



# **Update on gas quality standard development work - Presentation by CEN -**

**ENTSOG WS, March 22nd, 2016**

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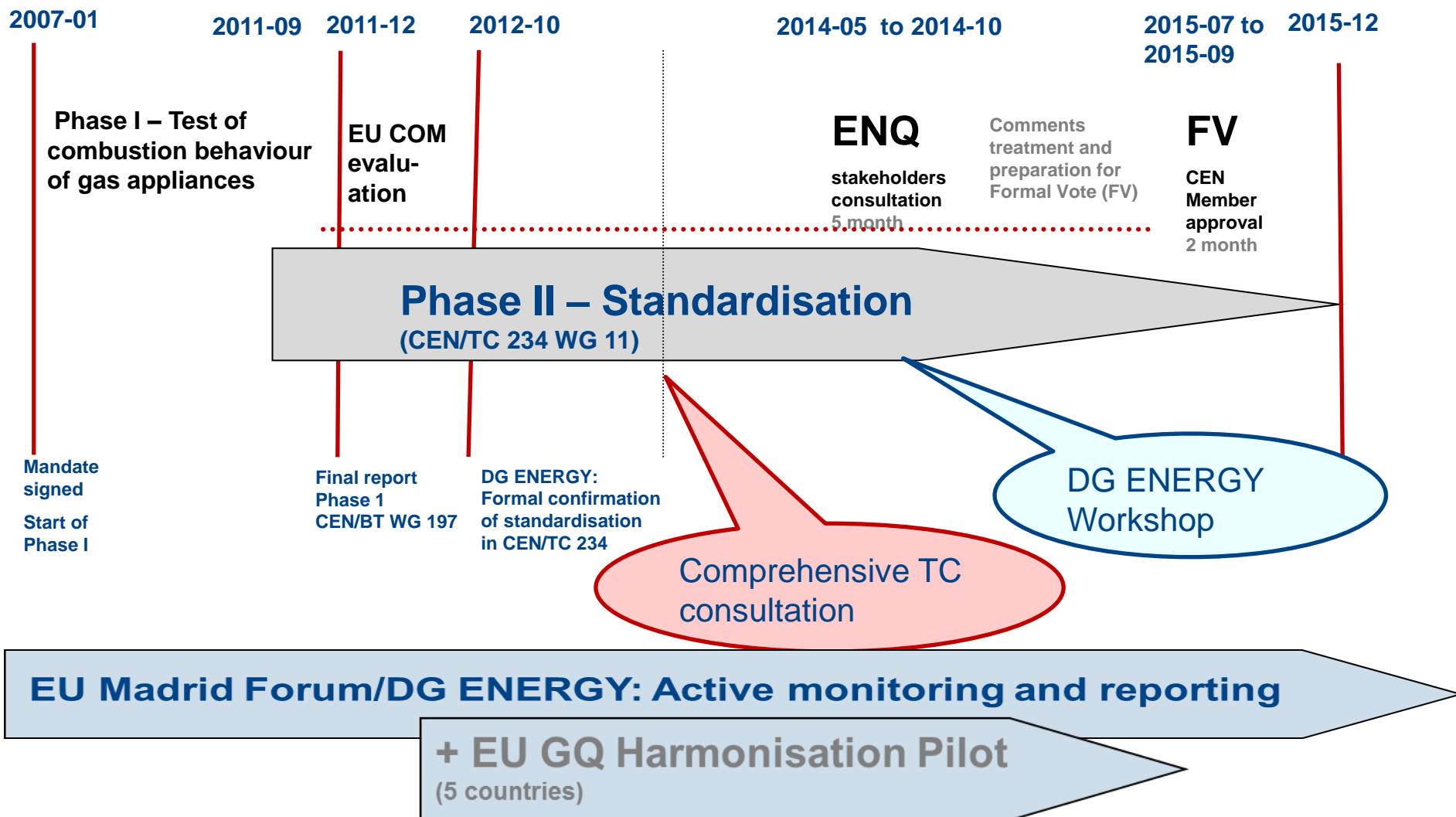


## The harmonization of gas quality in Europe – EN 16726

- EN 16726 “Gas infrastructure - Quality of gas - Group H” is the core of the standardization efforts initialized by the European Union, DG ENER, in order to turn natural gas into a commodity without trade barriers within Europe.
- The standard has been elaborated on basis of the EU mandate M 400
- It needs to be regarded as “first step” on a long way

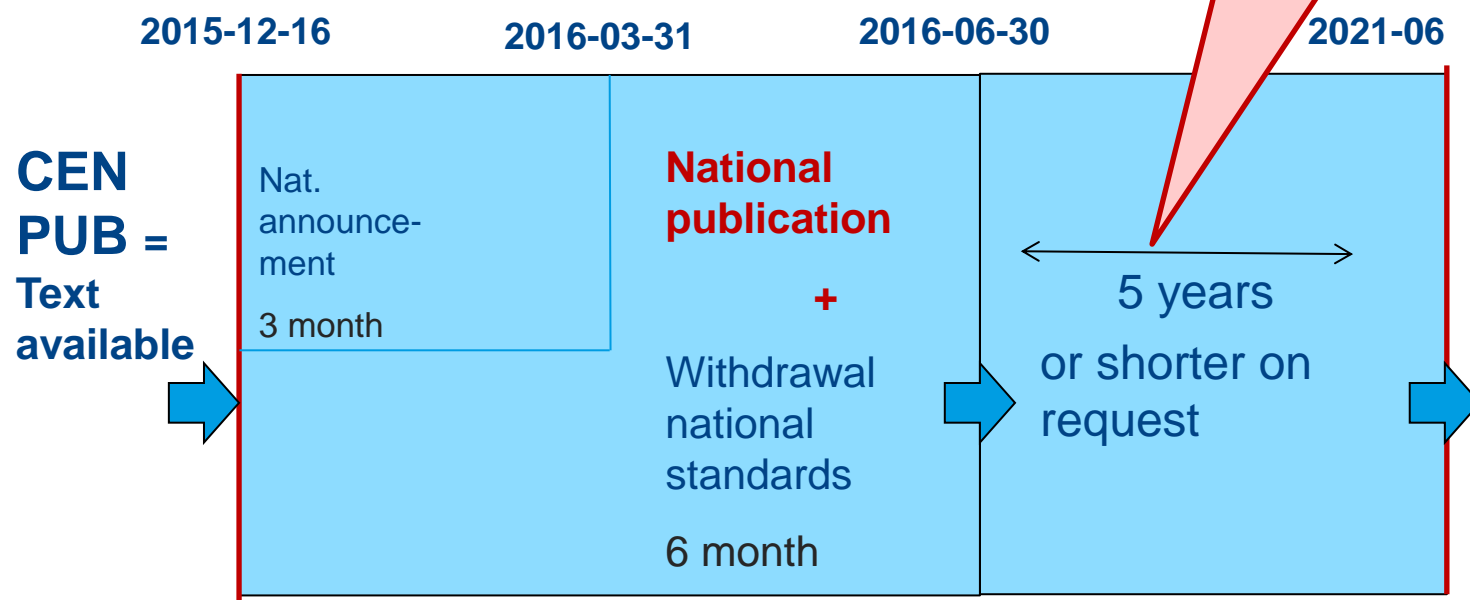


# Mandate M 400 process





# European harmonization – how to continue



**DG ENERGY; EU Madrid Forum: Active monitoring and reporting**

**+ EU GQ Pilot II in  
CEN Sector Forum Gas WG  
(all countries)**



## EN 16726 – Standardization process

### Time schedule:

- 05/2014 - 08/10/2014 Public consultation (ENQ)
- 12/2014 - 03/2015 ENQ Comments treatment
- 07/2015 - 09/2015 Formal Vote by CEN Members  
(yes/no vote, no technical comments)
- 10/2015 Ratification of Formal vote result: positive (74,07 %; 71 % required)
- 12/2015 Publication as European Standard at CEN level
- 03/2016 Latest national announcement
- 09/2016 Latest national publication

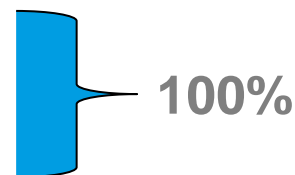


## EN 16726 H-Gas quality

### Results of final voting (Formal Vote) (1)

EN 16726 “Gas infrastructure – Gas Quality – Group H  
approved by final vote (2015-09-23):

- 18 National Members approved
  - 4 National Members disapproved
  - 10 National Members abstained
- Weighted percentage approving: 74.07 % (requirement  
>= 71%)



*(National Members having abstained or not voted are not  
counted in this vote.)*



# EN 16726 “Gas infrastructure – Gas Quality Group H”

## **Scope - EN applicable to all parts of the gas chain**

This European standard specifies gas quality characteristics, parameters and their limits, for gases classified as group H, that are to be transmitted, injected into and from storages, distributed and utilized.

Note: For information on gas families and gas groups see EN 437.

This standard does not cover gases conveyed on isolated networks.

For biomethane additional requirements indicated in prEN16723-1 apply.



## EN 16726 – content – components (here for 15°C/15°C/101,325 kPa)

### ■ Sulfur (total, H<sub>2</sub>S+COS, RSH, as S)

- In general:  $\leq 20 \text{ mg/m}^3$  (odorized +  $10 \text{ mg/m}^3$ )
- H<sub>2</sub>S + COS:  $\leq 5 \text{ mg/m}^3$
- RSH (natural Mercaptan):  $\leq 6 \text{ mg/m}^3$

### ■ Odorants

- out of scope, national practices in informative annex B

### ■ Relative density

0,555 – 0,700

### ■ Methane number

- $\geq 65$ , calculation method given in normative Annex A





## EN 16726 – content - components

### ■ Oxygen

0,001 % as 24 h average; for non-sensitive grids 1%

### ■ Carbon dioxide

in general 4 %, in connection with sensitive structures  
(e.g. UGS) 2,5 %

### ■ HC dew point

- 2°C for pressures between 1 and 70 bar

### ■ Water dew point

- 8°C at MOP up to 70 bar



## EN 16726 – content

The “head cases”:

- **Wobbe Index:** deleted from standard/reasons described in Annex
- **Variation of gas quality:** Lack of experiences: issue for investigation
- **Implementation:** according to CEN rules (6 month after availability) and depending on national authorities
- **Responsibilities and liabilities:** statement in introduction; as legal matter no place in a standard



## EN 16726 – Oxygen content

- Oxygen content in cross-border gas transport and in underground storages: 0,001 % (molar) on a 24 h average basis.
- For distribution grids etc. 1 % oxygen, easing e.g. the access of biomethane.



## EN 16726 – Wobbe? What Wobbe?

**Wobbe Index deleted from 1<sup>st</sup> edition of EN 16726  
because:**

- No consensus possible due to diverging positions of stakeholder groups and/or national standardisation bodies
  - narrow Wobbe range = minimise GQ variations
  - broad Wobbe range = allow free trade of all gas qualities
- Thorough evaluation of impact on residential and industry gas applications required (Wobbe index range and variations)



## EN 16726 – Reference conditions

- At a EU workshop held in Brussels in early May 2014 it became evident that the use of reference conditions is not harmonized, leading to significant differences e.g. for the Wobbe index.
- For the 1st edition, EN 16726 prefers the standard reference conditions according to ISO (15°C, 15°C, 1 013,25 hPa), but others are permitted.



## EN 16726 – specific national situations

**1<sup>st</sup> edition of EN 16726 causes conflicts with national law in:**

- Germany
  - Hungary
  - The Netherlands
  - The deviations are described in a specific Annex according to the CEN Rules
- Denmark placed a late request for A-deviation which is in examination.



## Challenges of EN 16726 implementation

### Conflicts with national legislation

#### A-Deviations

- reflects a conflict between EN and national regulation
- documented in an informative annex to EN to create the necessary awareness
- admits derogation from the EN in a country for the normative requirement which is in conflict.

**NEW:** an A-Deviation can be requested at any time, even after publication of the EN. It may lead to an amendment!



## Challenges of EN 16726 implementation

### Conflicts with national legislation

#### Special cases:

- A product or service specified in a EN is banned in a country > A-Deviation
- National regulation has requirements others than the EN > NOT A-Deviation
- National regulation has requirements more demanding than the EN > A-Deviation
- National regulation has less requirements or less demanding requirements than the EU > NOT A-Deviation
- Binding precedence and jurisprudence > A-Deviation





## Challenges of EN 16726 implementation

### Conflicts with national legislation

- National regulation has less requirements or less demanding requirements than the EU > NOT A-Deviation
- **An EN is voluntary:** It is the voluntary choice of the user to comply only to national regulation or to apply the best practice given in the EN
- **If NC makes it binding:** the requirements become EU legislation; **NO national deviation is permitted.**

Monitoring of national implementations of EU legislation is up to EU institutions



## Further steps towards gas quality harmonisation – 2 parallel actions

### **ENTSOG: making EN 16726:2015 binding via NC IO**

- WS 03/2016 and WS 09/2016
- Public consultations 2016/2017
- Agreement with ACER and EU COM
- Comitology Process
- Revised NC in 2018

### **CEN SFGas: Pre-normative study on Wobbe Index aspects etc**

- Installation of WG
- Kick-off meeting May 2016
- Technical analysis 2016 – 2018
- Report/Recommendations



**Revision of EN 16726:2015**



## 28th Madrid Forum, 2015-10-14/15

### Conclusion

#### **Gas quality harmonisation**

"The Forum notes that the Commission will propose binding application of the recently adopted CEN gas quality standard by launching the process to amend the Interoperability and Data Exchange Network Code while having due regard to appropriate scope and possible impacts, including via a robust CBA. **The Forum welcomes the Commission's and CEN's intention to continue the process of finding a consensus on the Wobbe index level for the next version of the standard.**"



## Carry-On: CEN/TC 234 Brainstorming 2015-11-18, Brussels

- **IMPORTANT:** common approach carried by all parts of the industry involved
- EU Commission DG ENERGY considers CEN as the appropriate organisation for the “Pilot II” (continuation M/400, to be applied for)
- DG ENER in favour of continuation
- Brainstorming participants acceptance provided that:
  - all Stakeholders are involved
  - Secretariat/Chair are independent.
- Involvement of JRC for analysis, reporting support in verification
- CEN/TC 234 secretary asked to prepare formalities.



## Completion of M/400 Gas quality in 2 Phases

### **1. Pre-normative phase in a common WG within SFGas (Infrastructure + Utilization):**

- Support of completion of M/400 by preparation of the further development of EN 16726:2015 including Wobbe index aspects and verification on requirements of sulfur (and others)

### **2. Normative phase within CEN/TC 234 WG 11:**

- Completion of M/400 by revision of EN 16726:2015 on the basis of the pre-normative work within the SFGas WG

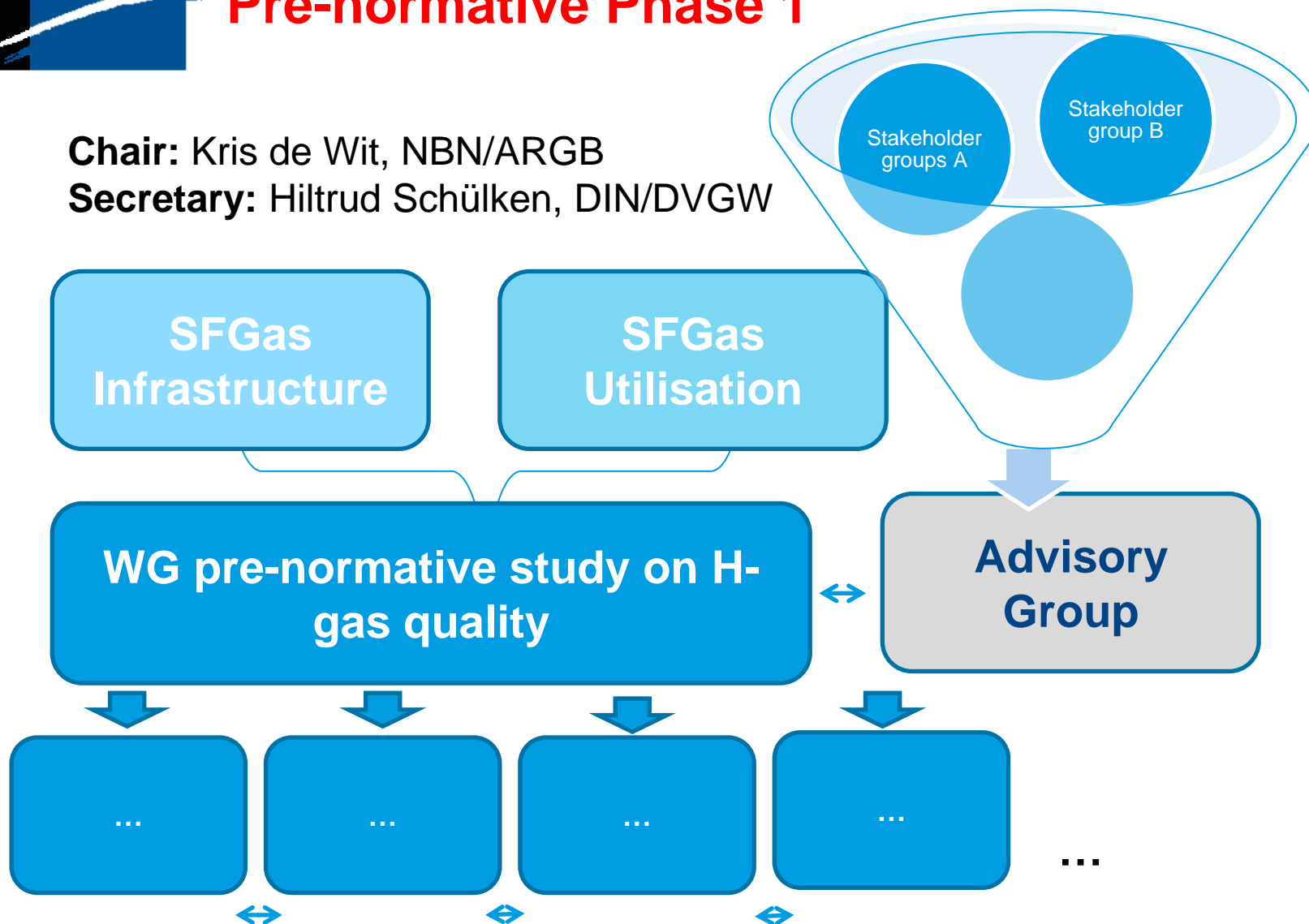


# Completion of M/400 Gas quality (1)

## Pre-normative Phase 1

**Chair:** Kris de Wit, NBN/ARGB

**Secretary:** Hiltrud Schülken, DIN/DVGW





## Pre-normative phase 1 Objectives

### Support of completion of M/400 by

- provision of an objective evaluation basis for deduction of commonly accepted requirements **for gas composition parameters not yet covered or insufficiently covered in EN 16726**, at least on Wobbe index aspects and sulfur
- provision of fact based recommendations for the revision of EN 16726, especially for a harmonized range in Wobbe index suitable that is acceptable to all CEN countries
- identification of further action need, if any



## Pre-normative phase 1 Methodology

- **Clear agreement on the objectives, subjects and method** (and expectations) within the scope of this project
- **Alignment and definition** of the understanding of safety and performance of appliances
- Identification of the **necessities of the different parts of the chain**
- **Mapping of and analysis of technical experiences and study results** for the defined subjects at least
  - Wobbe index related to infrastructure and all appliance types (range / variations /speed of change/impact of renewables etc)
  - Total Sulfur,
- **Mapping of national legal and technical framework**(legislation, regulation, practice, appliances/applications)
- Elaboration of **recommendations for requirements on the specified subjects for inclusion in EN 16726** in the normative phase
- identification of lack of information/elaboration of work program for further needs of R&D





## **Pre-normative phase 1 Stakeholder**

### **CEN Members (NSB)/subject related CEN/TCs (European) organisations/experts of:**

- gas producers (natural gas, biomethane, H<sub>2</sub>, other renewables...)
- shippers/traders
- operators (grid, storage and LNG)
- appliance manufacturers (domestic/industrial)
- appliance operators (especially industrial operators; for domestic it is necessary to involve national authorities to collect opinions of residential customers)
- EU bodies EC, ACER, ENTSOG
- national authorities: Regulatory authorities, Ministries in charge of safety
- third party organisations (service companies, maintenance organisations....)



## Continuation of M/400 Gas quality (1) Preparations

### **CEN Formalities:**

- ✓ Drafting of request to CEN/BT WG 217 for evaluation of the project and prioritisation for mandate/funding (preparation template)
- If CEN/BT WG 217 approved: formal request to EU COM DG GROW (preparation of template quotation)
- Establishment of necessary structures in SFGas



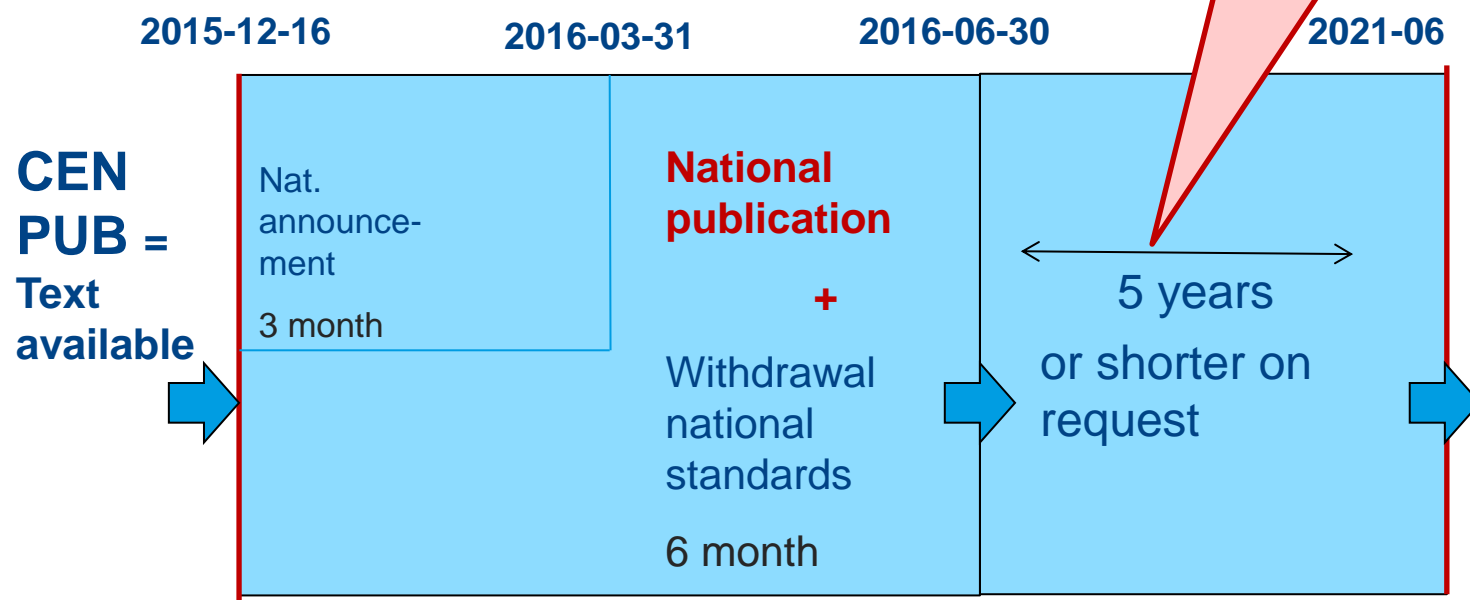
## Continuation of M/400 Gas quality (2) **Preparations**

### **Establishment of necessary structures in SFGas**

- ✓ Decision on WG within SFGas Infrastructure + Utilisation taken (by correspondence)
  - ✓ Letter and proposal on structure/scope
- ✓ Broad call for experts and for input (in process) (via all possible channels)
- Kick-off meeting: May 24th, 2016, if possible
- **Process in parallel to CEN formalities on mandate**



# European harmonization – how to continue



**DG ENERGY; EU Madrid Forum: Active monitoring and reporting**

**+ EU GQ Pilot II in  
CEN Sector Forum Gas WG  
(all countries)**



**Thanks for your attention**

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