

European Commission TREN/C2/346-2009 Study on Interoperability – Gas Quality Harmonisation Cost Benefit Analysis

Workshop - Amsterdam 5th March 2010



Agenda:

Why

Aim

Scope

Programme of work

Deliverables and Timescales

Participation in the study

A Harmonised Gas Quality Specification

- to enable free trade of gas across the EU

Implications and issues:

- Impact on upstream and downstream operations
- Future gas supplies may influence selected gas quality specification
- Impact on end users
 - Security of supply
 - Replacement or modification of appliances
 - Impact on industrial users
- Environmental impact
- Gas processing requirements

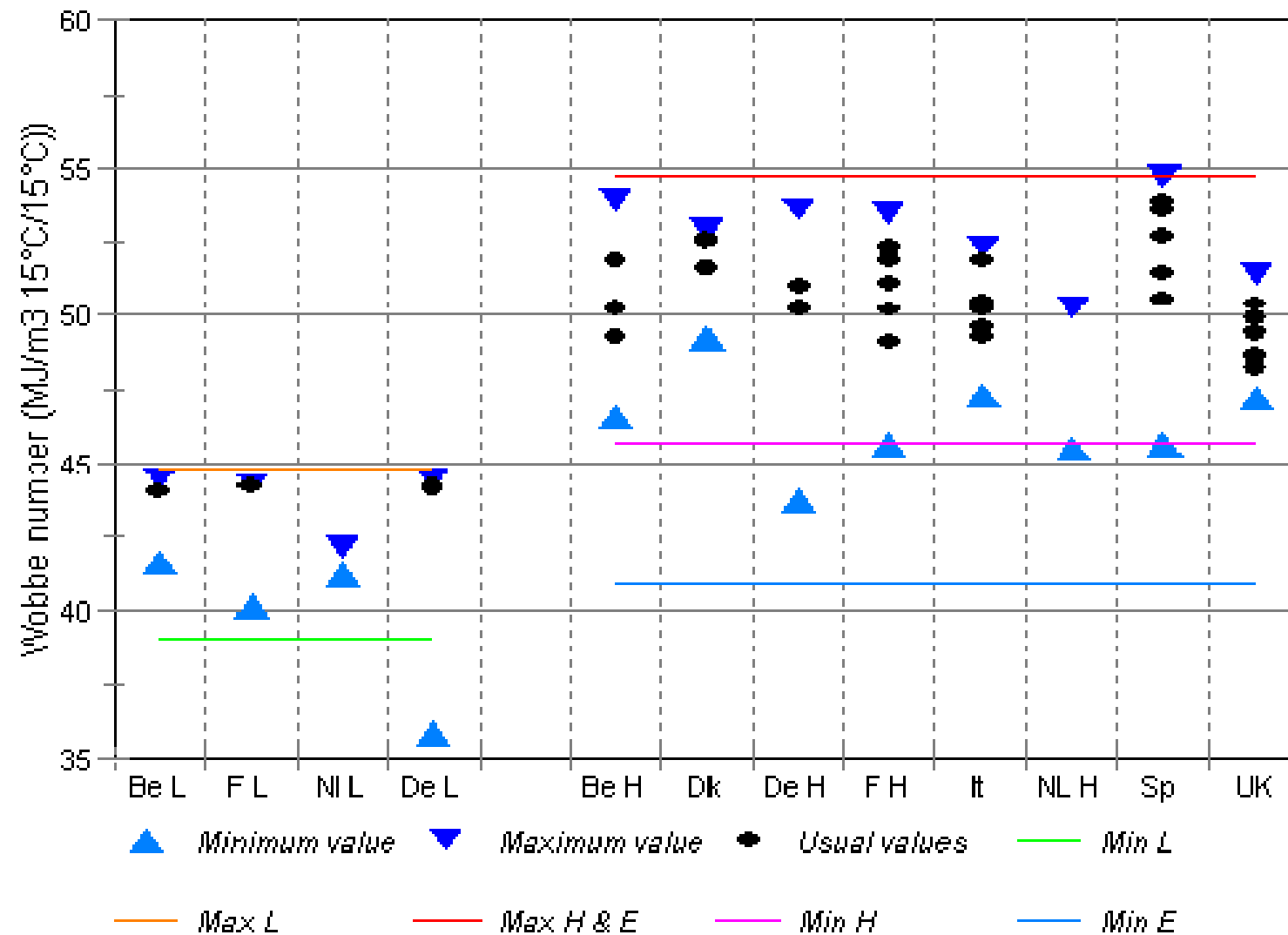
Require cost impact of the selected gas quality specification vs. benefits

Cost Benefit Analysis - Aim and Output

AIM: to provide an overall cost benefit analysis for the whole EU, taking into account upstream and downstream effects, future changes in gas supplies into and across the EU, the possible impact gas quality changes may have on end users and the remedial or replacement costs that will be incurred

OUTPUT: a recommendation to CEN for a definition of gas quality standards that are the broadest possible within reasonable costs.

Gas Quality Variations



Scope of Study

- All EU27 Member States
Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and UK
- Finland, Estonia, Latvia, Lithuania are single supply from Russia
 - Consider future interconnection and possible LNG importation
- Some EU27 countries have no gas
 - Cyprus and Malta excluded from study

Scope of Study

- analyse the costs and benefits for TSO's
- analyse the costs and benefits for producers
- analyse the costs and benefits for shippers, traders and suppliers
- analyse the costs and benefits for large industrial consumers
- analyse the costs and benefits for gas appliance manufacturers
- analyse the costs and benefits for SME's and households

For:

Various gas supply scenarios

Various gas quality specifications

Programme of Work

Gas Supply Scenarios

Poyry modelling tool will enable various future EU supply scenarios to be assessed against a range of harmonised gas quality specifications.

- Gas processing requirements identified and costed
- Impact of one or two major coal bed methane and shale gas projects to be considered
- Biogas excluded as typically injected into distribution network

Impact of Gas Quality Specifications

The gas supply scenarios developed will define the ranges of gas quality experienced in EU countries or regions and enable the impact to be assessed in terms of:

- safety
- efficiency
- environmental issues
- appliance operation
- cost for necessary remedial action or appliance replacement

Gas Supply Scenarios

- Flows of gas within the EU
- Supply flows to the EU
 - Different flows for each of the following supplies:
Caspian, Middle East, LNG, Russia, Norway, North Africa
- Gas quality requirements in the EU
 - the adoption of the EASEE-gas CBP in the EU
 - other gas quality requirements in the EU
 - adoption of discrete gas quality “zones” within the EU
 - no gas quality standard in the EU
- 2 years selected - 2015 and 2025
- Gas demand of each country - low, medium and high

Indicators of Impact of Gas Quality Specifications

- Gas quality aspects in gas price differences in different zones
- Gas quality aspects in security of supply and gas supply interruptions
- Treatment and gas processing
 - Nitrogen ballasting of LNG, local or at point of use LPG injection
- Competition in the appliances market
- Effect of changes in gas quality on existing appliances
- Replacement/adjustment of appliances

Relation Between Scenarios and Indicators

For each gas flow scenario:

- Per country, assess the sources of gas at its disposal and its infrastructure, and the role of gas quality.
- Per country, assess the sensitivity of the gas quality to short-term interruptions.
This will represent a cost of not harmonising gas quality.
- Quantify the differences in gas price in different markets due to different gas quality.
- Quantify the need and cost for gas treatment of gas due to gas quality restrictions
- The relation to competing markets, e.g. the USA and/or Asia

Impact on Stakeholders

- analyse the costs and benefits for TSO's
- analyse the costs and benefits for producers
- analyse the costs and benefits for shippers, traders and suppliers
- analyse the costs and benefits for large industrial consumers
- analyse the costs and benefits for gas appliance manufacturers
- analyse the costs and benefits for SME's and households
 - based on the results of the GASQUAL Study

Impact on Appliances

- Assess impact of EU competition on the prices of gas appliances
- Assess the competitiveness of EU appliance manufacturers to benchmark the efficient production of (types of) gas appliances
- Quantify the impact of changes in gas quality on the functioning of a gas appliance (including industrial gas consuming installations), with respect to: efficiency, environmental effects, safety.
- Assess impact on industrial processes that use gas as a chemical feedstock.
- Quantify the costs and benefits of developing, producing and installing new appliances that are more efficient and/or better in handling different gas qualities.
- Estimate the costs and benefits of adjusting existing appliances.

Deliverables and Timescales

Two year study commenced January 2010

Part I: Pilot phase for one area - Italy

- Deliverable due 6 months after project start - June 2010
- Complete all phases of the project for one gas quality parameter

Part II: Inventory and scenarios

- Deliverable due 10 months after project start - October 2010
- 4 Different quantified scenarios on flows within the EU
- 4 Different quantified scenarios on supply flows to the EU
- 4 Different quantified scenarios on gas quality standards in the EU

Deliverables and Timescales

Part III: Gas market; consultation of stakeholders, develop indicators and apply agreed scenarios

- Deliverable due 16 months after project start - April 2011
- Minutes of meetings with stakeholders
- List of economic indicators for subjects
- A report that contains an overview of costs and benefits of harmonising the gas quality specification, under different scenarios, for all costs and benefits;

Deliverables and Timescales

Part IV: Appliances; consultation of stakeholders, include data from CEN testing programme, develop indicators and apply scenarios

- Deliverable due 22 months after project start - October 2012
- Preparation of draft report

Part V: Final report and recommendation to CEN

- Deliverable due 23 months after project start - November 2012
- Final report issued

Information required to support study

Support Sought From:

- TSOs
- Suppliers
- Producers
- Traders
- Appliance users
- Industry (heat & power producers; feedstock)
- Appliance manufacturers
- Sellers
- Others

Your contribution is important to ensure your concerns are recognised and addressed

Representation from Organisations

- Eurogas
- Marcogaz
- Cogen Europe
- Energy Industries Council (EIC)
- The European Turbine Association (EUnited Turbines)
- European Power Supply Manufacturers Association (EPSMA)
- International Flame Research Foundation (IFRF)
- ICOM Energy Association
- HVCA
- Society of British Gas Industries (SBGI)
- Major Energy Users Council (MEUC)

Your contribution is important to ensure your members concerns are recognised and addressed

Information on Appliances

GAD compliant - domestic appliances

Primary source of information will be GASQUAL

Includes:

- Market study to understand the existing population.
 - Appliances installed with typology.
 - Market for new appliances.
 - Future gas profiles.
- Local procedures relating to appliances
 - Existing certification practices
 - Installation and inspection rules and practices.
- Testing of appliances against agreed test programme

Information on Appliances

Large non-GAD compliant appliances

Primary source of information will be manufacturers

Proposed classification of industrial and commercial appliances

- Commercial water heaters
- Commercial space heaters
- Commercial Catering
- Industrial process heaters
- Industrial furnaces
- Industrial boilers
- CCGT/Steam turbines
- Gas engines
- Gas fired power generation

Data Collection – Questionnaire specific to each stakeholder

Appliance questionnaire

- Type of appliance
- Countries supplied / Operating range (s)
- Control systems
- Availability of performance data
- Modification or replacement costs to operate over:
 - EASEE-gas CBP 2005-001/02
 - Specific ranges
 - No gas quality range
- Current or planned development of new models
 - Proposed operational ranges
 - Date of release

Data Collection - examples

End User Questionnaire

- Tailored to collect information on experienced or anticipated impact of gas quality variation, operational ranges and limits imposed by their supplier. If required estimate cost of planned remedial action.

Producer Questionnaire

- What specification is gas currently produced to meet
- Regions supplied
- Existing capacity, restrictions, or estimated cost to process to meet,
 - EASEE-gas CBP 2005-001/02
 - Specific ranges
- Limitation on supply due to gas quality specification

In all cases respondents contact details requested for follow up discussion if required.

Validation

- Collected data will be collated
- Data validated where possible
- Where necessary verify details with contributors
- Review at forum of interested parties - February 2011.

Analysis of data and delivery of final report

Thank you for your attention!

