Energy Community

Implementation of chapters II to V of Regulation (EU) 703/2015 establishing a network code on interoperability and data exchange rules in the Energy Community

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I. Executive Summary

The present report analyses the implementation of chapters II to V of Regulation 2015/703 establishing a network code on interoperability and data exchange rules in the Energy Community Contracting Parties. It provides an insight of the level of compliance of Interconnection Agreements, gas units, gas quality and odourisation with the code's requirements. Compliance with respect to data exchanges at 20 interconnection points between Contracting Parties and neighbouring EU Member States is also assessed.

In addition to stocktaking, the present report also concludes on a set of recommendations based on the results of the monitoring analysis.

The transmission system operators of the Contracting Parties and neighbouring EU Member States must bring in line existing Interconnection Agreements with requirements of Regulation 2015/703 and conclude interconnection agreements on interconnection points for which such agreements still do not exist.

The transmission system operators of the Contracting Parties shall implement a common set of gas units and reference conditions as required by chapter III of the interoperability network code and to improve their information practices, specifically in relation to short-term gas quality variations. They shall also consult with network users on data exchange solutions and obtain approval of the national regulatory authority before their application.

In parallel, the Contracting Parties' national regulatory authorities will have to take responsibility with respect to supervising the implementation of the interoperability network code in the scope of their general obligation to monitor the implementation of rules relating to the responsibilities of transmission system operators.

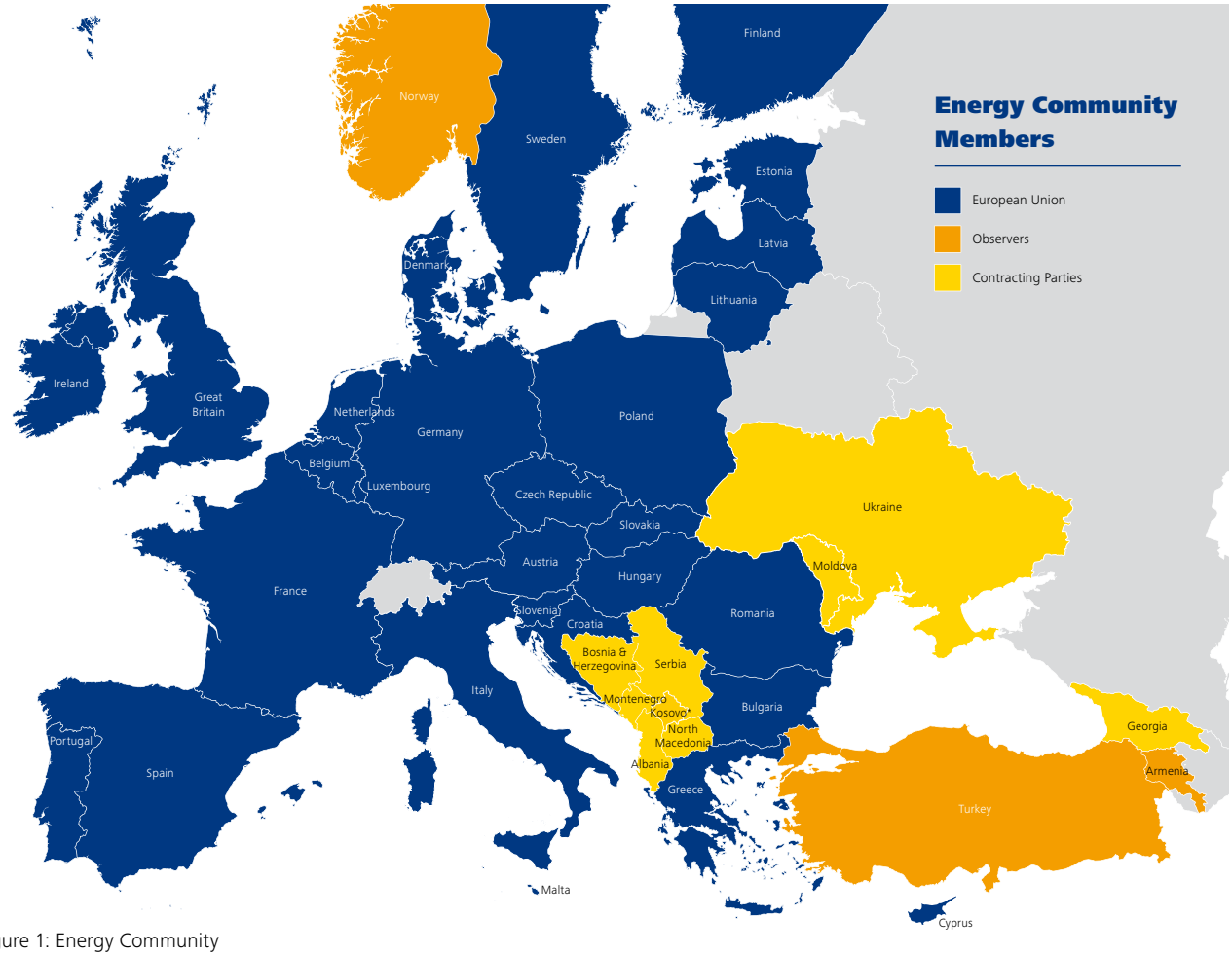

Figure 1: Energy Community

II. Introduction

1. The interoperability network code

Regulation (EC) 2015/703 establishing a network code on interoperability and data exchange rules (hereinafter 'Regulation 2015/703', 'the interoperability network code' or 'IO NC')[1] is part of a set of technical rules – the so-called 'network codes' or 'guidelines' – that specify detailed standards for gas transmission cross-border flows such as capacity allocation, tariffication, congestion management and balancing. Based on Gas Regulation 715/2009,[2] the network codes and guidelines are developed by the European Network of Transmission System Operators in Gas (ENTSOG)[3] in line with framework guidelines developed by the Agency for the Cooperation of Energy Regulators (ACER).[4]

Regulation 2015/703 was **incorporated into the Energy Community *acquis communautaire*** ('acquis') by Decision 2018/02/PHLG-EnC of the Energy Community Permanent High Level Group of 12 January 2018, which set a deadline of 1 October 2018 for the transposition and implementation of the interoperability network code.[5]

The interoperability network code sets rules on interoperability and data exchange as well as harmonized provisions for the operation of gas transmission systems with the aim of facilitating gas trade and cross-border gas transmission flows. Throughout the entire natural gas chain, technical and operational rules and procedures are necessary to allow transmission system operators to operate systems safely and efficiently. Alignment of these technical standards with adjacent transmission system operators is of crucial importance to facilitate the free flow of gas across borders. In addition, with the unbundling of gas undertakings proceeding, the number of stakeholders involved in gas transmission and the interfaces between them has increased. This calls for harmonisation of the rules defined in bilateral agreements between transmission system operators. By setting minimum technical, operational and communication criteria, the interoperability code aims at standardizing these agreements.[6]

2. Scope of the report

The present report analyses the implementation of chapters II to V of Regulation 2015/703. It follows a related reporting obligation of the Energy Community Secretariat (hereinafter 'Secretariat') based on Article 25(1) of Regulation 2015/703 reading as follows:
'Six months after the expiry of the deadline for transposing and implementing this Regulation the Energy Community Secretariat shall monitor and analyse how transmission system operators have implemented Chapters II to V of this Regulation and submit its report to the Energy Community Permanent High Level Group.'

Chapters II to V of the interoperability network code cover the following interoperability aspects: Interconnection Agreements (IA); units; gas quality and odourisation; and data exchange. The present report gives an insight on the transposition and implementation of these elements in the Energy Community Contracting Parties as well as on gas interconnection points to EU Member States. In total, the present report covers **20 interconnection points**.

Different from the monitoring approach applied by ENTSOG[7] and ACER[8] that are exclusively focusing on interconnection points between EU Member States, the present report does not limit its analysis to interconnection points between Contracting Parties but also covers interconnection points between Contracting Parties and EU Member States.

Connection points within a country – as is the case for the two gas transmission system operators in Serbia, *Yugorosgaz Transport* and *Srbijagas*, and the three gas transmission system operators in Bosnia and Herzegovina, *BH Gas*, *Gas*

1 Regulation 2015/703 of 30.04.2015.
2 Regulation 715/2009 of 13.07.2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No 1775/2005 – adopted and adapted for the Energy Community Contracting Parties by Decision 2011/02/MC-EnC of the Energy Community Ministerial Council.
3 www.entsog.eu.
4 www.acer.eu.
5 Unless stated differently, reference to Regulation 2015/703 or 'the interoperability network code' throughout this document means the version adopted and adapted for the Contracting Parties by Decision 2018/02/PHLG-EnC.
6 Similarly: ACER, 1st ACER Implementation Monitoring Report of the Network Code on Interoperability and Data Exchange, 4.12.2017, paragraphs (13) *et seq*.
7 ENTSOG, Interoperability and Data Exchange Rules Network Code: 2nd Report on Implementation Monitoring, 2017.
8 ACER, 1st ACER Implementation Monitoring Report of the Network Code on Interoperability and Data Exchange, 4.12.2017, chapter 1.3.

Promet and *Sarajevogas Istocno Sarajevo* – are not taken into account having in mind that Article 1 of Regulation 2015/703 defines that the network code is only applicable at interconnection points; the application at interconnection points *within* a country is subject to the decision of the relevant national regulatory authority. The Serbian regulatory authority, *AERS*, does not recognize the connection points between *Yugorosgaz Transport* and *Srbijagas* as interconnection points in the sense of the interoperability network code. A related decision cannot be taken for connections within Bosnia and Herzegovina as the state-level national regulatory authority, *SERC*, lacks competences over the gas sector.

Moreover, the present report does not cover the interconnection points of Georgia having in mind the country's exemption from gas cross-border related elements of the acquis.[9]

The following graphic shows the geographic scope of the present report.

Figure 2: Interconnection Agreements on Contracting Party Interconnection Points
Source: ENTSOG map adjusted

9 Article 2(7) of the protocol concerning the accession of Georgia to the Treaty establishing the Energy Community exempts Georgia *'from the application of the Treaty in relation to legal and/or regulatory regime and/or terms and conditions of cross-border transmission (transit) of natural gas* […]'.

3. Methodology

The findings of the present report are based on the answers provided by the Contracting Parties' gas transmission system operators to a questionnaire distributed by the Secretariat in December 2018.

With the aim to keep the assessment of the present report comparable with related findings in the EU, the Secretariat's questionnaires were based on a template used by ENTSOG for monitoring of the implementation of the interoperability network code by EU transmission system operators. To reflect the regulatory aspect of compliance monitoring, the Secretariat further oriented its assessment on the monitoring practice of ACER.[10]

The following gas transmission system operators provided input to the survey:

Contracting Party	TSO
Albania	No gas market
Bosnia and Herzegovina	*Gas Promet AD Pale*
Georgia	Exempted
Kosovo*	No gas market
Montenegro	No gas market
Moldova	*Moldovatransgaz SRL*
North Macedonia	*GA- MA*
Serbia	*JP Srbijagas Novi Sad*
Ukraine	*JSC Ukrtransgaz*

Further to this, the Secretariat also verified whether national transmission system operators communicated to their national regulator and/or ENTSOG the conclusion or amendment of an Interconnection Agreement after the deadline for transposition of Regulation 2015/703 as required by Article 4(3) *leg cit*.

4. Disclaimer

Article 25(1) of Regulation 2015/703 establishes a one-off duty for the Secretariat to monitor and analyse how transmission system operators have implemented chapters II to V of the interoperability network code six month after the expiry of the deadline for transposition and implementation of the code. This will not prevent the Secretariat from continuously monitoring and issuing analyses on the compliance of Contracting Parties' transmission system operators with the requirements of Regulation 2015/703 in line with the general compliance monitoring responsibility of the Secretariat stipulated by Article 67 litera (b) of the Energy Community Treaty.

10 Cf. fn. 7 and 8.

III. General Observations

The present chapter includes a number of general reflections observed by the Secretariat in context of the present monitoring exercise that go beyond a mere check of compliance with the legal requirements of the interoperability network code.

First, the Secretariat draws attention to the **legal shortcoming** consisting of a lack of binding applicability of Regulation 2015/703 on interconnection points between Contracting Parties and EU Member States. In legal terms, Regulation 2015/703 is indeed only applicable on interconnection points between EU Member States on the one hand,[11] and on interconnection points between Contracting Parties on the other hand.[12] According to both the EU and the Energy Community version of the interoperability network code,[13] the code *may* also be applied on interconnection points with third countries, i.e. a Contracting Party from an EU Member State perspective and *vice versa* – subject to a related decision of the relevant national energy regulator. By signing a related declaration, the regulators of Albania, Bulgaria, Greece, Hungary, Moldova, Poland, Romania and Ukraine expressed commitment to introduce such a possibility. Based on this, a general commitment to implement the network code on interconnection points between these Contracting Parties and EU Member States must be assumed and, consequently, assessed in the present report.

The Secretariat joins the Contracting Parties' gas stakeholders in their conclusion that the application of the interoperability network code as well as other network codes only between Contracting Parties does not justify the still significant implementation effort in view of the small size of the Energy Community Contracting Parties' gas markets. At the same time, the application of common rules on interconnection points with EU Member States is essential for market integration. The Secretariat repeatedly emphasized this aspect in various strategic documents on the gas sector, such as "Gas Action 2020" or the Action Plan for the Energy Community developed under the Central and South-Eastern European Gas Connectivity (CESEC).[14] While positively acknowledging the commitment expressed by both EU and Contracting Party regulators to voluntarily apply network codes on their common interconnection points, the Secretariat still considers the non-binding character of these declarations insufficient for providing the required legal certainty.

Secondly, the Secretariat notes that as of the date of the present report and despite the expiry of the deadline for transposition and implementation of Regulation 2015/703 on 1 October 2018, **none of the Contracting Parties have formally notified** transposition measures to the Secretariat albeit obliged to do so by Decision 2018/02/PHLG-EnC.[15] Unlike in the EU, regulations in the Energy Community need to be transposed in domestic legal orders. The Secretariat is aware of the transposition of the interoperability network code only in Albania.[16]

Thirdly, gas **transmission system operators of the Contracting Parties did not meet their obligation** under Article 25(2) of the interoperability network code to communicate to the Secretariat, at the latest three months after the expiry of the deadline for transposing and implementing Regulation 2015/703, all necessary information enabling the Secretariat to comply with the monitoring responsibility provided by the present report. This may be considered a result of the failed transposition of the interoperability network code by the respective Contracting Parties. This, however, did not prevent gas transmission system operators from replying to the questionnaire distributed by the Secretariat for the purpose of the present assessment.[17]

Finally, the Secretariat underlines the need for Contracting Parties' **regulators to take responsibility** over supervising the implementation of the interoperability network code. Given the lack of transposition, it is too early to evaluate their contribution.

11 EU version of the interoperability network code.
12 Version adopted and adapted for the Contracting Parties by Decision 2018/02/PHLG-EnC.
13 Cf. Article 1(2) *leg cit*.
14 See https://www.energy-community.org/regionalinitiatives/CESEC.html for further reference links.
15 According to Article 1(3) of Decision 2018/02/PHLG-EnC '[e]ach Contracting Party shall notify the Energy Community Secretariat of completed transposition within two weeks following the adoption of such measures.'
16 ERE Board Decision no. 214 of 11.10.2018 "On approving the Network Code on Interoperability and Exchange Data Rules".
17 Cf. chapter II.

IV. Interconnection Agreements

Arrangements among transmission system operators are usually handled bilaterally in an Interconnection Agreement. Interconnection Agreements define obligations and rights of the counterparts and facilitate operational cooperation between adjacent transmission system operators covering the following issues: information, data exchange, safety as well as other physical, operational, commercial and contractual issues. Topics and default agreements are listed in the interoperability network code, covering flow control, measurement, matching and allocation. The default agreements outlined in the interoperability network code facilitate the conclusion of Interconnection Agreements.[18]

Chapter II of Regulation 2015/703 aims to harmonize the approach to Interconnection Agreements. The present chapter analyses how these provisions are currently implemented. It provides an overview of the main elements of the Interconnection Agreements concluded for the interconnection points between the transmission system operators of the Contracting Parties and between Contracting Parties and neighbouring EU Members States.

Interconnection Agreements have so far been concluded for seven interconnection points. Table 1 provides general information concerning these Agreements such as the date of signature or amendment as well as the fulfilment of information and consultation obligations of the transmission system operators.

18 ACER, 1st Implementation Monitoring Report of the Network Code on Interoperability and Data Exchange, 4.12.2017, chapter 2.1.1.

Table 1 General provisions and information obligation

Requirement	Interconnection point						
	UA-PL Hermanowice	**UA-SK Budince**	**UA-HU Beregovo-Beregdaroc**	**UA-HU Beregdaroc**	**UA-RO Orlovka-Isaccea I**	**RS-HU Horgos - Kiskundoroszma**	**RS-BA Zvornik**
When was the IA signed?	2012	2014	2015	2015	2016	2017	2017
When were the IA mandatory terms amended or replaced the last time?	July 2017: new technical-operational agreement for gas metering station, capacities were specified	September 2016: increase of capacities in direction SK-UA	New amendment expected to be completed in April 2019	New amendment expected to be completed in April 2019	December 2018	There were no amendments to IA since it was signed	There were no amendments to IA since it was signed
Have you identified information contained in IA that directly affects network users and informed them?	Yes	No, there was no obligation	No, there was no obligation	No, there was no obligation	No, there was no obligation	No, there was no obligation	No, there was no obligation
Since application date of the INT NC and before concluding or amending an interconnection agreement, have you invited network users to comment on the proposed text for matching, allocation and communication of exceptional events?	Yes	No, there was no obligation	No, there was no obligation, but parties will invite network users to comment on draft IA to be applied after 01.01.2020.	No, there was no obligation	No, there was no obligation	No, there was no obligation	No, there was no obligation

Source: compiled by the Energy Community Secretariat.

The information provided in table 1 shows that **no Interconnection Agreement has been signed since the adoption of the interoperability network code** in January 2018. All existing Interconnection Agreements date back to an earlier date based on bilateral arrangements between the respective transmission system operators. *Ukrtransgaz* is in the process of negotiating amendments to the Interconnection Agreements for the points with the Hungarian gas transmission system operator, *FGSZ*, at the interconnection points Beregovo and Beregdaroc.

Accordingly, none of the Contracting Parties' regulatory authorities received information on the mandatory terms of interconnection agreements or any amendments made after the expiry of the deadline for transposition of the interconnection network code (1 October 2018), as required by Article 4 of Regulation 2015/703.

Implementation of required terms and conditions for the Interconnection Agreements as stipulated by Articles 6 to 12 of Regulation 2015/703 and reported by the Contracting Parties' gas transmission system operators are presented in the following tables.

Table 2 Rules for flow control

Interconnection point	UA-PL Hermanowice	UA-SK Budince	UA-HU Beregovo-Beregdaroc	UA-HU Beregdaroc	UA-RO Orlovka-Isaccea I	RS-HU Horgos-Kiskundoroszma	RS-BA Zvornik
Rules to facilitate a controllable, accurate, predictable and efficient gas flow	✓	✓	✓	✓	✓	✓	✓
Rules for steering the gas flow across IP and for minimizing the deviations from the flow pursuant to matching	✓	✓	✓	✓	✓	✓	✓
Designation of TSO responsible for steering	✓	✓	✓	✓	✓	✓	✓
Quantity and direction of the gas flow is decided on an hourly basis by the adjacent TSOs	✓	✓	✓	✓	✓	✓	✓
Matching rule	✓	✓	✓	✓	✓	✓	✓
Allocation rules	✓	✓	✓	✓	✓	✓	✓
Flow control arrangements	✓	✓	✓	✓	✓	✓	✓
Gas quality including any arrangement pursuant to Art. 15	✓	✓	✓	✓	✓	✓	✓
Odourisation including any arrangement pursuant to Art. 19	✓	✓	✓	✓	✓	Not applicable[19]	Not applicable[19]
Safety legislation	✓	✓	✓	✓	✓	✓	✓
Emergency plans	X	X	X	X	X	✓	✓
Preventive action plans	X	X	X	X	X	✓	✓
Exceptional events	✓	✓	✓	✓	✓	✓	✓

Source: compiled by the Energy Community Secretariat.

19 Between the transmission systems of *FGSZ*, *Srbijagas* and *Gas Promet* there are is no gas odourisation, therefore the relevant Interconnection Agreements do not include arrangements on managing cross- border trade restrictions due to odourisation practices.

Table 3 Measurement principles for gas quantity and quality

Interconnection point	UA-PL Hermanowice	UA-SK Budince	UA-HU Beregovo-Beregdaroc	UA-HU Beregdaroc	UA-RO Orlovka-Isaccea I	RS-HU Horgos-Kiskundoroszma	RS-BA Zvornik
Details of the measurement standards applicable established	✓	✓	✓	✓	✓	✓	✓
Designation of the TSO responsible for Installation, O&M	✓	✓	✓	✓	✓	✓	✓
Description of the station and its equipment	✓	✓	✓	✓	✓	✓	✓
Parameters and details: units, range, uncertainty and frequency of measurement	✓	✓	✓	✓	✓	✓	✓
Calculations procedures	✓	✓	✓	✓	✓	✓	✓
Maximum permissible error in energy	✓	X[20]	✓	✓	✓	✓	✓
Data validation	✓	✓	✓	✓	✓	✓	✓
Verification and adjustment	✓	✓	✓	✓	✓	✓	✓
Data provision content and frequency	✓	✓	✓	✓	✓	X	X
List of signal and alarms	✓	✓	✓	✓	✓	X	X
Corrections to measurements	✓	✓	✓	✓	✓	✓	✓
Equipment failure management	✓	✓	✓	✓	✓	✓	✓
Rules for facility access, additional verification, modification and attendance during calibration	✓	✓	✓	✓	✓	✓	✓

Source: compiled by the Energy Community Secretariat.

All existing interconnection agreements include rules ensuring **controllable, accurate, predictable and efficient gas flows** across the interconnection points as well as the rules for steering the gas across the interconnection points and minimizing deviations due to the matching process. In addition, rules for appointing a transmission system operator responsible for steering the gas flows across interconnection points exist.

The quantity and direction of the gas flow is decided on an **hourly basis** by the adjacent transmission system operators in all cases. The quantities and directions of gas flows reflect the results of matching processes, allocation rules, flow control arrangements and odourisation where applicable.[21]

Finally, all transmission system operators with Interconnection Agreements in place agreed on altering quantities or flows of gas in order to comply with **safety** requirements. However, the Interconnection Agreements of *Ukrtransgaz* lack a provision determining the applicable rules in case of flow changes due to Emergency Plans and Preventive Action Plans.

20 Only volume deviation is allowed.

21 Gas odourisation is not performed between the transmission systems of *FGSZ*, *Srbijagas* and *Gas Promet*. The relevant Interconnection Agreements, therefore, do not include arrangements on how to manage cross-border trade restrictions due to odourisation practices.

Measurement principles for gas quantity and quality are established by all Interconnection Agreements. Yet, provisions on how data is shared between the adjacent transmission system operators with respect to the measurement parameters and the lists of signals and alarms are still not part of the agreements on the interconnection points between Hungary and Serbia (Horgos-Kiskundoroszma), and Serbia and Bosnia and Herzegovina (Zvornik). Details on the measurement principles covered by the Interconnection Agreements are provided in the table 3.

Table 4 Rules for the matching process

Interconnection point	UA-PL Hermanowice	UA-SK Budince	UA-HU Beregovo-Beregdaroc	UA-HU Beregdaroc	UA-RO Orlovka-Isaccea I	RS-HU Horgos-Kiskundoroszma	RS-BA Zvornik
Have rules detailing the matching process been established, taking into account the daily-hourly nomination arrangements where relevant?	✓	✓	✓	✓	✓	✓	✓
Have rules detailing communication and processing of data been established?	✓	✓	✓	✓	✓	✓	✓
What is matching rule in place?	Lesser rule	Lesser rule	Lesser rule	Lesser rule	Lesser rule	Lesser rule	Lesser rule
Which is the TSO responsible for the matching process?	Flow control equipment operator	Flow control equipment operator	Flow control equipment operator	Flow control equipment operator	Flow control equipment operator	Flow control equipment operator	Flow control equipment operator
Is the matching process performed in the sequential steps as required by this provision? If not, what are the sequential steps applied?	other[22]	other[23]	other[24]	other[24]	other[24]	✓	✓
Has a time schedule taking no longer than two hours been defined?	✓	✓	✓	✓	✓	X	X
Are data exchange use and the harmonized information specified?	✓	✓	✓	✓	✓	X	X

Source: compiled by the Energy Community Secretariat.

22 Described in Article 3 of Annex 2 and Article 3 of Annex 3 to the Dispatching Agreement; details not available to the Secretariat.
23 Article 3 of the Interconnection Agreement; details not available to the Secretariat.
24 Article 7 of the Interconnection Agreement; details not available to the Secretariat.

Table 5 Rules for allocation of gas quantities

Interconnection point	UA-PL Hermanowice	UA-SK Budince	UA-HU Beregovo-Beregdaroc	UA-HU Beregdaroc	UA-RO Orlovka-Isaccea I	RS-HU Horgos-Kiskundoroszma	RS-BA Zvornik
What is the allocation rule in place?	OBA[25]	OBA	OBA	OBA	OBA	other[26]	other
If the rule is OBA, is it recalculated by the TSO in control of the measurement equipment?	✓	✓	✓	✓	✓	not applicable	not applicable
Where the OBA applies, are the allocations equal to the confirmed quantities?	✓	✓	✓	✓	✓	not applicable	not applicable
Is the OBA maintained as close to 0 as possible?	✓	✓	✓	✓	✓	not applicable	not applicable
Do the OBA limits take into account specific characteristics of each IP and/or the interconnected transmission networks	✓	✓	✓	✓	✓	not applicable	not applicable
If the rule is not OBA, what is it?	not applicable	not applicable	not applicable	not applicable	not applicable	the allocations equal to the confirmed quantities; "OBA'' set at zero	the allocations equal to the confirmed quantities "OBA'' set at zero

Source: compiled by the Energy Community Secretariat.

All Interconnection Agreements envisage the application of the so-called lesser rule for **matching**.[27] In all cases, the transmission system operator that - according to the Interconnection Agreement – is in charge of the flow control equipment is responsible for the matching process. Default sequential steps of the matching process as defined by Article 8(c) of the interoperability network code are not applied in any of the existing Interconnection Agreements as the transmission system operators established another sequence.

Ukrtransgaz applies the principle of an operational balancing account (OBA)[28] for **allocation of gas quantities** while *Srbijagas* still does not use this procedure. Rather, *Srbijagas* treats allocated quantities as confirmed quantities and keeps imbalances at zero.

In Ukraine, where an operational balancing account is applied:

- it is recalculated by the transmission system operator in control of measurement equipment;
- allocations are always equal to confirmed quantities;
- it is maintained as close to zero as possible; and
- limits take into account specific characteristics of each interconnection point and/or the interconnected transmission networks, in particular: physical characteristics, linepack capability of each transmission system, total technical capacity and gas flow dynamics.

25 Currently OBA is settled to zero at the end of each month. However, transmission system operators are planning to change this practice to standard OBA.
26 See the explanation in the text body.
27 'Lesser rule' means that, in case of different processed quantities at either side of an interconnection point, the confirmed quantity will be equal to the lower of the two processed quantities"; cf. Article 2(c) of the interoperability network code.
28 'Operational balancing account' means an account between adjacent transmission system operators, to be used to manage steering differences at an interconnection point in order to simplify gas accounting for network users involved at the interconnection point"; cf. Article 2(g) of the interoperability network code.

More details on the applied rules for allocation of gas quantities are listed in table 5.

In case of an **exceptional event**,[29] the existing Interconnection Agreements include procedures on information to be provided to adjacent transmission system operators and potentially affected network users.

For **settlement of disputes arising from Interconnection Agreements**, the transmission system operators specified the applicable law and court of jurisdiction or the terms and conditions of appointment of experts. The exception is the interconnection point between Ukraine and Poland, Hermanowice, for which such rules are not specified. However, the draft interconnection agreement to be applied after 1 January 2020 includes such provisions.[30] Finally, all existing Interconnection Agreements define a transparent and detailed **amendment process** to be triggered by a written notice of one of the parties to the agreement.

From the information above, it can be concluded that **the majority of the existing Interconnection Agreements include rules required by chapter II of the Regulation 2015/703.** Nevertheless, several measurement principles as well as the rules on data exchange for the matching process still have to be agreed between *Srbijagas* and its neighbouring transmission system operators.

29 'Exceptional event' means any unplanned event that is not reasonably controllable or preventable and that may cause, for a limited period, capacity reductions, affecting thereby the quantity or quality of gas at a given interconnection point, with possible consequences on interactions between transmission system operators as well as between transmission system operator and network users"; cf. Article 2(a) of the interoperability network code.

30 The draft Interconnection Agreement is currently under public consultation.

V. Units

According to chapter III of the interoperability network code, transmission system operators have to use the common set of units and reference conditions as defined by Article 13 of the code, namely:[31]

(a) for pressure: bar
(b) for temperature: °C (degree Celsius)
(c) for volume: m^3
(d) for gross calorific value (GCV): kWh/m^3
(e) for energy: kWh (based on GCV)
(f) for Wobbe-index: kWh/m^3 (based on GCV)

Article 14 of Regulation 2015/703, however, also allows gas transmission system operators to use *additional*[32] units, if agreed between adjacent operators, for any data exchange and data publication related to Regulation 715/2009. *Alternative* reference conditions may be applied in case the Contracting Party is connected only to one other Contracting Party or one EU Member State.[33] Among the Contracting Parties, this is the case only for Bosnia and Herzegovina.

For the majority of interconnection points, namely for 14 out of the 20 analysed points, **the common set of units and reference conditions as required by the interoperability network code is not applied**. The six interconnection points where they are applicable are the following:

- Drozdovichi – Drozdowicze (Ukraine-Poland)
- Hermanowice (Ukraine-Poland)
- Budince (Ukraine–Slovakia)
- Beregovo – Beregdaroc (Ukraine-Hungary)
- Beregdaroc (Ukraine-Hungary)
- Orlovka - Isaccea I (Ukraine-Romania)

For the points listed above, additional units have also been jointly defined.

Srbijagas applies different units and reference conditions with respect to its interconnection points:

- Horgos-Kiskundoroszma (Serbia-Hungary): LCV 25/20, energy in Sm3 (KJ and Kcal)
- Zvornik (Serbia-Bosnia and Herzegovina): LCV 15/15, energy in Sm3 (KJ).

In terms of the common set of units and reference conditions to be applied for data exchange and publication, the level of compliance of transmission system operators of the Contracting Parties with the required provisions of Regulation 2015/703 is still at a low level. The exception to a certain extent is Ukraine where the relevant provisions are applied for some interconnection points with neighbouring EU Member States.

31 Further, for pressure, the transmission system operators shall indicate whether it refers to absolute pressure (bar (a)) or gauge pressure (bar (g)). The reference conditions for volume shall be 0 °C and 1,01325 bar(a). For GCV, energy and Wobbe-index, the default combustion reference temperature shall be 25 °C; cf. Article 13 of the interoperability network code.
32 In addition to the common set of units.
33 Cf. Article 13(3) of Regulation 2015/703.

VI. Gas Quality and Odourisation

Chapter V of the interoperability network code harmonises the approach to gas quality and odourisation. According to the information provided by the gas transmission system operators of the Contracting Parties, **cross-border trade restrictions due to gas quality** differences did not occur so far.

However, in case of a restriction to cross-border trade due to gas quality that cannot be avoided by the transmission system operators and is recognized by the national regulatory authority, Article 15(2) of the interoperability network code prescribes that regulators may require the transmission system operators to perform actions in a pre-defined sequence. According to the information available to the Secretariat, none of the national network codes include such a provision.

With respect to the obligations on **short-term gas quality monitoring** set out in Article 16 of the interoperability network code, the majority of the transmission system operators of the Contracting Parties do not publish the Wobbe-index and gross calorific values on their web pages on an hourly basis. The exceptions are:

- *Ukrtransgaz* and its neighboring EU transmission system operators for which ENTSOG publishes this information on a daily basis for transmission flows from Ukraine to the EU.
- *Srbijagas* publishes the Wobbe-index and gross calorific values for its interconnection points on its web page once per day.

With a view to inform network users on **short-term gas quality variation**, the transmission system operators are required to:

- *define* and maintain the list of parties entitled to receive such information; and
- *cooperate* with these parties in order to assess which gas quality parameters are to be provided and how often, the lead time and the method of communication.[34]

Srbijagas, Gas Promet and *Ukrtransgaz* defined the lists of parties; the relevant information is provided once a day per e-mail or via a web page (*Ukrtransgaz* only). On the other hand, *Moldovatransgaz* and *GA-MA* are still in the process of establishing such lists and the process of communication.

According to the information provided by the gas transmission system operators of the Contracting Parties, **cross-border trade restrictions due to differences in odourisation** practices that cannot be avoided by the concerned operators did not occur so far. In any case, in all Contracting Parties, odourisation is done at the interface between transmission and distribution networks, i.e. at the entry to the distribution level.

Even if the transmission system operators of the Contracting Parties did not experience restrictions in cross-border trade due to differences in gas quality and odourisation, there is room for improvement in terms of informing network users on short-term gas quality variations and short-term gas quality monitoring. *Moldovatransgaz*, *GA-MA* and *Gas Promet* need to comply with the relevant (or above mentioned) requirements as soon as possible.

34 Article 17 of Regulation 2015/703.

VII. Data Exchange

The interoperability network code aims at harmonizing data exchange practices and obliges gas transmission system operators to use the templates developed by ENTSOG.[35] To that end, the intention of the code is to impose a single communication standard on all transmission system operators. Based on an assessment performed in the course of developing the framework guideline based on which the interoperability network code has been developed, ACER concluded that several existing standards are a burden to small network users eager to expand their activities across borders.[36]

Data exchange solutions, as envisaged by Article 21 of the interoperability network code, are mostly not used by the transmission system operators of the Contracting Parties, except by *Ukrtransgaz* at three entry points from EU Member States to Ukraine. However, according to Article 22, the implementation of the data exchange solutions defined by Article 21 is not obligatory in case the existing data exchange solutions are compatible with security and availability requirements of the interoperability network code and data exchange requirements of point 2.2 of Annex I to Regulation 715/2009 and Regulation 2015/703. Nevertheless, the transmission system operators of the Contracting Parties did not provide evidence of compatibility with security and availability standards.

The interoperability network code also requires that existing solutions need to be consulted with network users and approved by the regulatory authorities, which was not the case in the Contracting Parties.

Ukrtransgaz reported a document-based data exchange, namely AS4, with three adjacent transmission system operators at three interconnection points, while other solutions, such as e-mails, are used for all other interconnection points.

GA-MA, *Gas Promet* and *Srbijagas* reported that their data exchange is based on e-mails, daily reports or telephone calls.

Based on the information provided, the Secretariat concludes that the **transmission system operators of the Contracting Parties do not comply with the data exchange requirements of Regulation 2015/703.**

35 See: https://www.entsog.eu/interoperability-and-data-exchange-nc#.

36 Cf ACER, 1st Implementation Monitoring Report of the Network Code on Interoperability and Data Exchange, 4.12.2017, paragraph (64) and Initial Impact Assessment, Framework Guidelines on Interoperability and Data Exchange Rules for European Gas Transmission Networks, 01.10.2012

VIII. Case Study - Interconnection Agreement Between Ukraine and Moldova

There are several interconnection pipelines between Ukraine and Moldova crossing the borders at the North West (Oleksiivka), North (Ananiv), East (Limanscoe) and at South–East (Grebeniky, Kaushany) along the Trans Balkan transit pipeline.

The Trans Balkan transit pipeline presents many challenges when it comes to enabling the interoperability concept in practice. This is in particular due to the multiple[37] state border crossings and retail supply to Moldova delivered from the main pipeline on Ukrainian territory and *vice versa*. In order to simplify this complex situation, the Secretariat provided technical assistance to the three operators of the Trans Balkan transit pipeline, *Ukrtransgaz*, *Moldovatransgaz* and *Tiraspoltransgaz*.

In November 2018, the consultants delivered an interoperability concept to be applied by Moldova and Ukraine on the Trans Balkan transit pipeline that:

- reduces the number of connection points where capacity booking procedures take place; and
- enables efficient supply of retail customers in areas which are isolated from the national networks.

Ukrtransgaz, *Moldovatransgaz* and *Tiraspoltransgaz* agreed on the concept model. The target deadline to conclude Interconnection Agreements is 1 July 2019.

37 Ca. 20 times.

IX. Summary of Findings

1. General observations

According to Decision 2018/02/PHLG-EnC, the deadline for **transposition and implementation** of Regulation 2015/703 expired on 1 October 2018. The Secretariat notes that by the date of the present report, none of the Contracting Parties have formally notified the relevant measures to the Secretariat albeit obliged to do so. The Secretariat is aware of transposition of the interoperability network code in Albania.

In addition to this, gas transmission system operators of the Contracting Parties did not meet their obligation under Article 25(2) of the interoperability network code to communicate to the Secretariat all necessary information enabling the Secretariat to comply with its monitoring responsibility at the latest three months after the expiry of the deadline for transposing and implementing Regulation 2015/703. Nevertheless, they actively contributed to answering the questionnaire distributed by the Secretariat for the purpose of the present assessment.

The Secretariat also draws attention to the **legal gap** due to the lack of binding applicability of Regulation 2015/703 on interconnection points between Contracting Parties and EU Member States. While the commitment expressed by both EU and Contracting Parties' regulators to voluntarily apply network codes on their common interconnection points is laudable, the Secretariat still considers the non-binding character of these declarations insufficient for providing legal certainty.

2. Chapter II of Regulation 2015/703: Interconnection Agreements

The level of compliance of transmission system operators with the provisions of the interoperability network code with respect to **Interconnection Agreements** could be assessed only for the seven agreements so far concluded by *Ukrtransgaz* and *Srbijagas* out of the overall 20 interconnection points that are subject to the present monitoring exercise. All the existing Interconnection Agreements have been signed before the adoption of the code. Therefore, **network users were not invited to comment** on the texts of the agreements before their adoption.[38]

In summary, it can be concluded that the majority of existing **Interconnection Agreements comply with the requirements of chapter II** of Regulation 2015/703.

- All existing Interconnection Agreements include rules ensuring controllable, accurate, predictable and efficient gas flows across the interconnection points as well as the rules for transporting gas across the interconnection points and minimizing deviations due to the matching process. In addition, rules for appointing a transmission system operator responsible for transporting the gas flows across interconnection points are also established. The quantity and direction of the gas flow is decided on an hourly basis by the adjacent transmission system operator in all cases as required by the interoperability network code. The rules on altering quantities or flows of gas in order to comply with safety legislation are in place. However, the Interconnection Agreements of *Ukrtransgaz* lack a provision setting the applicable rules in case of flow changes due to Emergency Plans and Preventive Action Plans.
- Measurement principles for gas quantity and quality are included in all Interconnection Agreements. Only provisions on how data is shared between the adjacent transmission system operators with respect to measurement parameters and the lists of signals and alarms are still not part of the agreements on the interconnection points of the Serbian transmission system with its neighbours.
- All Interconnection Agreements envisage the application of the so-called lesser rule for matching. In all cases, the transmission system operator that is in charge of the flow control equipment, is responsible for the matching process. Default sequential steps for the matching process as defined by Article 8 of the interoperability network code are not applied, as the transmission system operators established another sequence.
- Only *Ukrtransgaz* applies the principle of an operational balancing account for allocation of gas quantities.
- Rules related to exceptional events, dispute settlement and amendments to the Interconnection Agreements

38 Except for the Interconnection Agreement for the interconnection point between Ukraine and Poland, Hermanowice.

are mostly in line with the requirements of the interoperability network code.

Several measurement principles as well as the rules on data exchange for the matching process still have to be agreed between *Srbijagas* and its neighbouring transmission system operators. In addition, the Interconnection Agreements of *Ukrtransgaz* need to include provisions governing flow changes under Emergency Plans and Preventive Action Plans.

3. Chapter III of Regulation 2015/703: units

In terms of the common set of units and reference conditions to be applied for data exchange and publication**, the level of compliance** of transmission system operators of the Contracting Parties with the required provisions of Regulation 2015/703 **is still low.** The exception to a certain extent is Ukraine where the relevant provisions are applicable for a part of the interconnection points with neighbouring EU Member States.

4. Chapter IV of Regulation 2015/703: gas quality and odourisation

Although the transmission system operators of the Contracting Parties so far did not experience restrictions in cross-border trade due to differences in gas quality and odourisation, the procedures and practises for **informing network users** on short-term gas quality variations and short-term gas quality monitoring should be improved.

5. Chapter V of Regulation 2015/703: data exchange

The transmission system operators of the Contracting Parties **do not comply** with the provisions of Regulation 2015/703 related to data exchange, mainly due to the lack of consultation with network users on the respective data exchange solution, but also because the solutions were not approved by the national regulatory authorities.

X. Recommendations

Based on the findings of the present report, the Secretariat concludes on the following recommendations:

1. The Contracting Parties shall without further delay transpose the interoperability network code and notify the Secretariat of related measures.

2. Transmission system operators of the Contracting Parties and neighbouring EU Member States shall

- bring in line existing Interconnection Agreements with the requirements of Regulation 2015/703 and notify their national regulatory authorities about the related adjustments; and
- conclude Interconnection Agreements on interconnection points for which such agreements still do not exist, namely:
    - Ukraine – Poland: Drozdovichi – Drozdowicze
    - Ukraine – Slovakia: Uzgorod – Velke Kapusany
    - Ukraine – Romania: Tekovo – Mediesu Aurit
    - Ukraine – Romania: Orlovka – Isaccea II
    - Ukraine – Romania: Orlovka – Isaccea III
    - Ukraine – Romania: Orlovka – Isaccea Import
    - Moldova – Romania: Ungheni
    - North Macedonia – Bulgaria: Zdilovo – Kuystendil
    - Ukraine – Moldova: Oleksiivka
    - Ukraine – Moldova: Ananiv
    - Ukraine – Moldova: Lymanske
    - Ukraine – Moldova: Grebenyky
    - U Ukraine – Moldova: Kaushany – Caushany

3. Transmission system operators of the Contracting Parties shall:

- implement the common set of units and reference conditions as required by chapter III of the interoperability network code;
- improve information provision and publication of short-term quality variation, in line with chapter IV of the interoperability network code; and
- consult with network users on data exchange solutions and obtain approval of the national regulatory authority before their application.

4. Contracting Parties' regulatory authorities shall take responsibility over supervising the implementation of the interoperability network code in the scope of their general obligation to monitor implementation of rules relating to the roles and responsibilities of transmission system operators.

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