES

4.1 General objectives

4.2 Specific objectives

4.3 Operational objectives

4.4 Legal base and subsidiarity principle

5. POLICY OPTIONS AND ENFORCEMENT DESIGN CHOICES

6. ANALYSIS OF IMPACTS

7. COMPARING THE OPTIONS

7.1 Summary of impacts (see chapter 6)

7.2 Political feasibility and social acceptance

7.3 Proportionality

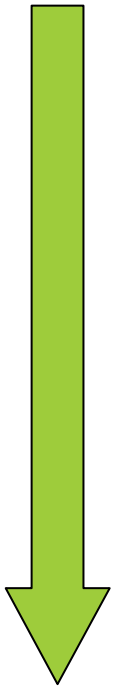
7.4 Preferred option

8. MONITORING AND EVALUATION

Impact Assessment: Study

- Contract awarded to Pöyry UK
- Decision to procure consultant support to gather further quantified evidence and data
- Underpin problems identified
- Assess economic, (environmental&social) impact of policy options
- Interaction between consultant and stakeholders
- Project period: 30/03 – 15/06/2012
- Study results feed in to IA development by TF

Next steps - Timeline



16/05: End of public consultation
3rd ad hoc Expert group meeting (tbc)
Ongoing exchange with consultants, TF, GWG
Finalization of Impact Assessment
Finalization of Framework Guideline
10/07: Board of Regulators decision

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  - Consultant Study
- **The Framework Guidelines Issue by Issue**
- Conclusions

Interoperability Framework Guidelines – General views

ACER Workshop Ljubljana 23th April

Michel Van den Brande

Adviser Interoperability

Ljubljana -- 23 April 2012

39 Members and **2** Associated Partners in **24** EU countries

3 Observers from EU affiliate countries

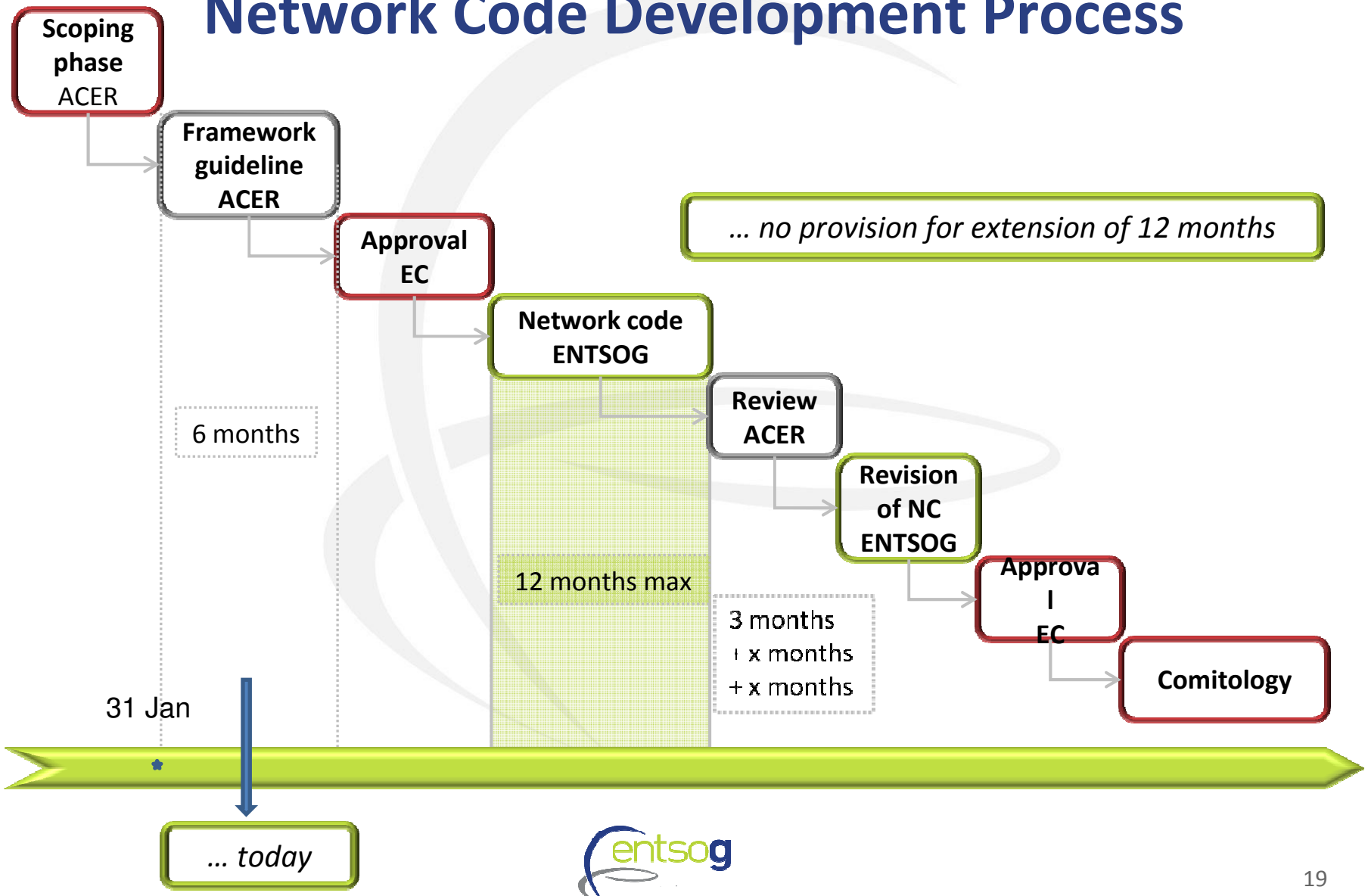
- Gassco AS (Norway)
- Plinacro Ltd (Croatia)
- Swissgas AS (Switzerland)

ENTSOG's Mission & Vision

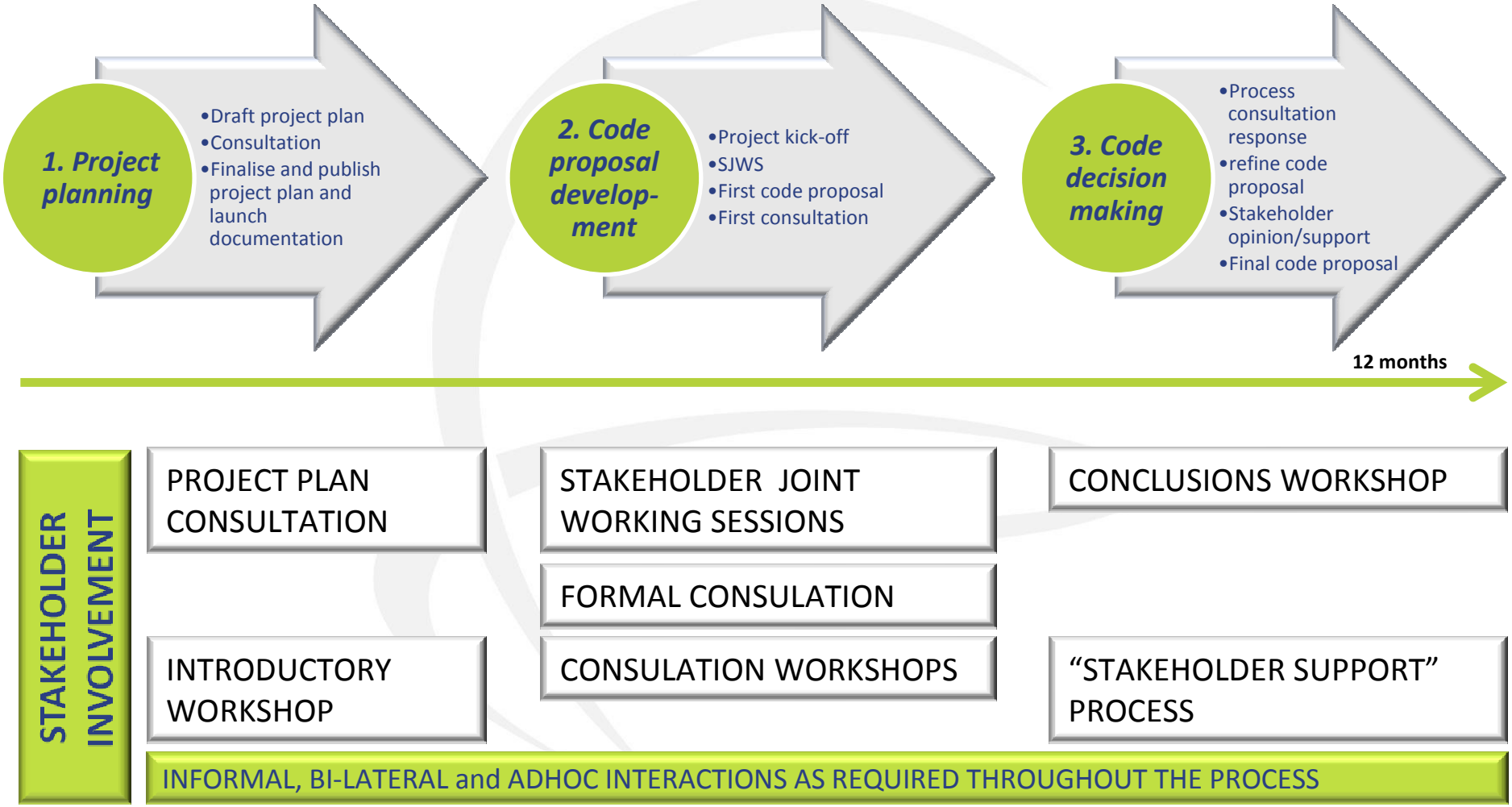
… by fulfilling its tasks under the 3rd package and offering a platform for a truly European TSO cooperation, ENTSOG

- enables easy grid access
- facilitates cross-border gas flows
- promotes the integration of the European energy market
- is a fair partner to all stakeholders

Interoperability and Data Exchange Rules Network Code Development Process



Phases in ENTSOG's Network Code Development



General views

1. Cost efficient approach
   - Focus on real EU-wide technical/operational barriers
   - Realistic implementation timelines and cost allocation mechanisms
2. Focus on TSO-TSO and TSO-NU cooperation. National provisions related to other operators compatible with NC.
3. Stakeholder involvement in NC development process
4. More detailed key messages per issues

Thank You for Your Attention

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Interconnection Agreements (1)

Provisions stipulate that it is needed and has to be complete. Therefore:

- IAs shall be mandatory on all interconnection points;

- General criteria to be respected:

  a) No restriction to cross-border trade;
  b) Promotion of the development of competitive and liquid markets at both sides of the interconnection points;

- A framework including a minimum set (7) of requirements shall be set as a mandatory basis ("model template");

Interconnection Agreements (2)

- A "standard IA" shall be defined, based on the "model template", to be used as a default agreement if no agreement is reached between TSOs within 12 months;
- On request of a TSO, a dispute resolution can be activated with involvement of NRAs. When no agreement is reached -> ACER
- TSOs are free to add additional issues than mentioned in the "model template";
- IAs to be communicated to the concerned NRAs (no approval necessary);

General provisions: Application area

FG should:

>**Apply only to Interconnection Points**

>Be **restricted to Interoperability and Data Exchange issues** and not deal with investment for network development and reinforcement

>**Focus on cooperation among TSOs as well as between TSOs and Network Users**. National provisions, compatible with the network code, should be established relating to other operators (producers, LNG and storage operators, non-EU entry points,…)

General provisions: Implementation, transitional period and monitoring

Given the different stages of development and interoperability of natural gas transmission networks across Europe:

>**Implementation** of common rules may only be **achieved gradually**. Network Code should define rules consistent with ultimate goal of a common European market

>**18 month implementation time** appears very challenging (e.g. changing IT systems, managing interactions with other Network Codes,…) and **might be unfeasible** in some cases. FG should **allow for TSOs to implement on a longer lead time**, where this may be appropriate with prior consent of NRAs.

General provisions: Cost allocation and recovery:

- Future Interoperability Network Code will induce additional investment and development costs for the TSOs and market participants (e.g. IT developments, …)
- **Appropriate cost allocation mechanisms and adequate cost recovery have to be safeguarded**

Interconnection Agreements

- **Interconnection Agreement (IA) is a key document**
- **FG to define a minimum list** of operational items to be included in an IA
- NC to allow a good balance between harmonisation and specific solutions to be bilaterally negotiated by adjacent TSOs

Units Harmonisation

- The use of harmonised units is imposed for energy, volume, pressure and gross calorific value:

  a) In all communication to counterparties;
  b) All along the gas value chain.

- The harmonised units, to be defined in the Network Code,

  a) have to stay in line with already existing EU legislation, like the “transparency guidelines”;
  b) But may be more stricter, e.g. by defining specific ref. temperature.

Harmonization of Units

- NC to contain **a common set of units** for energy, volume, pressure and gross calorific value and will define the extension of harmonization, in order **to facilitate technical communication among TSOs and commercial communication between TSOs and Network Users**

Data Exchange

- Basically to extend the FG CAM specifications on standard communication procedures for the exchange of data :

  a) On all other areas;
  b) To all other parties (TSO – TSO & TSO – counterparties);

- A common, standardised messaging protocol is asked, and the respective technical standards for the reliable, secure and smooth exchange of information

- Based on a cost-benefit analysis, subject to consultation;

- Listed considerations to be taken into account.

Data exchange

- Harmonisation for Data Exchange should **expand to all areas where the respective Network Codes require TSOs to exchange between each other or with Network Users**
- **FG/NC should set out generic principles and requirements providing required flexibility**, as:
  - technological underpinnings are subject to regular change
  - business requirements and needs evolve
  - operational, communications and business practices need to follow these developments
- **NC should focus on the "how" to communicate**, define the way of working to adopt Technical Solutions and set minimum requirements for security and reliability of the Data Exchange process
- **Adopted Technical Solutions can be described in a Handbook**
  - limited to a minimum
  - small scaled solutions for easy market access for small market partners
- A migration path to the common agreed Technical Solutions has to be established

ACER workshop on Framework Guidelines on Interoperability Rules and Data Exchange

Ljubljana, Apr 23rd 2012

Standardization, Unit Harmonization & Data Exchange

Filip Sleeuwagen

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EFET

European Federation of Energy Traders

Standardization, Unit Harmonization & Data Exchange

Agenda:

1. Intro & Setting the Scenes
2. Standardization Activities & Achievements
3. Our view of the Interoperability FG
4. Q&A

1. Intro & Setting the Scenes

- The energy world is full of differences and gas transmission area is no exception:
  - Different communication protocol
  - Different calculation methods (e.g. capacity,
  - Different data protocols and formats
  - Different processes and operations (e.g. nominations, registering of secondary capacity trades, …)
- Many ad-hoc solutions have been found but are in the medium term in danger of papering over the cracks
- A single gas market will need industry-wide open standards for content, processes and communication protocols

2. Standardization Activities & Achievements

- History of Standardization within EFET: from Legal opinions and contracts to processes, data and IT, aiming at optimizing the overall efforts for its members
- EFET's unique approach to Process standardization:

  Yin Yang Yong

  - Standardized Process and status identifiers
  - Standardized Format & Content
  - Standardized Communications

- Operational and Ongoing Standards work: eCM, ePM, eSM, eXRP and eRR (open standards published on the EFET.org website)

2. Standardization Activities & Achievements

- Creation and further development of CpML (Commodity product Mark-up Language), in coordination with FpML
- EFET's Standardization Governance:
  - EFET to develop open standards, applying a industry representation workgroup method, validated by the entire EFET membership
  - EFETnet BV, an industry owned neutral body, to develop a reference, non-exclusive, software implementation of the open standards
  - CommodityNet BV, an industry owned neutral body, to non-exclusively host and operate the EFETnet BV software on behalf of EFET members
  - Global Trade Repository for Commodities (GTRfC), an industry owned neutral body, to host and initially operate the Dodd-Frank reporting for its customers

3. Our view of the Interoperability FG

- EFET Gas Committee will respond to the Questionnaire
- Likely direction 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 Codes.

4. Q & A

Thanks for your attention

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Odorisation

- Open for bilateral agreements to address effectively differences in odorisation practices;
- Physical cross border flows of non-odorised gas to be set as a default rule;
- An interim period shall be foreseen of 36 months to implement the default rule (if no agreement is reached);
- Dispute settlement applicable as foreseen in the interconnection Agreement.

Odorization

- **Odorization is a sub-issue of gas quality**. GQ and odorization should not be separated
- Proposed exceptions on default odorization rule should be approved by relevant Member State Authorities.

Gas Quality

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 outlook review to be included in the TYNDP by ENTSOG every two years for the next 10 years.

Gas Quality

- Tools for handling GQ differences in specifications at IPs defined between adjacent TSOs and NRAs, based on cost-benefit assessment
- Changes of national GQ specs is Member States' responsibility
- Informing about GQ fluctuations to be tackled at national level. TSOs to meet any contractual responsibility
- Reg715 defines requirements for TYNDP. **If the scope of TYNDP has to be expanded, this needs to be tackled by the TYNDP process**

FG Interoperability Rules & Data Exchange

ACER Workshop
Ljubljana

Peter Meeuwis
EASEE-gas

23 April 2012

- **General comments on FG**
  - Scope and application, implementation
  - Interconnection Agreements
  - Harmonisation of Units & Dataexchange
  - Odorisation
  - Capacity Calculation

- **Gas Quality**

General comments on FG Interoperability (1/3)

- **Scope and application, implementation**
  - Full harmonisation from day one is impossible
  - TSOs within 18 months is challenging
  - IP from TSOs to DSOs, SSOs, LSOs and producers

- **Interconnection Agreements**
  - Supported and in favour of ICA
  - Involvement NRA only when TSOs do not reach an agreement

General comments on FG Interoperability (2/3)

- **Harmonisation of Units**
  - Technical communication among TSOs
  - Commercial communication TSO **<->** netwerk user
- **Dataexchange**
  - Among TSOs
  - TSOs to relevant counterparties
  - Among counterparties
- **Odorisation**
  - Issue regulated by national authorities

General comments on FG Interoperability (3/3)

- **Capacity Calculation**
  - Some items are already in place
  - In FG is GOOD but not to much details in the NC

Gas Quality: Increased complexity

- The variability of the gas quality in Europe is likely to grow because of increased LNG & new pipeline imports as well as a greater interconnectivity of the networks within Europe
- This could create difficulties as many end users are not used to changing gas qualities
- There are case examples whereby this is managed effectively
- A good study case can be found in Belgium as large gas quality variations are effectively managed between Fluxys and the end users
- Key aspect is enhanced communication between the TSO and the relevant industrial end user

Belgium case example

- The Zeebrugge LNG terminal, owned and operated by Fluxys can receive LNG supply from a wide variety of sources, which potentially entails huge gas quality fluctuations.
- If the gas quality changes substantially (LNG arriving from a different supply source, Boil-off gas increase, change in network configuration...), the TSO will inform the impacted sensitive end users on changing quality (gradient, estimated time of arrival, composition...).
- The end users can adjust their facilities accordingly and avoid any detrimental impact
- Likewise, a CCGT is capable of switching from high calorific gas to low calorific gas (and vice-versa) based on close cooperation between Fluxys personnel and the power plant dispatching

Gas Quality

- **TSO information on Gas Quality and Quality variations**
  - Information is not only depending on TSOs
  - Frequently provided for network users to handle gas quality variations
  - End users stay responsible for dealing with variations

EC Roadmap - XXI Madrid Forum March 2012

- **Measures required to ensure gas quality constraints do not become barrier to gas trade and to gas imports**

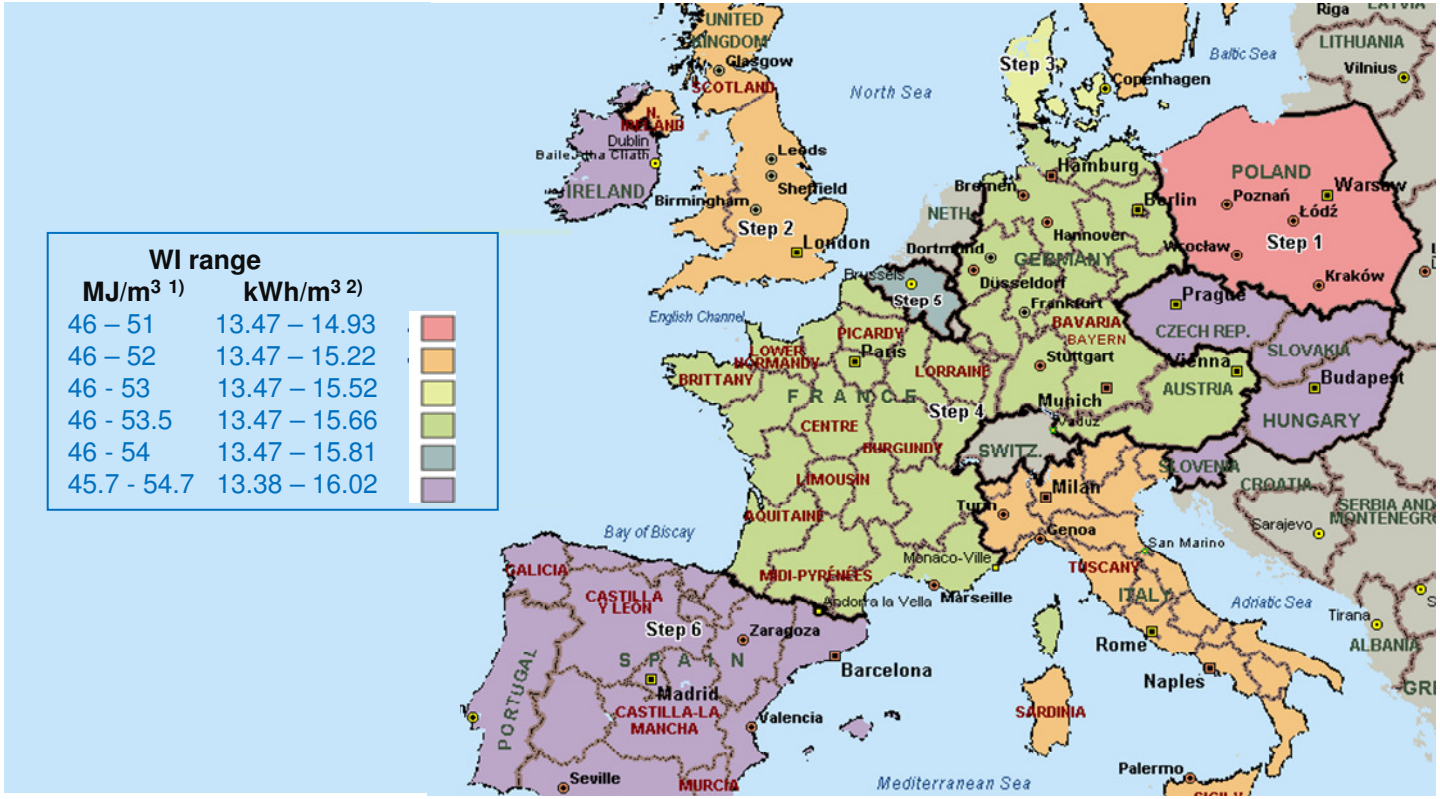
- **Measures aimed at implementing European Gas standard facilitating free flow of gas and safe operation of all gas infrastructure. Implementation of this standard will address:**
  - Specific characteristic of local conditions
  - Grant MS flexibility to design own approach to implement standard at pace and fashion tailored to local conditions.

EC Roadmap - XXI Madrid Forum March 2012

- **3 parallel processes to reach this goal**
  - Continuation of development of European Standard for H-gas (CEN M-400)
  - Pilot to assess and address practical implementation of H-gas standard of selected group of Member States
  - Development of binding rules on real time information regarding quality fluctuations

Current situation arising from National declarations

The following map shows the current WI range



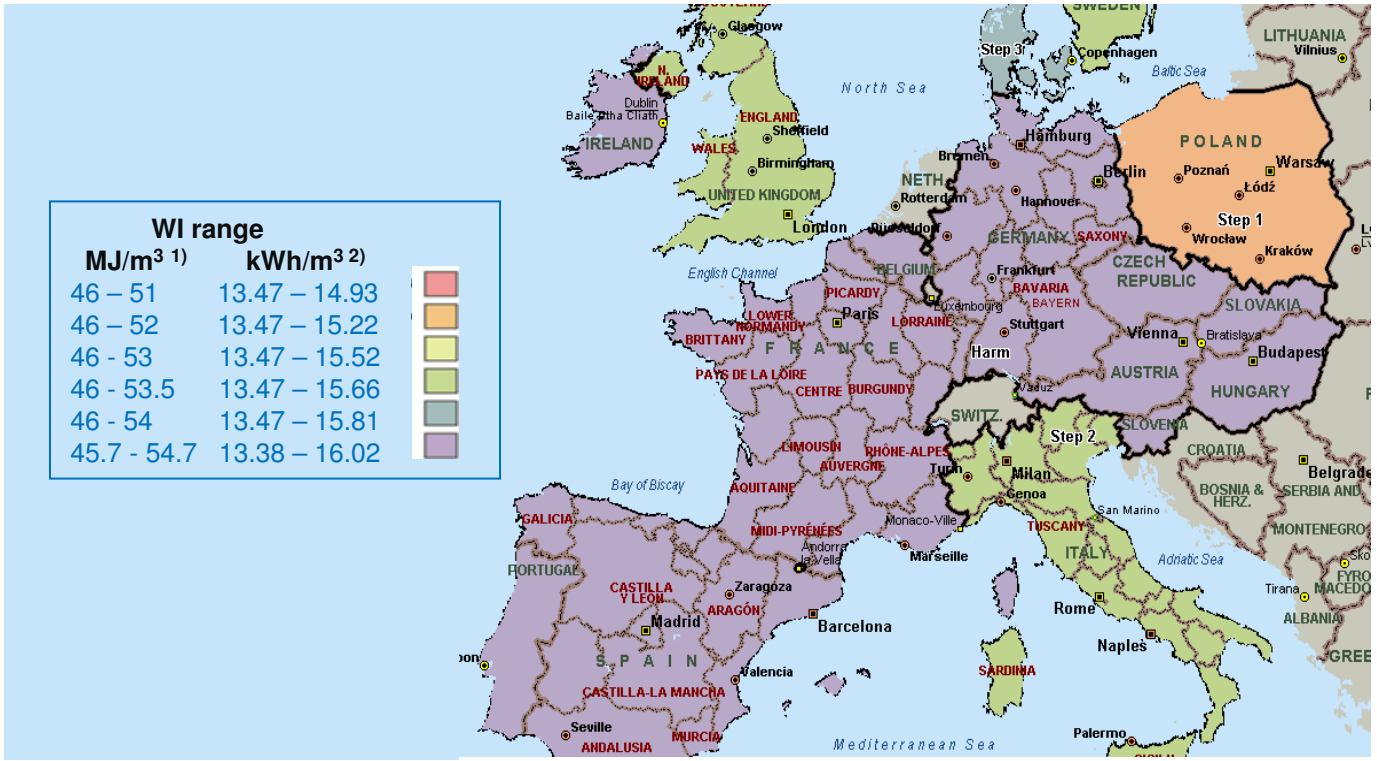
1)W.I expressed in MJ/m³ (15°C, 15ºC and 1013,25 hPa).
2)W.I expressed in kWh/m³ (25°C, 0ºC and 1013,25 hPa)

Map based on Doc CEN BT WG 197 027 Data OJEU (2004.12.01) National declaration according to GAD. Validated by CEN BT WG 197 members; source MARCOGAZ

Source: MARCOGAZ

Potential for first level of regional harmonisation

The differences between steps 4, 5 & 6 seem small enough to develop a common specification at medium term for the countries coloured purple



Source: MARCOGAZ

Basis and Objective of the Pilot Study on Harmonisation

Wobbe index to be the parameter to be studied

- Most critical for safety related issues
- Impacts all stakeholders in the gas value chain, including end users

Objectives of pilot study

- Get insight into the practical issues associated with harmonisation.
- Share the experience between countries, including mitigation procedures
- (Dis)prove the feasibility of harmonisation
- Get insight into actual cost involved of harmonisation

Investigations to be based on a range from 46 to 54 MJ/m^3 [1)] or 13.47 – 15.81 kWh/m^3 [2)]

1) W.I expressed in MJ/m^3 (15°C, 15ºC and 1013,25 hPa).
2) W.I expressed in kWh/m^3 (25°C, 0ºC and 1013,25 hPa)

Information provision process

- Producers, LNG suppliers and LNG terminal operators and TSO's have information regarding gas quality on gas the grid and TSO's have a general view of the off-take profile (at exit points)

- Industrial Consumers with appliances which performance can be affected by changing gas quality. Gas quality information can allow them to adjust their appliances in order to maintain an effective operation.

- It should be investigated which information Industrial Users would require and what the best method is to provide such information. Such investigation would require input from all parties along the gas value chain.

Thank you for your attention

Peter Meeuwis
EASEE-gas

23 April 2012

Examples of gas quality parameters

- Calorific value
- Water dewpoint
- Hydrocarbon dewpoint
- Sulpher
- Ammonia
- Hydro Chloride
- Carbon monoxide
- Carbon dioxide
- Oxygen
- Methane number
- Propane equivalent
- Relative density
- Wobbe index
- Condensate
- Mercaptans
- Chlorinated compounds
- Methanol
- Glycol

Player	Interest	
▪ Upstream	No production restrictions, wide bandwidth, minimal treatment costs	Producers, LNG, UGS
▪ Midstream	Matching specs on entry vs. exit, pipeline integrity, efficient operating costs	TSO, DNO/DSO
▪ Downstream	Constant composition, safe use, small bandwidth, limited emissions	End-users
▪ Traders	Unrestricted energy trading, no fuss about quality, customer's product confidence	
▪ Manufacturers	Product image, market share, adequate product testing regime	
▪ Law-makers	Limited market interference, independent TSOs	
▪ Competition Authority	Level playing field, enhanced competition, efficient TSOs	

Stakeholder Workshop for the FG on Interoperability

IFIEC-CEFIC position on gas quality

Dirk Jan Meuzelaar

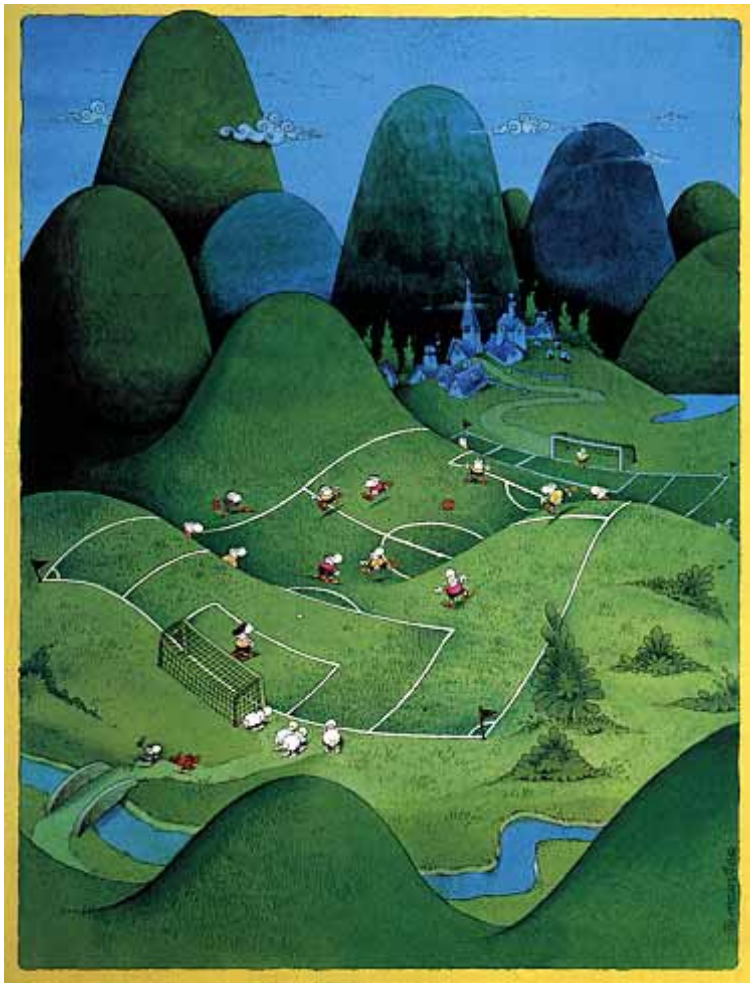
23 April 2012 Ljubjana

ifiec europe

securing competitive energy for industry

Free trade in a competitive European gas market requires a level playing field

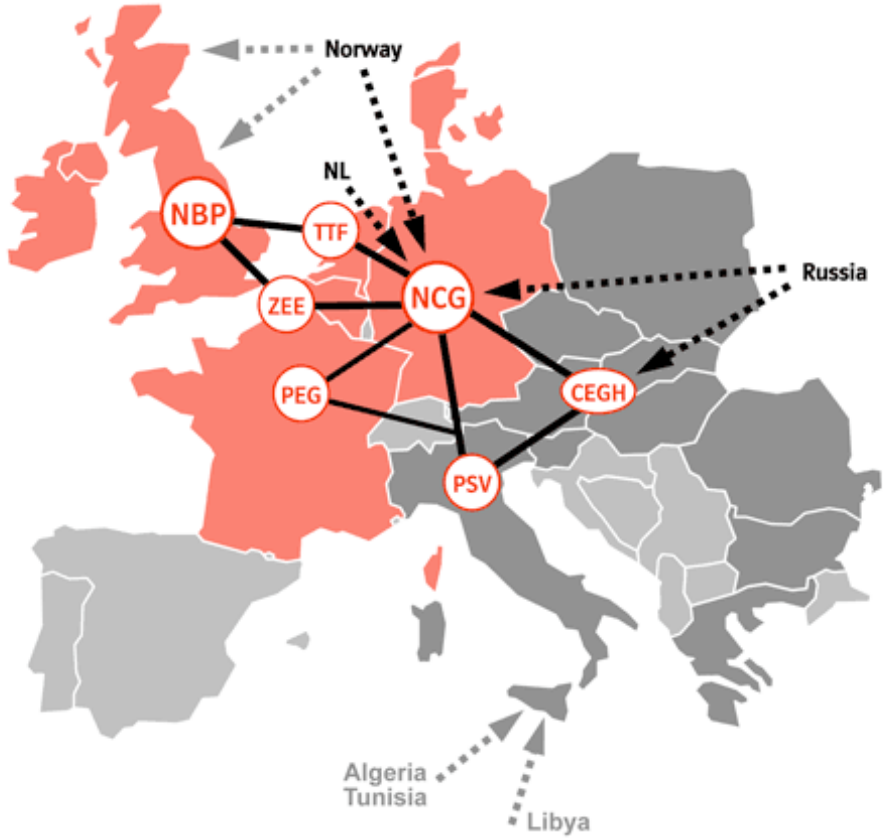
- End-users support the gas Directive of 2003 aiming at efficiency gains, price reduction, higher standards and increased competitiveness
- The directive indicates that transmission and distribution systems should operate through legally separate entities. Discrimination, cross-subsidization and distortion of competition should be avoided
- Gas quality rules can hinder the interoperability of systems, posing barriers to competition and trade within the European Union and is a risk to European security of gas supply but also to the level playing field
- Harmonization does not necessarily lead to an uniform quality specification*)



***) EU Harmonization of Gas Quality? H.B Levinsky, EDI Quarterly, Volume 4, No 1 April 2012**

Physical differences in gas quality do not need to hamper trade

- Gas Trading on (virtual) hubs is growing fast
- Gas quality can be handled by different measures or instruments like swapping, co-mingling, flow commitments and stripping
- The Netherlands 4 different gas qualities (H,G,G+,L) are transported and consumed but traded on one platform in energy units (MWh)



Source: Eon-Energy Trading

Gas quality is not a new kid on the block

End-users designed their installations on local or regional specifications

- Because the composition of natural gas is different for almost every gas source, the specifications in European countries and regions are therefore not uniform and are related to local or regional conditions (production, import (pipeline / LNG), storage)

- It is common practice and necessary that the grid operator ensures that delivered gas always meets the mentioned specifications at exit points. It enables the supply of gas with specifications related to the technical conditions of the applications of customers

Gas treatment installation

Gas quality is the orphan of the gas industry

Who is responsible?

Unbundling of trade and transport led to confusion regarding which parties are ultimately responsibility for the gas quality.

- TSO: “We are only a transport company”,
- Supplier/shipper: “We deliver according to the legal specifications”
- (Dutch) Government: No impediments regarding gas quality at entry points policy. Policy is focused to diversify gas supply as much as possible without any barriers (supporting the national gas hubs)

Who has to take measures and pays for them?

Dutch government stated that industry has its own responsibility and decided that all (80) end consumers of High Caloric gasses have to take appropriate actions to be able to accommodate all gasses. This leads to discrimination, cross-subsidization and distortion of competition, and is in contradiction with the “polluter pays principle”

Instead of user led, Gas quality is supplier led, supported by national, political interests

EASEE gas Common Business Practice tried to harmonise the gas quality specifications at cross border points (2005)

- Impact applications end-users not investigated
- Participants Madrid Forum agreed CBP not to be applied without additional investigations. Direct impact for end-users in most Member States depending on outcome studies and decision of governments except:
  - UK decided to keep the specifications unchanged at least up to 2020
  - Dutch authorities did not follow EASEE gas recommendations but in fact anticipated as if they would be in place as a future European Regulation

Don’t mix-up EASEE Gas with ‘easy’ gas

Gas Quality is more than Wobbe-index

The composition of the gas is crucial

- Current legislation is insufficient and needs to be extended with application parameters, not only in the interest of the operation of the equipment of end-users, but also to prevent gas producers supplying gasses with various undesirable ingredients (KEMA-KIWA, 2010)

- As long as limitations for these ingredients are not legally specified, 'dirty' gasses could comply with the limits of the current legal specification, but could be detrimental to the interest of end consumers
- All key combustion parameters, such as flame speed,air/fuel ratio, etc. are affected by fuel composition and affect flame behaviour in the form of flash-back, blow out, increased emissions and a changed combustion dynamic

Gas Quality is a 'Technological Science'

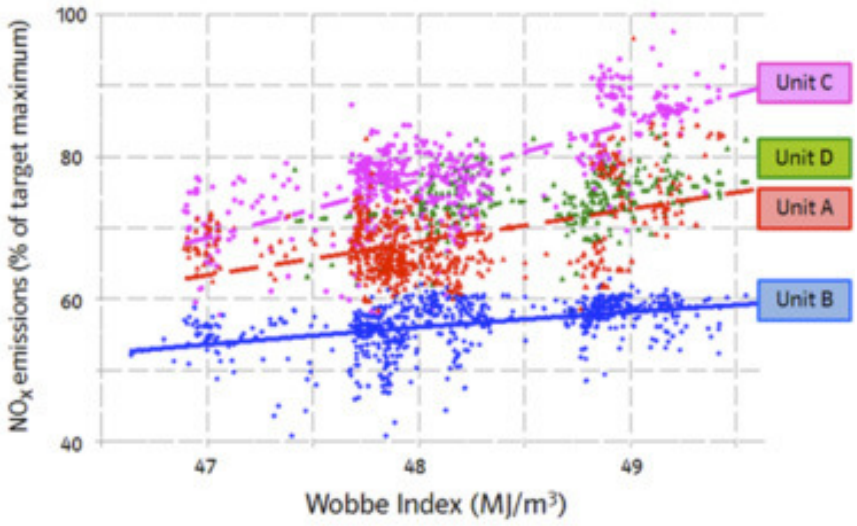
Wrong specification of gas quality does not only damage equipment, but more important **Safety is at stake**!

- End users of H-gas are left with a lot of uncertainty, not only because they have no experience or knowledge about all effects of the new gasses
- (Dutch) authorities cannot and will not give any guarantee about the long term operational bandwidth and speed of quality changes occurring within short timeframes
- ENSTO-G also admits that changes of gas quality specifications may lead to unintended consequences with impact on safety standards

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

Changes in gas quality will have environmental impacts

- 'Richer' gas bandwidth will have a negative impact on emissions. More oxygen for safety and operational reasons will boost the NOx and CO2 emissions of gas engines, turbines and burners. Tight environmental permits will therefore be difficult to be met
- Efficiency Dry Low-NOx-burners will decrease
- Energy efficiency will decrease leading to higher CO2 emissions



Impact of fuel composition on NOx emissions for four similar gas turbines

Source: E-ON, David Abbott; EDI Quarterly Volume 4 No 1 April 1012

“Rich” gas makes end users “poor”

Also the volatility of the gas quality puts pressure on efficiency

- Fluctuations will have a negative impact on efficiency
  - End-users will need more gas for the same output not only for combustion applications …
  - … but also for use of gas as a feedstock

$$CH_4 + H_2O \longrightarrow CO + 3H_2$$

$$3H_2 + N_2 \longrightarrow 2NH_3$$

		H : C
Methane	**CH4**	**4**
Ethane	**C2H6**	**3**
Propane	**C3H8**	**2,7**
Butane	**C4H10**	**2,5**

End users have no certainty regarding the appropriate adjustment of equipment

- End users have no knowledge and no experience about the effects of the new gasses
- Original Equipment Manufactures (OEMs) indicate that they are unable to guarantee or adapt installations as long as they are not provided with the specification of the future gasses, including rates of change
- By 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
- Mid stream options such as the installation of gas treatment facilities could be an attractive solution
- costs should be calculated back into the supply price commanded by the gas producers or at most partly passed through to the customers via transport tariffs

the costs of European gas quality harmonisation exceed the benefits by far

PÖYRY GL

Harmonisation of European Gas Quality Specification: Cost Benefit Analysis

- In this study it was concluded by GL Industrial Services and Poyry Energy Consultancy that the “benefit to European consumers of removing the current gas quality constraints are at most € 0.2 bln per annum. However processing costs to meet local gas quality specificationsand ensure appliances will operate safely is estimated at €11 bln.
- Alternatively, replacement of gas appliances would cost an estimated €179 bln.”

Conclusions

- The creation of one harmonised quality regime for all gas applications in Europe is neither realistic nor necessary
- Physical differences in gas quality do not need to hamper trade
- As in other gas regions, gas quality should be user led, not supplier led, and be careful not to become politically led
- Too wide quality bands and high speed quality changes jeopardise end-users operation: safety, emissions and efficiency
  - Moreover gas quality is more than Wobbe Index: end users require application parameters (Hydro carbons, H2, N2, S, CO2 etc)
- Measures should result in the lowest social costs and must not infringe the polluter pays principle

Capacity Calculation (1)

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

  a) Besides the obligation on TSOs to provide a description of the calculation methodology and process, information provision is asked on parameters and key assumptions;
  b) Cooperation to reduce discrepancies shall be installed, including in preparation of extreme network scenarios;
  c) A procedure is asked for identifying and reasonably dealing with discrepancies, with a view to reach full use of potential to maximise capacity offered;
  d) ENTSOG shall provide a reasonable timeline for capacity discrepancy reduction which is consulted with stakeholders and report on a yearly basis to ACER.

Capacity Calculation (2)

- Rules for the update of available and technical capacity calculations are being asked, with a minimum requirement of quarterly updates;
- Dispute settlement applicable as foreseen in the interconnection Agreement.

Capacity calculation

- Transparency Guidelines already require publication of calculation methodology. No need to repeat
- TSOs are naturally incentivised to maximize available capacity at IPs
- **Discrepancies between capacity** availability either side of an IP **don't have to be necessarily a barrier to trade** as:
  - Are driven by the physical characteristics of the systems, interactions with other supplies and local demand
  - Technical capacity can vary per year/day or within day which provides elements for commercial flexibility for Network Users
- Objective should be to ensure that TSOs maximise the capacity that they make available for their network through an appropriate incentive scheme
- Major discrepancies can only be solved through investments and these require commitments from the market
- Minor discrepancies should be solved by the two involved TSOs and does not have to be subject to new rules in a NC
- **ENTSOG does not see any technical, organisational, communication or business rules barrier that can be tackled within this FG/NC with relation to capacity calculation**

AGENDA

- Introduction
  - Background: Problem Identification and Scoping Process
  - Consultant Study
- The Framework Guidelines Issue by Issue
- Conclusions

Thank you for your attention!

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