

ECRB review on gas quality in the Energy Community

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Gas quality legislation

1. Regulation (EC) 2015/703 - NC INT

- NC INT, Chapter IV Gas quality and odourisation sets rules which define:
 - TSOs cooperation to avoid restrictions to cross-border trade due to gas quality difference
 - TSOs obligation to hourly publish Wobbe index and GCV on IPs
 - TSOs obligation to inform about short term gas quality variation on exits to customers/DSO/SSO with operations process sensitive on gas quality changes
 - Managing cross-border trade restrictions due to difference in odourisation practices

2. CEN standard EN 16726:2015 for Gas quality Group H

- CEN standard EN 16726 define:
 - Min. and Max. value for Relative density (Wobbe index is deleted)
 - Max. value for Total sulfur, Hydrogen sulfide + Carbonyl sulfide and Mercaptan Sulphur
 - Max. Value for Oxygen and Carbon dioxide

3. Gas composition

- Defined in import contracts and national legislation in some countries

Analysis of gas quality regulation in SSE

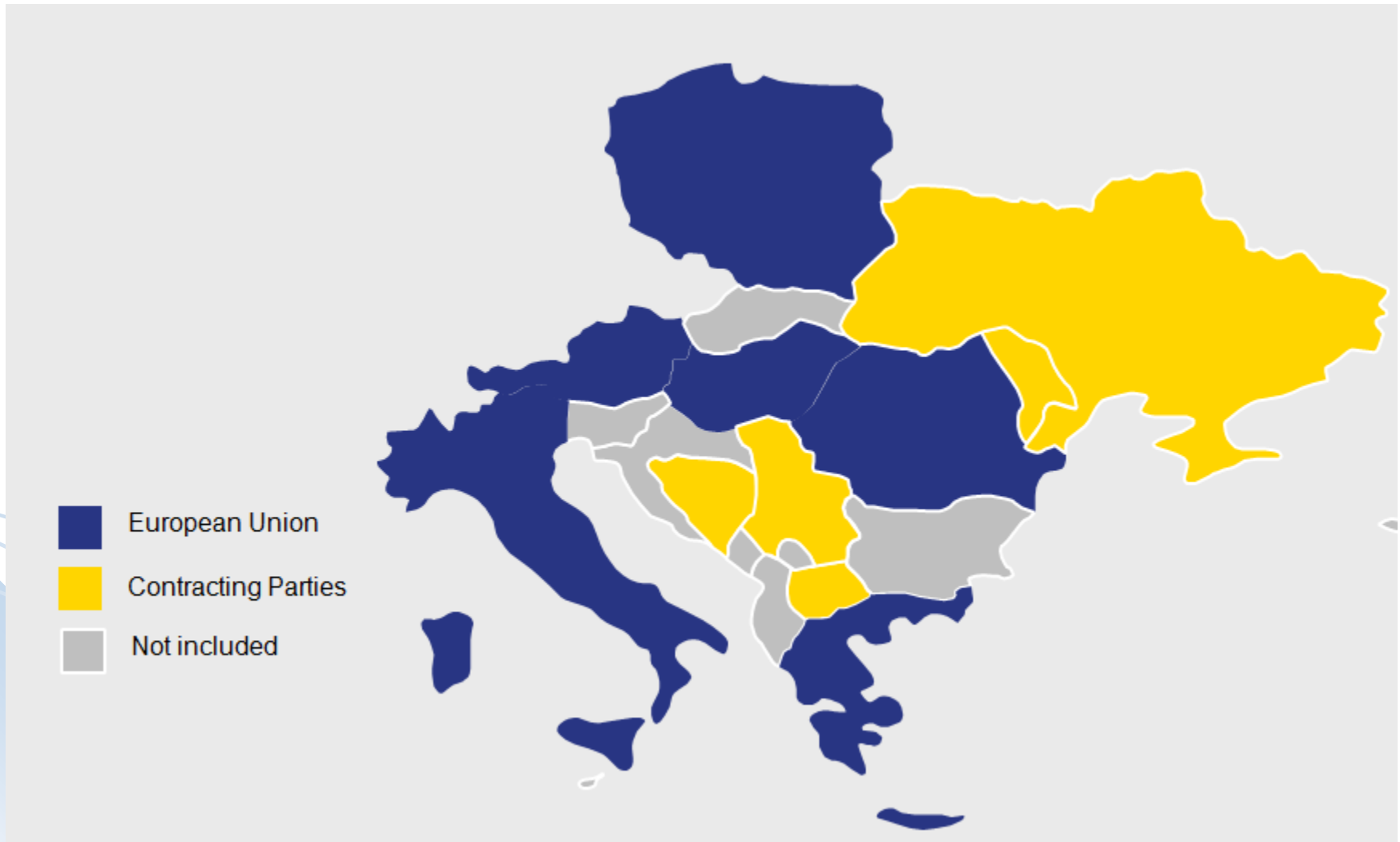
1. Methodology

- Data for analysis based on information from NRA in 2016
- Analyzed NC INT, CEN standard EN 16726 and natural gas composition in SSE
- Results cover EU countries: Austria, Greece, Hungary, Italy, Poland, Romania and EnC countries Bosnia and Herzegovina, FYR of Macedonia, Moldova, Serbia and Ukraine
- Assessment of Gas Quality regulation and practice

2. Deliverable

- Study on interoperability and gas quality parameters in SSE available on the EnC web site (https://www.energy-community.org/dam/jcr:fb99a89f-d66e-49e8-ac0f-feb8ae70d27f/ECRB_network_code.pdf)

Geographic scope



Findings - NC INT Gas quality and odourisation

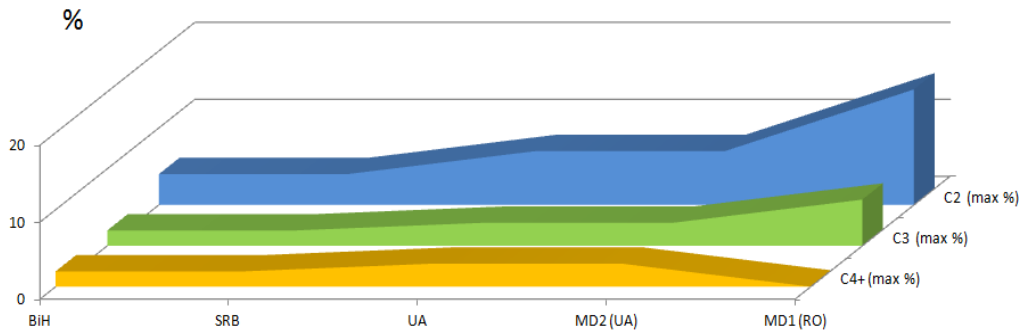
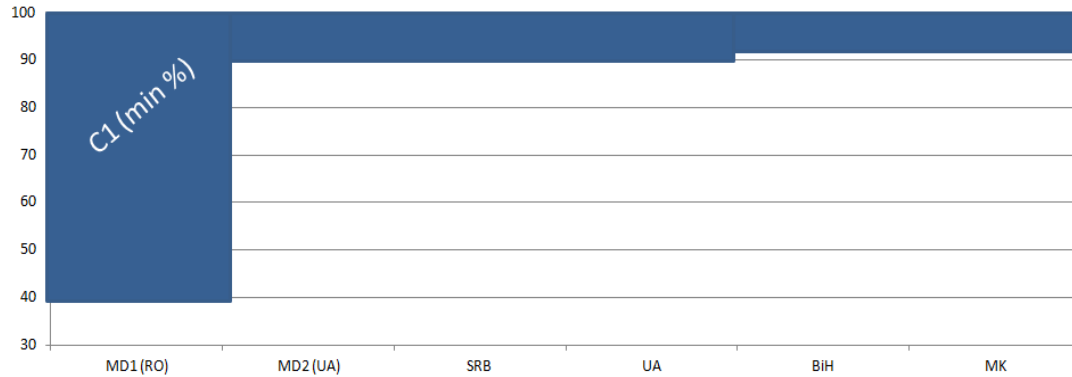
1. Gas quality and odourisation practice on EnC IPs

- Gas quality differences never caused a restriction in cross-border trade on EnC-EnC and EU-EnC IPs
- TSOs did not publish Wobbe-index and gross calorific value for gas at all on IPs in B&H, Ukraine and one IP in Moldova
- TSOs published Wobbe-index and gross calorific value weekly at one IP in Moldova
- Serbian TSO publishes daily Wobbe-index and lower calorific value for different temperature reference condition for volume and combustion(15°C/15°C)
- TSOs in EnC do not have an obligation to inform about short term gas quality variation on exit (at that time NC INT was not obligatory in EnC)
- Differences in odourisation practise never caused a restriction in cross-border trade

Natural gas parameters

Country	GCV KWh/m ³	Wobbe KWh/m ³	Total sulfur mg/m ³	Mercaptane sulfur mg/m ³	H2S mg/m ³	Oxygen %mol	Water dew point °C
FYR of Macedonia	10.471 average	13.821 average	Max. 20	Max. 5	Max. 5	0,2	-8/40 bar
Moldova	Min. 10,343	12,074 – 15,937	NO	Max. 36	Max.20	1	NO
Serbia	10,562 – 11, 212	13,650 – 14,950	Max. 20	Max. 5,6	Max. 5	NO	-5/40 bar
Ukraine	10,102 – 10,659	11,402 - 15,085	NO	Max. 20	Max. 6	0,02	-2,5/70 bar
Austria	10,700 – 12,800	13,330 – 15,700	Max. 10	Max. 6	Max. 5	0,5	-8/40 bar
Italy	10,234 – 13,259	13,852 - 15,322	Max. 158	Max. 16,35	Max. 5	0,6	-5/70 bar
Poland	Min. 10,556	12,500 – 15,806	Max. 20	Max.16	Max. 7	0,2	-5/55 bar
Romania	Min. 9,094	NO	Max. 100	Max.8	Max.6,8	0,02	
Greece	10.200 – 13.710	13.100 – 16.370	Max. 80	NA	Max. 5.4	0,2	5/80 bar
Hungary	8.600 – 12.580	12.680 – 15.210	Max. 100	NA	Max.20	0,2	-8/40 bar

Natural gas composition in EnC



Compliance with Gas quality regulation

1. Compliance with NC INT

- In EnC CPs, gas quality differences and odourisation practice never caused problems on IPs
- EnC CPs did not implement TSOs obligation to publish GCV and Wobbe index every hour and inform about short-term gas quality variation
- EU countries have obligation to implement NC INT

2. Wobbe index and compliance with CEN standard EN 16726

- Some countries have defined only min or average value for Wobbe index
- In some countries range is very wide for Wobbe index
- Sulfur, oxygen, carbon dioxide and hydro carbon and water dew temperature are
 - out of range in some countries and
 - it is not defined in some other countries

3. Natural gas chemical compositions

- chemical compositions are not defined in most of the countries
- Differences in min methane percentage between countries which produce gas and only import gas

Recommendation for Gas quality regulation in EnC countries

1. NC INT implementation in national legislation

- EnC CPs, with EnC Secretariat's assistance, should define action plans for implementation of all NCs in national legislation
- Consultation about technical details in implementation with ENTSOG will be very helpful
- EnC Report about NC implementation progress at least one per year

2. Natural Gas parameters and composition

- All natural gas parameters in all countries should be in line with CEN - EN 16726 standard minimum on IPs
- Gas quality parameters of new sources of gas in region (TAP, Turkish Stream, LNG and other projects) should be in line with CEN standard EN 16726
- Wobbe index range should be defined at least as a recommendation
- Natural gas compositions could be defined on national level

Thank you!

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