

Empowering Energy Community and Mediterranean regulators for a common energy future



Transparency of Gas Transmission, LNG and Storage Infrastructure in Energy Community and Mediterranean Region

– Compliance Monitoring –

19-11-2019



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ECRB is an institution of the Energy Community

About MEDREG

MEDREG is the Association of Mediterranean Energy Regulators that brings together 27 regulators from 22 countries, spanning the European Union, the Balkans and North Africa.¹

One of the objectives of MEDREG is to provide an equal playing field for all Mediterranean energy actors by encouraging and facilitating the establishment of an efficient and appropriate legal and regulatory framework.

Based on independent and objective regulatory bodies, energy markets are more probable to attract investment, ensure the efficient use of the system and of investments and encourage fair practices towards consumers.

Mediterranean regulators work together to promote greater harmonisation of the regional energy markets and legislations, seeking progressive market integration in the Euro-Mediterranean basin.

Through constant cooperation and information exchange among members, MEDREG seeks to foster consumer' rights, energy efficiency, infrastructure investment and development based on secure, safe, cost-effective and environmentally sustainable energy systems.

Based on a bottom-up approach, MEDREG serves as a collaborative platform for regulators from the Northern and Southern shores of the Mediterranean to exchange technical expertise and efficient practices while supporting each other to reinforce their regulatory capacity.

MEDREG acts as a platform facilitating information exchange and assistance to its members as well as capacity development activities through webinars, training sessions and workshops.

The Association is co-funded by the European Union and benefits from the financial contributions of its members.

The MEDREG Secretariat is located in Milan, Italy.

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¹ MEDREG has member countries in the European Union (EU), the Balkans and the Middle East and North Africa (MENA) region: Albania, Algeria, Bosnia-Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Jordan, Lebanon, Libya, Malta, Montenegro, Morocco, Palestinian Authority, Portugal, Slovenia, Spain, Tunisia and Turkey.

About ECRB

The Energy Community Regulatory Board (ECRB) operates based on the Treaty establishing the Energy Community.

ECRB is the independent regional body of energy regulators in the Energy Community.² It brings together the regulatory authorities of the nine Energy Community Contracting Parties and Observer Countries and regulatory EU partners. ECRB is chaired by its President, with the European Commission acting as Vice-Presidency supported by the Agency for the Cooperation of Energy Regulators (ACER).

ECRB's mission is based on three pillars: (1) providing coordinated regulatory positions to energy policy debates, (2) harmonising regulatory rules across borders and (3) sharing regulatory knowledge and experience.

ECRB promotes the development of a competitive, efficient and sustainable regional energy market that operates in the public interest by building a bridge between the technical requirements of the regulated industry and the interests of the consumers. As an institution of the Energy Community, ECRB advises the Energy Community Ministerial Council and the Permanent High-Level Group on details regarding statutory, technical and regulatory rules. Furthermore, ECRB makes recommendations in the case of cross-border disputes between regulators and issues opinions on preliminary certification decisions and the adoption of network codes.

ECRB understands its mission as a responsibility to provide coordinated regulatory input to questions of strategic regional energy market development. ECRB activities encompass gas, electricity and consumer protection.

ECRB expresses its gratitude to the members of the ECRB Gas Working Group for their contributions in preparing this report.

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² The Energy Community comprises of the EU and Albania, Bosnia and Herzegovina, North Macedonia, Georgia, Kosovo*, Moldova, Montenegro, Serbia and Ukraine. Armenia, Turkey and Norway are observer countries. Throughout this document, the symbol * in relation to Kosovo refers to the following statement: This designation is without prejudice to positions on status and is in accordance with UNSCR 1244/1999 and the ICJ Advisory Opinion on the Kosovo declaration of independence.

EXECUTIVE SUMMARY

The EU has sought to create a regulatory and transparent framework to attract investments in gas systems, power generation facilities and transmission networks. This would enable the involved parties to access stable and regular gas supply and establish the necessary conditions for equitable and sustainable economic growth.

The Mediterranean zone holds the potential to gain importance as part of the EU policy regarding the security of gas supply as well as commercial ties. Therefore, it is recommended and beneficial for all the involved parties to invest in a shared energy policy strategy and focus on approximating the regulatory regimes of the Mediterranean region with the EU's energy policies and standards.

Transparency is crucial and beneficial for the functioning of the gas market. Transparency can be a highly effective instrument for removing market barriers and facilitating competition. Therefore, the adoption and enactment of standardised and market-driven provisions for capacity allocation and congestion management are significant.

This report assesses the level of transparency in gas infrastructures – transmission pipelines, LNG facilities and storages – among the members of the Association for the Mediterranean Regulators (MEDREG) and the Energy Community Regulatory Board (ECRB). The publication requirements differ among the monitored countries. This report aims to achieve a minimum common transparency standard by identifying the necessary improvements and making a set of recommendations.

It can be concluded that a certain level of transparency has been established among the analysed countries. However, improvements and further progress are required. Legislation on transparency is not yet well established among non-EU MEDREG members. This creates an impediment against the development and progression of the principle of transparency.

It is extremely encouraging to observe that for the questions under priority 1, which are mandatory for all countries, the responses are often affirmative; it was 88% for a detailed description of the gas system, 85% for gas quality and pressure requirements and 61% for providing information on maximum technical capacity. This is important since it implies that even countries without specific transparency legislation already have this information in place, which is promising for achieving complete transparency.

The results for the questions under priority 2 are more mixed, and further efforts are required for non-EU MEDREG members to improve their transparency. This is also valid for some ECRB members and observers; for instance, it is the case for Armenia, Georgia and Moldova.

Transparency should be aimed at whenever possible. It is one of the most important prerequisites to ensure that all the actors involved in the energy sector have easy-accessible and non-discriminatory access to the information they require to perform their activities and fulfil their obligations. Therefore, transparency is a fundamental principle that should be followed in every country in the region.

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List of abbreviations

Term	Definition
AERS	Energy Agency of the Republic of Serbia
AG	Ad-hoc Group
AGEN	Agencija za energijo (Slovenia)
ANRE	Agenția Națională pentru Reglementare în Energetică (Moldova)
ARERA	Autorità di Regolazione per Energia Reti e Ambiente (Italy)
CERA	Cyprus Energy Regulatory Authority
CNG	Compressed Natural Gas
CNMC	Comisión Nacional de los Mercados y la Competencia (Spain)
CRE	Energy Regulation Commission (France)
CREG	Electricity & Gas Regulation Commission (Algeria)
DERK	State Electricity Regulatory Commission (Bosnia and Herzegovina)
DSO	Distribution System Operator
ECRB	Energy Community Regulatory Board
EgyptERA	Egyptian Electric Utility & Consumer Protection Regulatory Agency (Egypt)
EMRA	Energy Market Regulatory Authority (Turkey)
EMRC	Energy & Minerals Regulatory Commission (Jordan)
ERC	Energy Regulatory Commission (North Macedonia)
ERE	Enti Rregullator i Energjisë (Albania)
ERO	Energy Regulatory Office (Kosovo*)
ERSE	Entidade Reguladora dos Serviços Energéticos (Portugal)
EU	European Union
FERK	Regulatory Commission for Energy in Federation (Bosnia and Herzegovina)
GASREG	Gas Regulatory authority - Egypt
GGP	Guidelines of Good Practice
GNERC	Georgian National Energy & Water Supply Regulatory Commission (Georgia)
HERA	Croatian Energy Regulatory Agency
ICJ	International Court of Justice
LCEC	Lebanese Centre for Energy Conservation (Lebanon)
LNG	Liquefied Natural Gas
LSO	LNG System Operator
ME	Ministry of Energy (Libya)
MEDREG	Mediterranean Energy Regulators
MEM	Ministry of Mines, Energy, and Environment
MENA	Middle East and North Africa

Term	Definition
NEURC	National Energy & Utilities Regulatory Commission (Ukraine)
MIT	Ministry of Industry (Tunisia)
NGA	Energy Regulator of Israel
NRA	National Regulatory Authority
PERC	Palestinian Electricity Regulator Council (Palestine)
PSRC	Public Services Regulatory Commission of the Republic of Armenia
RAE	Regulatory Authority for Energy (Greece)
REGAGEN	Montenegro Energy Regulatory Agency
RERS	Regulatory Commission for Energy of Republika Srpska (Bosnia and Herzegovina)
RES	Renewable Energy Sources
REWS	Regulator for Energy & Water Services (Malta)
SSO	Storage System Operator
TAP	trans Adriatic pipeline
TPA	Third-Party Access
TSO	Transmission System Operator
UGS	Underground Storage
UNSCR	United Nations Security Council resolution
WG	Working Group

1. INTRODUCTION

Establishing an integrated and well-functioning energy market that ensures energy security and stability has been one of the primary goals of the EU. The development of a competitive and integrated gas market with a highly transparent status is supported through the enactment of various legislations.

MEDREG (the Association of the Mediterranean Energy Regulators) was established with the purpose of achieving an integrated, harmonised and stable gas market for the Mediterranean region. Among its other principles, MEDREG adopted the principle of transparency and is promoting the achievement of a consistent, harmonised and investment-friendly regulatory framework aimed at maximising benefits for energy consumers in the Mediterranean region. For market functioning and integration, the enactment of the relevant legislation and transparency are crucial factors. Consequently, the Ad-hoc Group on Gas (GAS WG) released the Guidelines of Good Practice (GGP) on Transparency, approved by MEDREG in November 2009.³ These guidelines comprise voluntary recommendations to ensure that transmission, LNG and storage system operators provide the information that market players require on a fair and non-discriminatory basis.

The purpose of this study is to determine and assess the current transparency level in the gas market among the members of MEDREG and ECRB. For this purpose, the responses of the MEDREG and ECRB members were collected in 2019 – already the third time for MEDREG members – using the questionnaire developed in 2009. This research indicates that the extent of transparency in gas transmission has increased among the MEDREG members in recent years.

The report is outlined as follows. Section 2 discusses the employed methodology and provides a comprehensive background for the study. This background consists of the EU legislation on transparency and transparency requirements. The regional coverage of the MEDREG and ECRB members is also presented. The spread of gas infrastructure in transmission, LNG facilities and storages is also discussed. Section 3 presents the results from the survey conducted among the MEDREG and ECRB members, which led to 18 responses that could be used in the analysis for transmission – nine for LNG facilities and six for storages. The final section provides the main concluding remarks and makes recommendations for measures to improve transparency.

³ Cf. <http://www.medreg-regulators.org/Publications/NaturalGas.aspx>: The June 2009 Benchmarking Assessment.

2. BACKGROUND

Transparency is a key enabler of market functioning and integration. The enactment of standardised, transparent and market-driven provisions for capacity allocation, congestion management and balancing contributes to the removal of market barriers and facilitates the entry of new participants.

From a regulatory perspective, transparency is perceived as a quick win and a highly effective instrument for fostering competition and a network user-orientated infrastructure environment. The publication of gas infrastructure-related information and data typically does not involve complex processes or fundamental adjustments other than the online sharing of information, which is already available to system operators and data owners.

In this context, transparency has been an element of every legislative package adopted at the EU level since the beginning of market liberalisation. With the experience gained during the establishment and development of cross-border wholesale natural gas markets in the EU and Energy Community, the need for a harmonised and comprehensive set of rules for transparency was recognised in the agenda. The transparency provisions of Regulation (EU) 715/2009 on conditions for access to the natural gas transmission networks (hereafter referred to as the Gas Regulation), therefore, provides a comprehensive set of definitions for the data to be published.⁴

2.1. Transparency requirements of the Gas Regulation

The transparency requirements of the Gas Regulation include tariffs, system access, network development, high status and efficiency of the system, available capacities and products as well as balancing.

Article 18 of the Gas Regulation defines the transparency requirements specifically applicable to **transmission system operators** (TSO). TSOs are obliged to publish the following data in a meaningful, quantifiably comprehensive and easily accessible manner and on a non-discriminatory basis.

- Detailed information on the offered services and applied conditions;
- Technical information necessary for effective network access;
- Reasonably and sufficiently detailed information on tariff derivation, methodology and structure;
- Information on technical, contracted and available capacities on a numerical basis for all the relevant points on a regular and repeated basis;
- Ex-ante and ex-post supply and demand information, which are based on nominations, forecasts and realised flows;

⁴ OJ L no. 211 of 14/08/2009, p. 36 *et seq*; see: https://www.energy-community.org/dam/jcr:d0f7d046-57cb-479a-a39a-9bce06065155/Regulation_715_2009_GAS.pdf The Gas Regulation is legally binding and applicable in Energy Community Contracting Parties based on Decision 2011/02/MC-EnC of the Ministerial Council, setting an implementation deadline of 01/01/2015. Moreover, the Gas Regulation was already applicable in EU Member States since of 03/09/2009.

- Incurred costs and generated revenues related to the balancing of the system.

Article 19 of the Gas Regulation specifies the transparency requirements for **storage system operators (SSO) and LNG system operators (LSO)** as follows in a meaningful, quantifiably comprehensible and easily accessible manner and on a non-discriminatory basis:

- Detailed information on the offered services and applied conditions;
- Technical information necessary for effective network access;
- Reasonably and sufficiently detailed information on tariff derivation, methodology and the structure of tariffs for the facilities under regulated third-party access (TPA);
- Information on technical, contracted and available capacities on a numerical and regular and repeated basis;
- Amount of gas in each underground storage (UGS)/LNG (groups), inflows and outflows, available capacities (including those exempted from TPA) at least on a daily basis.

The provisions of the Gas Regulation are **not legally binding in all of the countries** that are analysed in the present report. For instance, they are obligatory in the MEDREG countries that are members of the EU (Croatia,⁵ France, Greece, Italy, Portugal and Slovenia), as well as the ECRB Contracting Parties of the Energy Community. However, this is not the case with other MEDREG countries (Algeria, Egypt, Israel, Jordan and Turkey) and ECRB observer countries (Armenia and Turkey).

3. METHODOLOGY

3.1. Methodology

The present report assesses the transparency level provided for gas transmission, LNG and storage facilities based on the 2009 MEDREG “GGP on Transparency”. Information was provided by ECRB and MEDREG members in the summer of 2019 based on a questionnaire that focused on the following three chapters of the GGP on gas transparency:

- Information on the system and services;
- Information on the capacity situation;
- Additional questions.⁶

⁵ Croatia did not provide input to this report and is therefore not analysed.

⁶ For more information, refer to the annex summarising the answers to the questionnaires.

This approach is adopted to allow for the meaningful benchmarking of transparency commitments in the analysed countries since the Gas Regulation is not applicable in all MEDREG countries (see *Figure 1*). The GGP make a set of recommendations to be implemented on a voluntary basis in the MEDREG countries where the transparency requirements of the Gas Regulation are not legally binding.⁷ The GGP mirror a specific set of the transparency requirements of the EU Gas Regulation. For the countries for which the implementation of the transparency provisions of the Gas Regulation is obligatory (see *Figure 1*), this report only displays a part of their full set of legal obligations.

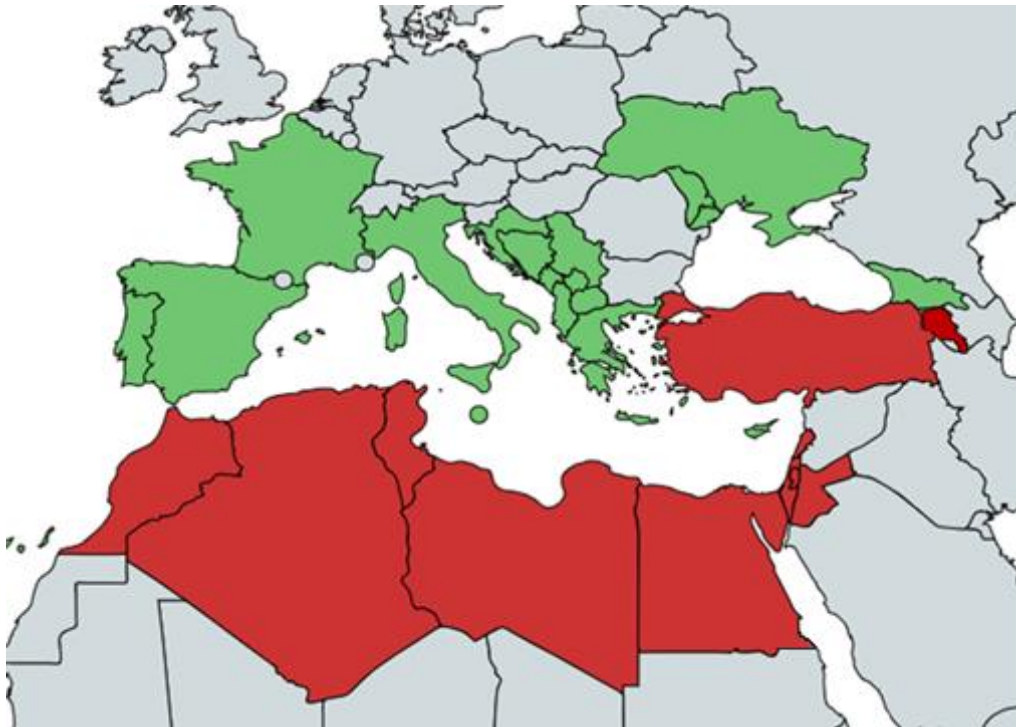


Figure 1: Applicability of the Gas Regulation in ECRB and MEDREG countries

[Green – EU Gas Directive is legally binding; Red – EU Gas Directive does not apply]

To reflect the different levels of market development in the analysed countries – particularly in those for which the Gas Regulation is not legally binding – the GGP define two priority levels for publication requirements. These are provided below:

- Publication requirements classified as priority 1 should be implemented in all countries irrespective of the extent of development of the national gas market.
- Publication requirements classified as priority 2 are obligatory only for countries where a Third-Party Access (TPA) regime is in place.⁸

⁷ The ECRB publishes an assessment of the Energy Community Contracting Parties' compliance with the entire transparency obligations under the Gas Regulation on an annual basis. See: www.energy-community.org – documents – ECRB.

⁸ The countries that responded to the questionnaires with full TPA are all EU countries and all ECRB countries, namely Albania, Bosnia and Herzegovina, France, Georgia, Greece, Italy, Moldova, North Macedonia, Portugal, Serbia, Slovenia and Ukraine.

The present report also aims to provide an assessment of the progress made by the MEDREG members since the second status review 2015 on transparency in the Mediterranean region and the monitoring of the GGP on transparency report.⁹

For the MEDREG countries, the survey was undertaken for the third time in 2019 following related reports in 2011 and 2015;¹⁰ for the first time, a joint assessment for ECRB and MEDREG countries is presented in the report. *Table 1* summarises the details of the countries that responded to the three surveys. It shows that the number of responses increased from 12 in 2011 to 16 in 2015 and, subsequently, to 21 in 2019. In 2019 – however – apart from MEDREG members, members from the ECRB responded as well.

Table 1: Responsiveness to the questionnaires

		MEMBERSHIP		QUESTIONNAIRE RESPONSES		
		ECRB	MEDREG	2011	2015	2019
1	Albania	Y	Y	Y	Y	Y
2	Algeria		Y	Y	Y	Y
3	Armenia	Y				Y
4	Bosnia and Herzegovina	Y	Y		Y	Y‡
5	Croatia		Y	Y	Y	
6	Cyprus		Y			Y#
7	Egypt		Y		Y	Y
8	France		Y	Y	Y	Y
9	Georgia	Y				Y
10	Greece		Y		Y	Y
11	Israel		Y	Y	Y	Y
12	Italy		Y	Y	Y	Y
13	Jordan		Y	Y	Y	Y
14	Kosovo*	Y				

⁹ The 2011 and 2015 status review reports that report on the previous two surveys can be accessed at <http://www.medreg-regulators.org/Publications/NaturalGas.aspx>.

¹⁰ Cf. <http://www.medreg-regulators.org/Publications/NaturalGas.aspx>: GAS WG – 2nd Status Review on Transparency in the Mediterranean region and Monitoring of the MEDREG Guidelines of Good Practice (GGP) on Transparency (June 2015) and status review on transparency in the Mediterranean region and monitoring of the MEDREG guidelines of good practice (GGP) on transparency (June 2011).

		MEMBERSHIP		QUESTIONNAIRE RESPONSES		
		ECRB	MEDREG	2011	2015	2019
15	Lebanon		Y			Y#
16	Libya		Y			
17	Malta		Y	Y	Y	Y#
18	Moldova	Y				Y
19	Montenegro	Y	Y		Y	
20	Morocco		Y			
21	North Macedonia	Y				Y
22	Palestinian Authority		Y			
23	Portugal		Y	Y	Y	Y
24	Serbia	Y				Y†
25	Slovenia		Y	Y		Y
26	Spain		Y	Y	Y	
27	Tunisia		Y		Y	
28	Turkey	Y	Y	Y	Y	Y
29	Ukraine	Y				Y
		11	22	12	16	21

‡ Bosnia and Herzegovina only provided information for the Republika Srpska.

Responses were received from Malta (where an LNG facility has been operating since 2017), Cyprus and Lebanon but all answers were categorised under “not applicable” since their gas markets are not developed. Therefore, these answers could not be used in the analysis of this report.

† Even though there is gas storage in Serbia, this is not yet subject to transparency rules; here, the regulator replied to all questions with “not applicable”. Therefore, these answers could not be used in the analysis of this report.

Publications of gas infrastructure operators in the analysed countries are available via the links provided in *Table 2*.

Table 2: Publication links

	Link		Link
Albania	http://www.ere.gov.al/	Italy	http://www.snam.it
Algeria	www.grtg.dz www.creg.gov.dz	Jordan	https://memr.gov.jo
Armenia	http://www.psrc.am/en http://armenia-am.gazprom.com www.arlis.am	Moldova	https://moldovatransgaz.md http://lex.justice.md/md/331437/
Bosnia and Herzegovina	http://www.gaspromet.com/	North Macedonia	http://www.erc.org.mk
Egypt	www.gasreg.org.eg	Portugal*	http://www.mercado.ren.pt
Georgia	http://gqtc.ge/	Serbia	https://www.aers.rs/ http://www.srbijagas.com https://ots-test.srbijagas.com
Greece	http://www.desfa.gr/en/	Slovenia	https://www.agen-rs.si/ http://www.plinovodi.si/en/
France	http://www.grtgaz.com/ https://www2.terega.fr/ https://tetra.tigf.fr/ https://www.storengy.com/countries/france/fr/nos-sites.html https://www.elengy.com/ https://www.ebb.dlng-sico.com/ https://www.fosmax-lng.com/	Turkey	https://www.botas.gov.tr http://www.egegaz.com.tr http://www.etkiliman.com.tr https://ebt.botas.gov.tr/ https://silivriebt.botas.gov.tr https://tuzgoluebt.botas.gov.tr https://www.epdk.org.tr https://www.bdlng.botas.gov.tr
Israel	https://www.ingl.co.il https://www.gov.il	Ukraine	http://utg.ua/en/utg/company

*The Portuguese TSO has a specific subpage dedicated to the compliance of Reg 715/2009:
<http://www.mercado.ren.pt/PT/Gas/InfoMercado/Transparencia/Paginas/RNTGN.aspx>

3.2. Regional coverage

The present report analyses the transparency level provided for gas transmission pipelines and storage and LNG facilities among ECRB and MEDREG members. The countries are shown in Table 3 along with their main regulatory bodies and their websites.

Table 3: ECRB and MEDREG members

		MEMBERSHIP		COMPETENT AUTHORITY			
		ECRB	MEDREG	NAME	SCOPE	AUTHORITY	WEBSITE
1	Albania	Y	Y	ERE	Energy#	NRA	http://www.ere.gov.al/
2	Algeria		Y	CREG	Energy	NRA	www.creg.gov.dz
3	Armenia	Y		PSRC	Energy	NRA	http://www.psrc.am/en
4	Bosnia and Herzegovina	Y	Y	RERS	Gas	NRA	http://reers.ba/
5	Croatia		Y	HERA	Energy	NRA	https://www.hera.hr/
6	Cyprus		Y	CERA	Energy	NRA	https://www.cera.org.cy/
7	Egypt		Y	GASREG	Gas	NRA	www.gasreg.org.eg
8	France		Y	CRE	Energy	NRA	https://www.cre.fr/
9	Georgia	Y		GNERC	Energy	NRA	http://gnerc.org/en/home
10	Greece		Y	RAE	Energy	NRA	http://www.rae.gr/old/en/
11	Israel		Y	NGA	Gas	Ministry	https://www.gov.il
12	Italy		Y	ARERA	Energy	NRA	https://www.arera.it/
13	Jordan		Y	MEMR EMRC	Gas Energy	Ministry NRA	https://memr.gov.jo http://www.emrc.gov
14	Kosovo*	Y		ERO	Energy	NRA	https://www.ero-ks.org/w/shqip/
15	Libya		Y	ME	Energy	Ministry	
16	Lebanon		Y	LCEC	Energy	Ministry	http://www.lcec.org.lb/
17	Malta		Y	REWS	Energy	NRA	https://www.rews.org.mt/
18	Moldova	Y		ANRE	Energy	NRA	http://www.anre.md/
19	Montenegro	Y	Y	REGAGEN	Energy	NRA	http://regagen.co.me
20	Morocco		Y	MEM	Energy	Ministry	http://www.mem.gov.ma/
21	North Macedonia	Y		ERC	Energy	NRA	http://www.erc.org.mk/

		MEMBERSHIP		COMPETENT AUTHORITY			WEBSITE
		ECRB	MEDREG	NAME	SCOPE	AUTHORITY	
22	Palestinian Authority		Y		Energy		
23	Portugal		Y	ERSE	Energy	NRA	http://www.erse.pt/
24	Serbia	Y		AERS	Energy	NRA	https://www.aers.rs/
25	Slovenia		Y	AGEN	Energy	NRA	https://www.agen-rs.si/
26	Spain		Y	CNMC	Energy	NRA	https://www.cnmc.es/
27	Tunisia		Y	MIT	Energy	Ministry	http://www.tunisieindustrie.gov.tn/
28	Turkey	Y	Y	EMRA	Energy	NRA	http://www.epdk.gov.tr/
29	Ukraine	Y		NEURC	Energy	NRA	http://www.nerc.gov.ua/
		11	22				

Energy refers to electricity and gas.

Figure 2 presents the ERCB and MEDREG members. The following countries are members of both organisations: Albania, Bosnia and Herzegovina, Montenegro and Turkey.

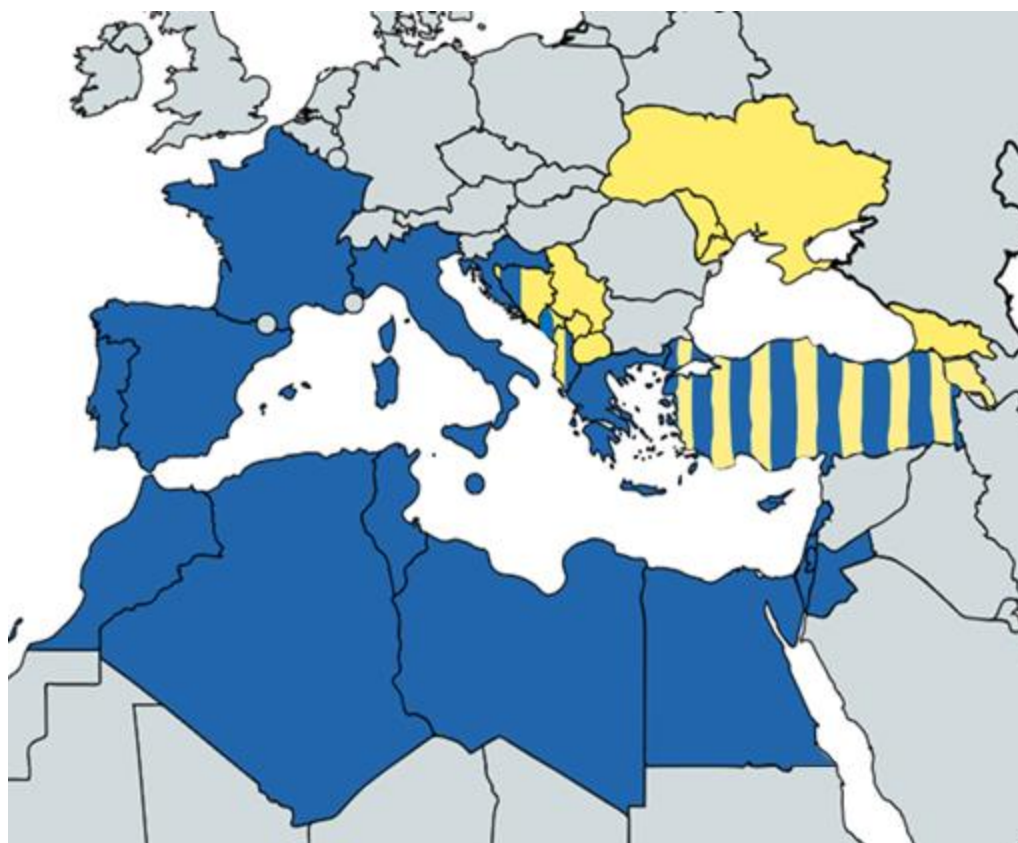


Figure 2: ECRB and MEDREG members

[Blue – MEDREG members; Yellow – ECRB members; Blue and Yellow – Members of both ECRB and MEDREG]

4. GAS MARKET FUNDAMENTALS OF THE ANALYSED COUNTRIES

This section provides more detailed information on the gas market fundamentals and development among the analysed ECRB and MEDREG members.

Some ECRB and MEDREG members still do not have the appropriate gas infrastructure. For instance, Kosovo*, Montenegro, Malta, Cyprus, Palestinian Authority and Lebanon do not yet have any gas transmission infrastructure in place; Malta, moreover, only has an LNG facility. Of the countries with gas infrastructure, Croatia, Libya, Morocco, Spain and Tunisia did not provide any input in the present survey. Despite not establishing any gas infrastructures, Malta, Cyprus and Lebanon returned a filled-out questionnaire, but all responded to all questions with “not applicable”. Therefore, these three countries are not included in this analysis. Furthermore, Bosnia and Herzegovina only provided information for the entity Republika Srpska. Finally, Albania operates through a highly limited gas transmission network that may in some instances explain its lack of compliance with the GGP. Still, the country has implemented gas-related primary and secondary legislations and is therefore included in the current survey.

In most ECRB and MEDREG members, except for the EU member states, gas markets are still under development. These countries are still in the process of establishing and designing functional gas markets with the aim of complying with the most effective international practices,

norms, standards and regulatory aspects. Among these countries, Turkey can be considered as an exception since its gas delivery started in 1987 and the gas market development is already significantly advanced.

Figure 3 presents the distribution of natural gas infrastructure among ECRB and MEDREG members.

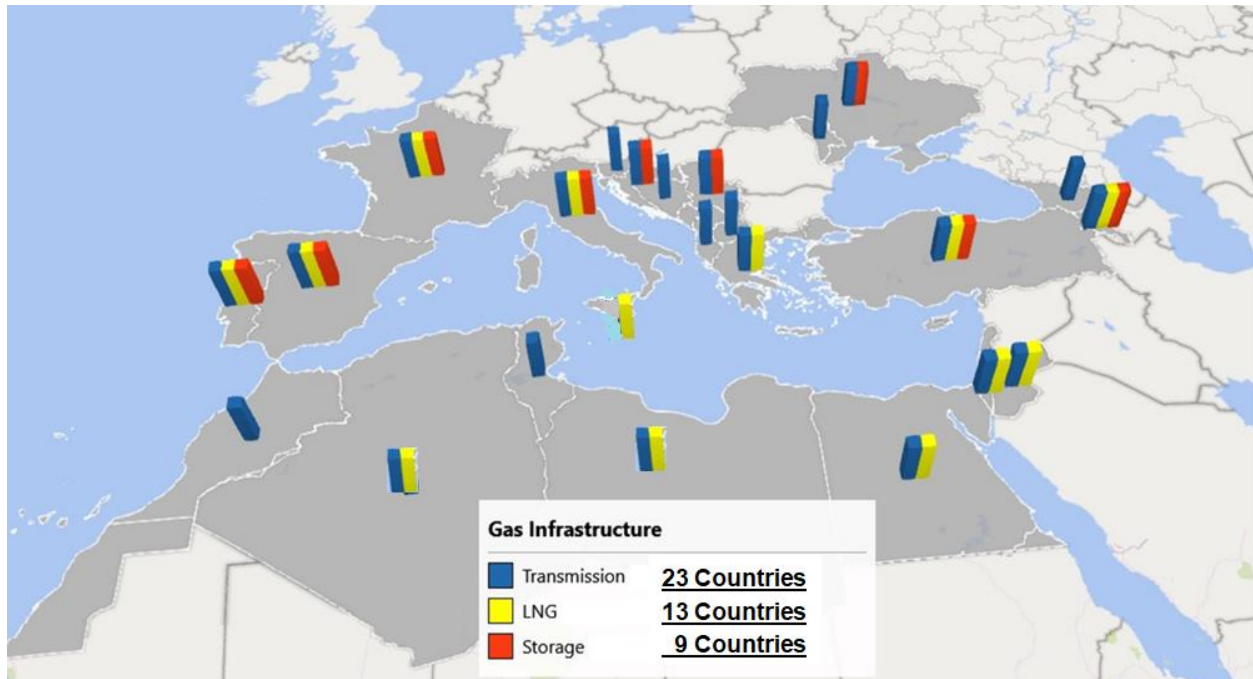


Figure 3: ECRB and MEDREG members – Infrastructure map

Gas transmission has been established in 23 out of the 29 ECRB and MEDREG countries.

Thirteen ECRB and MEDREG countries operate LNG infrastructure.¹¹ These countries are Algeria, Armenia, Egypt, France, Greece, Israel, Italy, Jordan, Libya, Malta, Portugal, Spain and Turkey.

Gas storage facilities have been established in nine countries. Most of them – Croatia, France, Italy, Portugal and Spain – are EU member states; four of them are members of or observers to the ECRB, namely Armenia, Serbia, Turkey and Ukraine.

The fact that gas transmission systems are in operation in approximately 80% of the analysed countries supports the call for further harmonising rules, regulations, and standardisations of the EU, ECRB and MEDREG member countries to implement interconnected infrastructure to smoothly operate on streamlined standards and facilitate investments across the entire region.

The question of whether gas infrastructure is subject to regulation – at this stage, irrespective of whether the regulatory function is performed by a Ministry or an independent regulatory authority – provides an insight into the enforcement powers available to ensure compliance with the transparency requirements of the GGP.

¹¹ Algeria, Egypt and Libya have LNG liquefaction facilities, while all other countries operate LNG regasification terminals.

Table 4 indicates that gas transmission systems are in operation in all countries that have gas infrastructure. The 18 analysed countries constitute 78% of the 23 countries with gas transmission systems.

In countries where the gas infrastructure is subject to regulation, enforcement mechanisms are available to ensure compliance with the transparency requirements of the GGP.

Table 4 indicates that in most of the ECRB and MEDREG members countries where gas infrastructure is in place, a regulating institution has also been established. Table 3 also explains in further detail whether the regulatory function is performed by a regulatory authority or the ministry. In six countries (Israel, Jordan, Libya, Lebanon, Morocco and Tunisia), the regulatory activities are performed by a ministry. Table 4 provides further information on whether the **regulatory function** is performed by a regulatory authority or the ministry. Only two countries (Israel and Jordan) have not established a separate regulatory authority; however, regulation activities are performed by a ministry.

Table 4: Gas market infrastructure and extent of regulation

	Transmission	Regulated Transmission	LNG	Regulated LNG	Storage	Regulated storage
Albania	Y	Y				
Algeria	Y	Y	Y			
Armenia	Y	Y	Y		Y	
Bosnia and Herzegovina	Y	Y				
Croatia	Y	Y			Y	Y
Egypt	Y	Y	Y			
France	Y	Y	Y	Y	Y	Y
Georgia	Y	Y				
Greece	Y	Y	Y	Y		
Israel	Y	Y	Y	Y		
Italy	Y	Y	Y	Y	Y	Y
Jordan	Y	Y	Y	Y		
Libya	Y	Y	Y			
Malta			Y	Y		
Moldova	Y	Y				

	Transmission	Regulated Transmission	LNG	Regulated LNG	Storage	Regulated storage
Morocco	Y	Y				
North Macedonia	Y	Y				
Portugal	Y	Y	Y	Y	Y	Y
Serbia	Y	Y			Y	Y
Slovenia	Y	Y				
Spain	Y	Y	Y	Y	Y	Y
Tunisia	Y	Y				
Turkey	Y	Y	Y	Y	Y	Y
Ukraine	Y	Y			Y	Y
TOTAL	23	23	13	9	9	8
<i>Share</i>	96%	100%	54%	69%	38%	89%

Figure 4 indicates that the transmission infrastructure is **regulated** in all of the analysed countries; regulated LNG constitutes 69% of the countries that have LNG in place and a regulated storage of 89%.

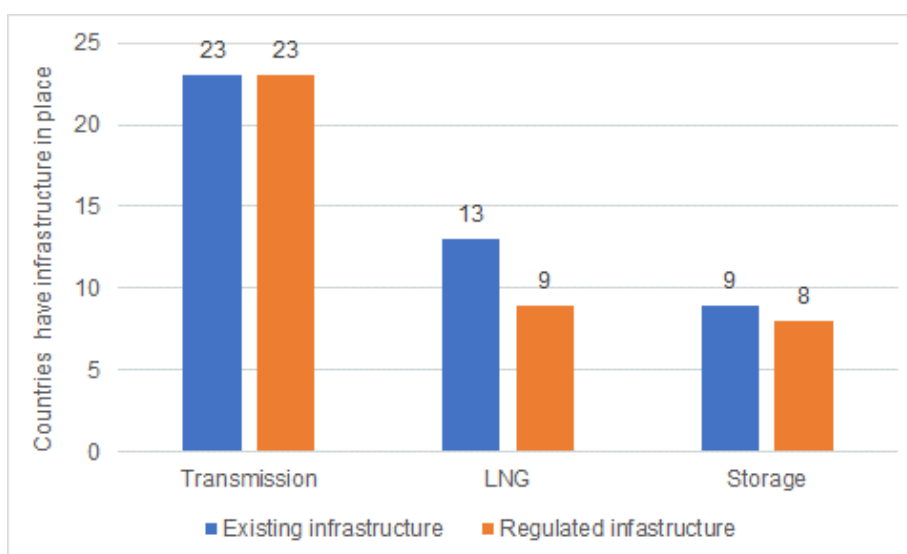


Figure 4: Regulated infrastructure

Figure 5 shows that transmission infrastructure is regulated in all of the analysed countries; regulated LNG constitutes 69% of the countries that have LNG in place and regulated storage represents 89% of the same.

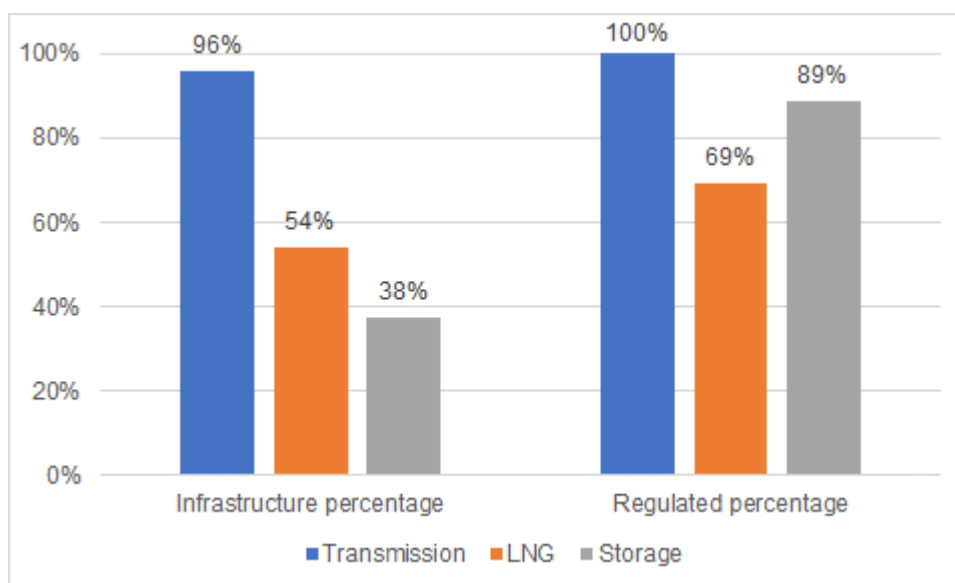


Figure 5: Infrastructure statistics

5. FINDINGS

5.1. Transmission

5.2. General overview

Transmission of natural gas through pipelines is historically the most important means to transfer natural gas from the exploration fields to the consumer. Even today, it is still the most common way of delivering gas to end-users. The limitations of pipeline transport have led to the connection of consumers who are located in relatively close proximity to the pipelines and who are often dependent on only one single supplier.

In response to this limitation, all of the ECRB and MEDREG countries that contributed to this survey have developed pipeline transmission facilities. Moreover, all these transmission pipelines are regulated; however, not all countries are subject to the obligatory EU legislation (see *Figure 1*).

This section provides an assessment of the compliance of pipeline transmission infrastructure in the analysed countries with the GGP requirements.

5.3. Information on system and services

Figure 6 provides an overview of the compliance of gas transmission systems in the analysed countries with the system- and service-related publication requirements of the GGP.¹²

Information on system and services enables the system user to participate in the gas market on a fair and non-discriminatory basis. This information focuses on the physical characteristics of the transmission system, network codes, capacity management and other relevant services that should be in effect and published.

¹² In this report “NA” means “not applicable” or “no answer given/missing answer”.

The survey posed two questions under the **priority (1)** class of information, which is mandated by the GGP for all of the analysed countries:

- *A detailed description of the gas system* of the TSO that identifies all entry and exit points interconnecting its system with that of other TSOs, including maps and specifying the interconnection point with the transmission system [GGP, 1a].
- *Gas quality and pressure requirements* [GGP, 1k].

The answers on the returned questionnaires indicate that most countries have all the relevant information required to be published. The exceptions are Egypt, Jordan and Turkey. For Egypt, the network code that will reveal such information is currently under development and formal approval is in progress. For Turkey, this information is not published completely in accordance with the GGP. General information on the transmission system and maps of the network are available on the website of BOTAŞ along with a list of all of the exit points. Jordan is still at the beginning phase of developing its new legislation and gas market and gas quality and pressure requirements are not yet published.

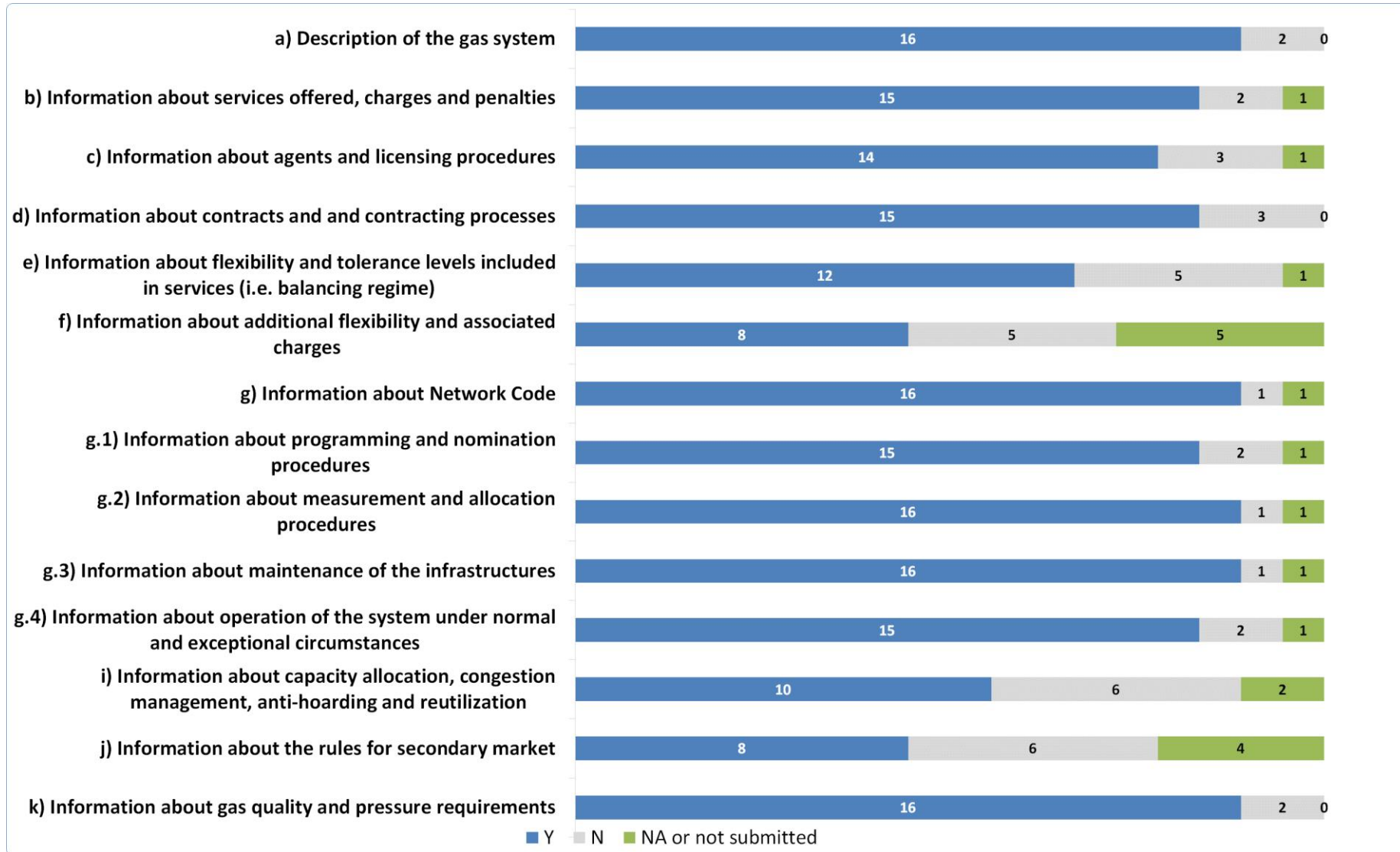


Figure 6: Information on system and services – Transmission

For the other GGP requirements, i.e. those that are classified as **priority (2)** for countries that have TPA, the responses to the questionnaire are predominantly affirmative (overall 70% yes answers and 18% no answers).

- *Information on services offered and their charges and penalties in case of over- or under-utilisation of contracted capacity* [GGP, 1b] are available in all of the analysed markets except Albania and Algeria. The requirement is not applicable to Jordan because the infrastructure is still under development and not yet operational (this also applies to Jordan in the points given below).
- *Information regarding subjects/entities that require access to the services offered, including information on related licensing procedures* [GGP, 1c] is available in all analysed countries except Albania, Algeria and Armenia. This requirement is not applicable to Jordan.
- *Information on the different contracts* available for the services offered and the contracting processes [GGP, 1d] is available in all of the analysed countries except Armenia, Egypt and Jordan.
- *Information on the balancing regime, including flexibility and tolerance levels* [GGP, 1e] is not provided in Albania, Algeria, Armenia, Egypt and Jordan, while the requirement is not applicable in Moldova. In Moldova, balancing is currently not regulated. A related regulatory act is expected by the end of 2019.
- Additional balancing flexibility including relevant charges [GGP, 1f] is offered in Bosnia and Herzegovina, Greece, Israel, Italy, North Macedonia, Portugal, Turkey and Ukraine.
- *A network code/main standard conditions* [GGP, 1g] is published in all countries except Armenia, while the requirement is not applicable in Jordan. All countries provide publications on the nomination procedure, measurement and allocation procedures, maintenance and system operation under both normal and exceptional circumstances. The exception is Algeria, where nomination procedures are not published and Georgia, where information on system operation is unavailable.
- *Information on capacity allocation, congestion management, anti-hoarding and re-utilization* [GGP, 1i] is available in France, Greece, Italy, Israel, Moldova, Portugal, Serbia, Slovenia and Ukraine while the requirement is not applicable in Georgia and North Macedonia that have no congestion management.
- *Rules on secondary market trading* [GGP, 1j] are published in France, Greece, Italy, Moldova, Portugal, Serbia, Slovenia and Ukraine while the requirement is not applicable in Georgia, Jordan, North Macedonia and Turkey, where regulations on secondary trade of capacity have not yet been implemented.

It can be concluded that priority (2) information requirements are answered affirmatively to a significant extent. However, this is not the case for Armenia and Jordan and for some provisions in Albania, Algeria, Bosnia and Herzegovina, Egypt, Georgia, Israel, Moldova and Turkey. It must be noted that Egypt is currently in the process of adopting related regulatory rules. Similarly, rules on balancing are currently under development in Moldova.

The extent of non-compliance with the GGP is, however, considerably higher with respect to capacity allocation and congestion management rules. Information regarding this item is unavailable in almost half of the analysed markets. This includes Albania and Bosnia and Herzegovina. Moreover, Bosnia and Herzegovina also lacks legislative gas market rules.

5.4. Information on the capacity situation

The survey contains one question under **priority (1)** class of information, which is required by the GGP for all of the analysed countries. This is on

- *The maximum technical capacity* of the TSO [GGP, 2a].

Furthermore, the survey poses two questions under **priority (2)** class of information, which is required by the GGP for all countries that have TPA. These questions pertain to the following:

- *The total contracted firm and non-firm capacities* of the TSO [GGP, 2b].
- *The available firm and non-firm capacities* of the TSO [GGP, 2c].

Furthermore, the capacity-related publication requirements of the GGP cover the following areas:

- Information frequency and update.
- Calculation of the available capacities based on network modelling and flow simulations, considering all the relevant operational parameters for the efficient and safe operation of the system.
- Historical maximum and minimum monthly capacity utilization rates and annual average flow at the above points for the previous year published no later than 30th January of the current year.
- Record-keeping of all the capacity contracts and other relevant information related to calculating and providing access to the available capacities. If necessary, the relevant national authorities will have access to such records in relation to the complaints on the refusal of access due to a lack of capacity.

Figure 7 provides an overview of the compliance of gas transmission systems in the analysed countries with the capacity-related information requirements of the GGP. A detailed overview on a country by country basis is available in the attachment to this report.

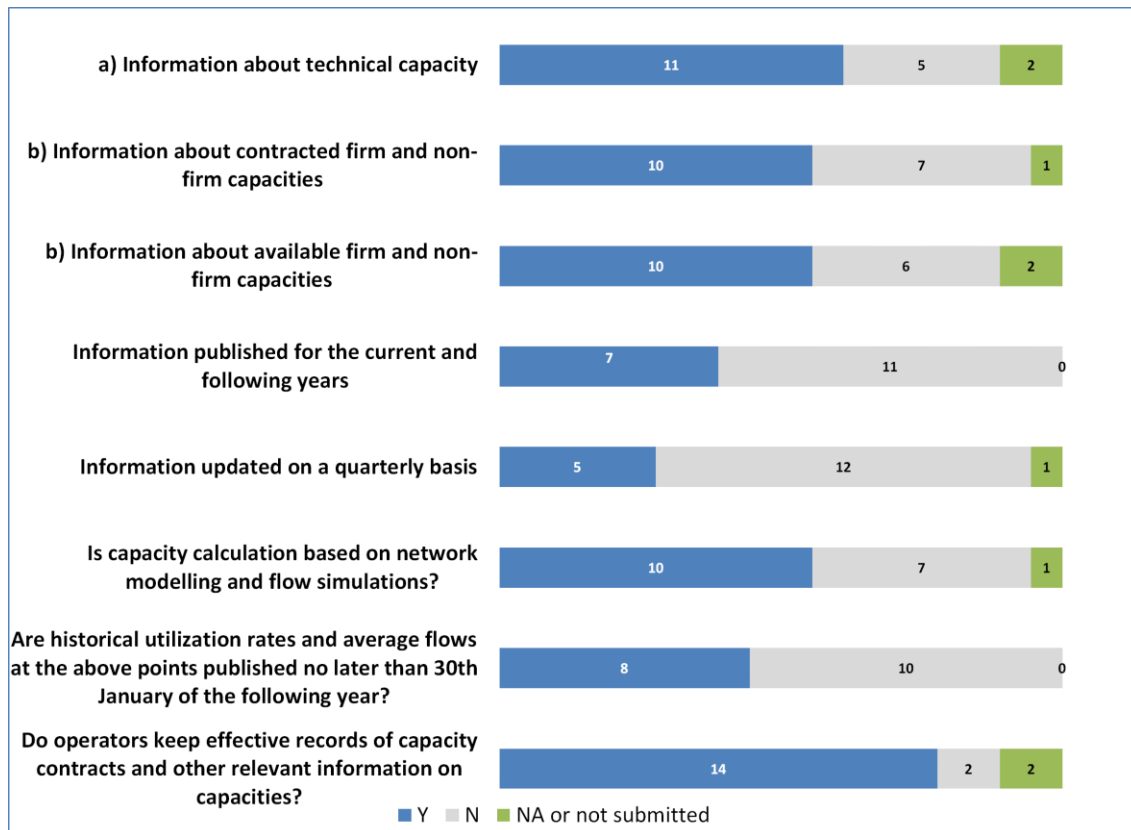


Figure 7: Information on capacity – Transmission

With respect to the publication of *maximum technical/total contracted and available firm/non-firm capacities* [GGP, 2 a-c], the survey indicates that this obligation is not only met by all of the analysed EU countries but also addressed by North Macedonia, Serbia, Turkey and Ukraine. However, even though the obligation stems from the *acquis communautaire*, related information is not available in some of the analysed Energy Community countries such as Albania and, partly, Bosnia and Herzegovina. Furthermore, it is considered not applicable in Moldova. It must be reiterated here that Bosnia and Herzegovina lacks legislative gas market rules.

The extent of compliance with the GGP requirements is lower when the frequency of information provision and updates are considered.

- Publication of the capacity-related information [GGP, 2 a-c] on *an annual basis for the next five years* is only available in Bosnia and Herzegovina, Greece, Italy, Moldova, Portugal, Slovenia and Ukraine. Among these countries, a quarterly update of related information is only published in Greece, Portugal and Slovenia. In France and Turkey, though quarterly updates are provided, a five-year outlook is not published.
- The *calculation of available capacities* is based on network modelling and flow simulations considering all the relevant operational parameters in Egypt, France, Greece, Israel, Italy, Jordan, North Macedonia, Portugal, Slovenia and Turkey. In the other countries, the GGP required information and their updates are generally not provided. Consequently, these countries have not developed intricate calculation methods for the available capacities.

- Historical maximum and minimum monthly *capacity utilization rates and annual average flows* are published by 30 January for the previous calendar year in Bosnia and Herzegovina, France, Greece, Israel, Italy, Jordan, Portugal and Slovenia.
- *Records* on all the capacity contracts and relevant information pertaining to calculating and providing access to the network capacities are maintained in almost all of the analysed markets except for Algeria and Moldova and it is considered not applicable in Armenia and Georgia.

Therefore, it can be concluded that compliance with the capacity-related publication requirements of the GGP is less developed for system-related information. It approaches, on average, approximately 50% among the EU member states and some Contracting Parties such as France, Greece, Italy, Portugal and Slovenia serve as compliance frontrunners.

5.5. LNG

5.6. General overview

LNG plays a significant role for gas-consuming countries around the world, including the EU, ECRB and MEDREG members, for the diversification of gas sources and thereby contributes to ensuring the security of supply and competitiveness. The global LNG market is undergoing a dynamic development and for countries with indigenous production, LNG provides an opportunity to export gas and, thus, gain trade benefits.

Of the ECRB and MEDREG countries that contributed to this survey, Algeria, Armenia, Egypt, France, Greece, Israel, Italy, Jordan, Portugal and Turkey have established LNG facilities.¹³ In all of these countries, except for Egypt and Armenia, LNG is regulated and subject to the obligatory EU legislation, including the transparency requirements of the Gas Regulation (see *Table 4*). Egypt is in the process of implementing such regulations. Algeria responded to all questions with “not applicable” because it only operates through liquefaction terminals. Therefore, the responses from Algeria are not included in the analysis below.

This section provides an assessment of the compliance of LNG infrastructure systems in the analysed countries with the GGP requirements. A detailed country-by-country overview is available in the attachment to this report.

5.7. Information on system and services

Figure 8 provides an overview of compliance with the GGP’s system and service-related publication requirements of LNG facilities.

The survey contains two questions under **priority (1)** class of information, which is mandated by the GGP for all of the analysed countries.

¹³ Libya, Malta and Spain also have in place LNG facilities but did not participate in the present survey. See Section 4 for further information on gas market fundamentals.

- *A detailed description of the LNG system* specifying the interconnection point with transmission systems [GGP, 1a] is available in all of the analysed LNG countries except for Egypt and Israel.
- *Gas quality and pressure* requirements [GGP, 1k] are available in two-third of the analysed countries; however, such information is not available in Egypt and Jordan.

For the other GGP requirements, i.e. those that are classified as **priority (2)**, the picture is diverse.

- *Information on services offered and their charges and penalties in case of over- or under-utilisation of the contracted capacity* [GGP, 1b] are available in half of the analysed markets but not in Armenia, Egypt and Israel. The requirement is not applicable in Jordan since the infrastructure in the region is still under development and not yet operational (this also applies to Jordan in the points provided below).
- *Information regarding subjects/entities that requires access* to the services offered including information on the related licensing procedures [GGP, 1c] is available in all analysed countries except Armenia, Egypt and Israel; the requirement is not applicable in Jordan.
- *Information on the different contracts* available for the services offered and the contracting processes [GGP, 1d] is available in half of the analysed countries, whereas it is not available in Armenia, Egypt, Israel and Jordan.
- *Information on the balancing regime, including flexibility and tolerance levels* [GGP, 1e] is only published in France, Greece, Italy, Portugal and Turkey.
- *Additional balancing flexibility including the relevant charges* [GGP, 1f] is offered in Greece and Italy. The related GGP requirement is not applicable in France, Portugal and Turkey, where additional flexibility services are not offered.
- *A network code/main standard conditions* [GGP, 1g] is published in most countries except Armenia and Egypt, while the requirement is not applicable in Jordan and Turkey. It is only applicable for natural gas transmission. In all countries, this includes publication on the nomination procedure, measurement and allocation procedures, maintenance and system operation under both normal and exceptional circumstances.
- *Information on capacity allocation, congestion management, anti-hoarding and re-utilization* [GGP, 1i] is available in Greece, Italy, Portugal and Turkey.
- *Rules on secondary market trading* [GGP, 1j] are available for France, Greece, Italy and Portugal. The related requirements are not applicable in Jordan and Turkey because the regulations on the secondary trade of capacity have not been implemented yet.

Concludingly, it can be stated that priority (2) information requirements are in effect in all of the analysed EU countries; however, this is not the case for other MEDREG members including Armenia.

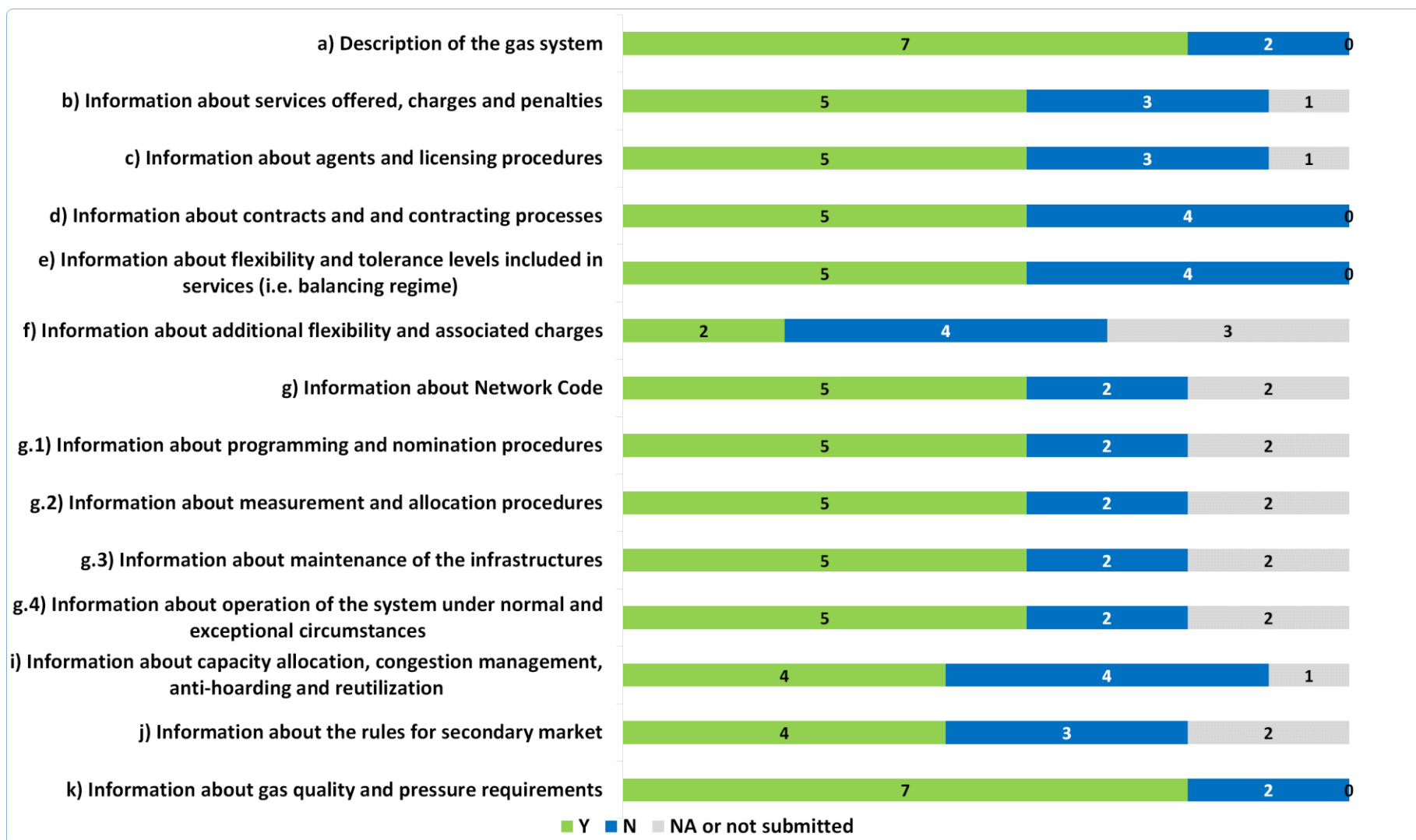


Figure 8: Information on system and services – LNG

5.8. Information on the capacity situation

Figure 9 provides an overview of the compliance of the LNG infrastructure with the capacity-related publication requirements of the GGP.

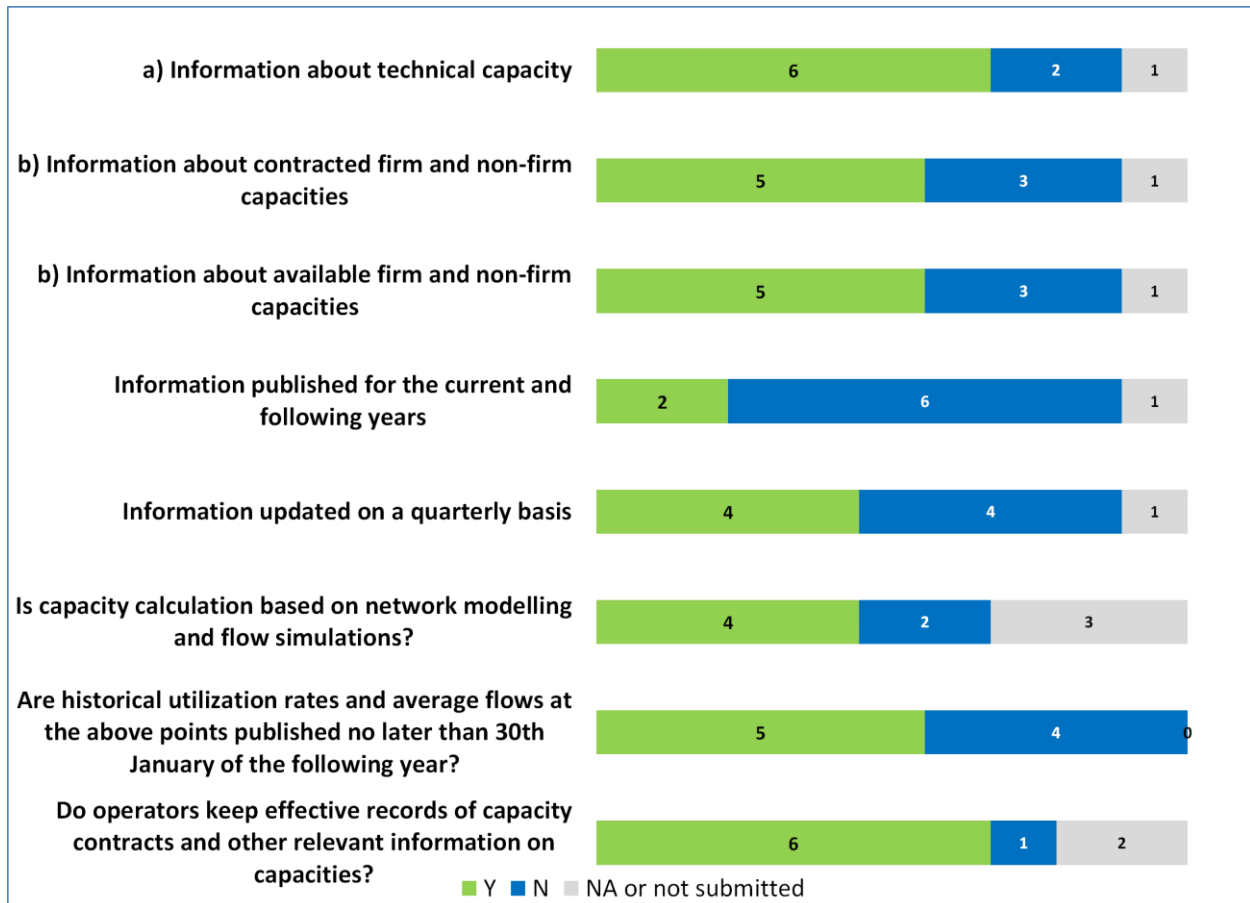


Figure 9: Information on the capacity situation – LNG

With respect to the *publication of maximum technical/total contracted and available firm/non-firm capacities* [GGP, 2 a-c], the survey indicates that this obligation is met by the analysed EU countries (France, Greece, Italy and Portugal) but not by the relevant MEDREG members (Egypt, Israel and Jordan) and the ECRB observer country Armenia. The information is missing for Turkey.

The extent of compliance with the GGP requirements is lower when the frequency of information provision and updates are considered. Further details are provided below:

- Capacity-related information [GGP, 2 a-c] that is published on *an annual basis for the next five years* is only available in Greece and Italy. In France, Portugal and Turkey, only quarterly updates are provided and a five-year outlook is not published. Greece published quarterly updates in addition to the five-year outlook. Neither are published in Armenia, Egypt, Israel and Jordan.

- The *calculation of the available capacities* is based on network modelling and flow simulations considering all the relevant operational parameters in Greece, Jordan, Portugal and Turkey. Such modelling is not undertaken in Armenia and Egypt. It is considered not applicable in France, Israel and Italy.
- Historical maximum and minimum monthly *capacity utilization rates and annual average flows* are published by 30th January for the previous calendar year in France, Greece, Italy, Jordan and Portugal.
- *Records* on all capacity contracts and relevant information related to calculating and providing access to network capacities are maintained in all of the analysed markets, except for Egypt where they are not maintained, and it is considered not applicable for Armenia and Israel.

In summary, it can be concluded that compliance with capacity-related publication requirements of the GGP, on average, reaches approximately 50%. Here, the EU member states are typically the compliance frontrunners.

5.9. Storage

5.10. General overview

Similar to LNG, storage also contributes to the security of supply. Only seven of the responding countries have gas storage facilities; these are Armenia, France, Italy, Portugal, Serbia, Turkey and Ukraine. Only limited information is available for gas storage in Armenia. Storage facilities are regulated in France, Italy, Portugal, Serbia, Turkey and Ukraine and, except for Turkey, subject to the transparency requirements of the Gas Regulation. Storage regulation in Serbia is defined by legislation, but this is only applicable to storage facilities that will be developed in the future; existing storage facilities are not subject to regulation. Moreover, neither the GGP requirements nor the Gas Regulation are applicable in Serbia. Resultantly, all answers related to Serbia were labelled as “not applicable”; these are, therefore, excluded from the graphs below.

The rest of the countries that participated in the questionnaire do not have gas storage infrastructure.

5.11. Information on system and services

Figure 10 provides an overview of the compliance of storage infrastructure with the GGP’s requirements on information regarding system and services.

The survey contains two questions under **priority (1)** class of information, which is required by the GGP for all analysed countries.

- A *detailed description of the storage system* specifying the interconnection point with transmission systems [GGP, 1a] is available in all of the analysed countries with storage systems.
- *Gas quality and pressure* requirements [GGP, 1k] are available in all the analysed countries; however, such information is not provided by Armenia.

For the remaining GGP requirements, i.e. those that are classified as **priority (2)**, the picture is as follows:

- *Information on the services offered and their charges and penalties in case of over- or under-utilisation of the contracted capacity* [GGP, 1b] is available for all the analysed markets but is missing for Armenia.
- *Information about subjects/entities that require access to the services offered including information on related licensing procedures* [GGP, 1c] is available in all analysed countries except Armenia.
- *Information on the different contracts* available for the services offered and the contracting processes [GGP, 1d] is available in all the of analysed countries. However, it is not available in Armenia.
- *Information on the balancing regime, including flexibility and tolerance levels* [GGP, 1e] is only published in France, Italy, Portugal and Turkey, while it is not applicable in Ukraine and not published in Armenia.
- Additional balancing flexibility including relevant charges [GGP, 1f] is not applicable in most countries but is offered in Italy; the related GGP requirement is not met in Armenia.
- *A network code/main standard conditions* [GGP, 1g] is published in most countries except Armenia; the requirement is not applicable in Turkey, where it is only applicable for natural gas transmission.
- *Information on capacity allocation, congestion management, anti-hoarding and re-utilization* [GGP, 1i] is available in most countries but not in Armenia. It is also not applicable in France.
- *Rules on secondary market trading* [GGP, 1j] are available in most countries but not in Armenia. It is not applicable in Turkey because regulations on secondary trade capacity have not been implemented yet.

In summary, priority (2) information requirements are largely in place in all of the analysed EU countries and also in Turkey and Ukraine. However, in Armenia, only considerably rudimentary information is publicly available.

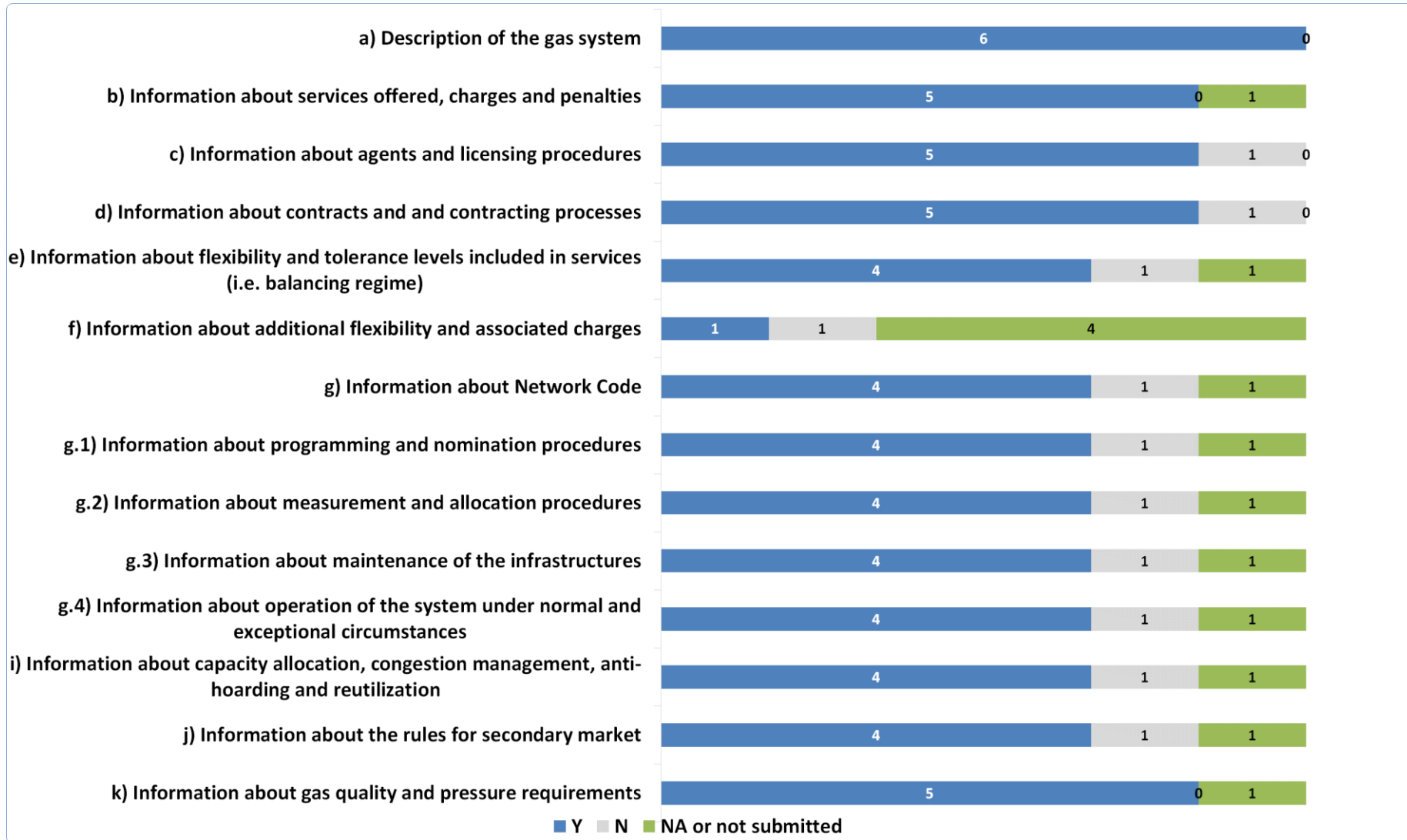


Figure 10: Information on system and services – Storage

5.12. Information on capacity situation

Figure 11 provides an overview of the extent of compliance with the GGP transparency requirements of storage facilities in terms of information on the capacity situation.

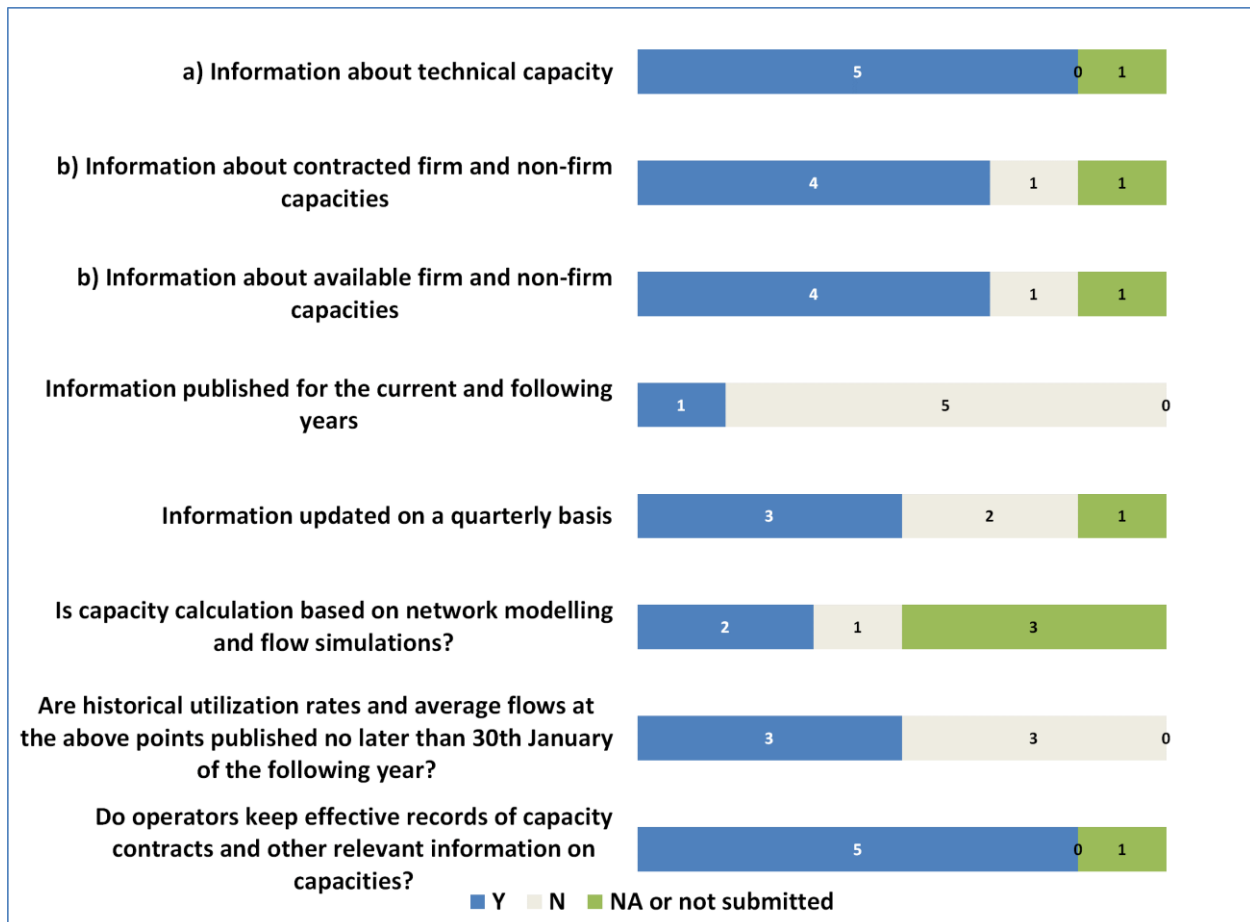


Figure 11: Information on capacity situation – Storage

With respect to the *publication of maximum technical/total contracted and available firm/non-firm capacities* [GGP, 2 a-c], the survey indicates that this obligation is met in all of the analysed EU countries (France, Italy, and Portugal) and Turkey; however, it is missing for one ECRB Observer country (Armenia) and not published by one ECRB member (Ukraine).

The extent of compliance with GGP requirements is lower when the frequency of information provision and updates are considered. Details are provided below:

- Publication of the capacity-related information [GGP, 2 a-c] on *an annual basis for the next five years* is only available in Ukraine. In France, Portugal and Turkey, only quarterly updates are provided and a five-year outlook is not published. It is not published at all in Armenia and Italy.
- The *calculation of the available capacities* is based on network modelling and flow simulations and considering all the relevant operational parameters in Portugal and Turkey. Such

modelling is not undertaken in Armenia; furthermore, it is considered not applicable in France, Italy and Ukraine.

- Historical maximum and minimum monthly *capacity utilization rates and annual average flows* are published by 30th January for the previous calendar year in all EU countries (France, Italy and Portugal). It is not published in Armenia, Turkey and Ukraine.
- *Records* on all of the capacity contracts and the relevant information related to calculating and providing access to network capacities are maintained in all of the analysed markets; it is considered not applicable for Armenia.

In summary, it can be concluded that compliance with capacity-related publication requirements of the GGP – on average – reaches approximately 50%. Here, the EU member states are typically the compliance frontrunners.

5.13. Additional information

Additional information requirements verify whether the data is also available in English, apart from the national language. Moreover, it is also determined whether the accessibility of the presented data is free of charge.

These GGP requirements are applicable to all types of gas infrastructure. Figure 12 provides an overview of the compliance level in the analysed countries with these requirements. It indicates the following:

- The level of compliance with the availability of information in English varies among the analysed countries. It is in effect in all of the EU countries (France, Greece, Italy, Portugal and Slovenia) analysed in this report. Additionally, it is also published in English in Albania and Egypt.
- Information is disclosed in an easily accessible way via the internet in all of the analysed countries except for Algeria, Israel and Jordan; however, it is not available in Egypt, where the information is still under development by the relevant party.
- The available information is published *free of charge* in all countries except Egypt, where the information is still under development by the relevant party.

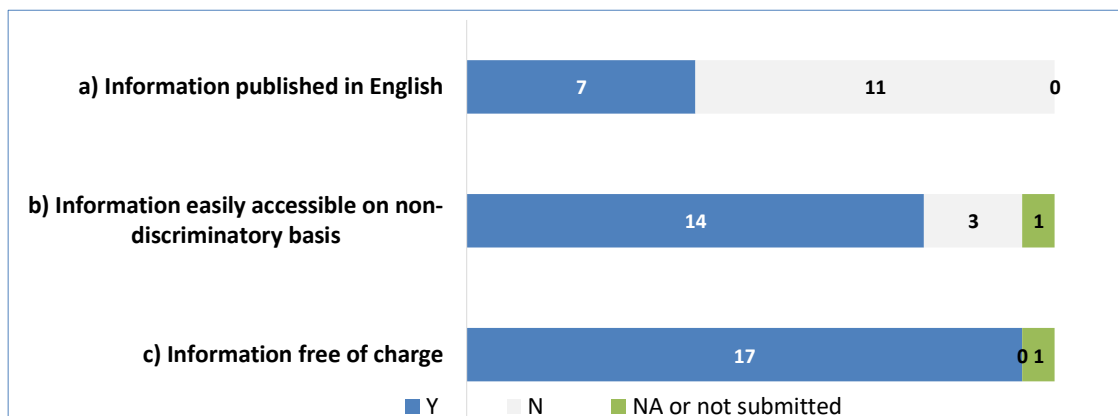


Figure 12: Additional Information

5.14. Comparison with first the transparency study

In order to verify whether there is progress with transparency, this Section makes a quantitative comparison with 2011 data. *Figure 13, Figure 14 and Figure 15* present the percentage of affirmative answers for transmission in 2011 and in the current study. This is presented only for transmission since the number of participants in LNG and storage was too low in the 2011 study.

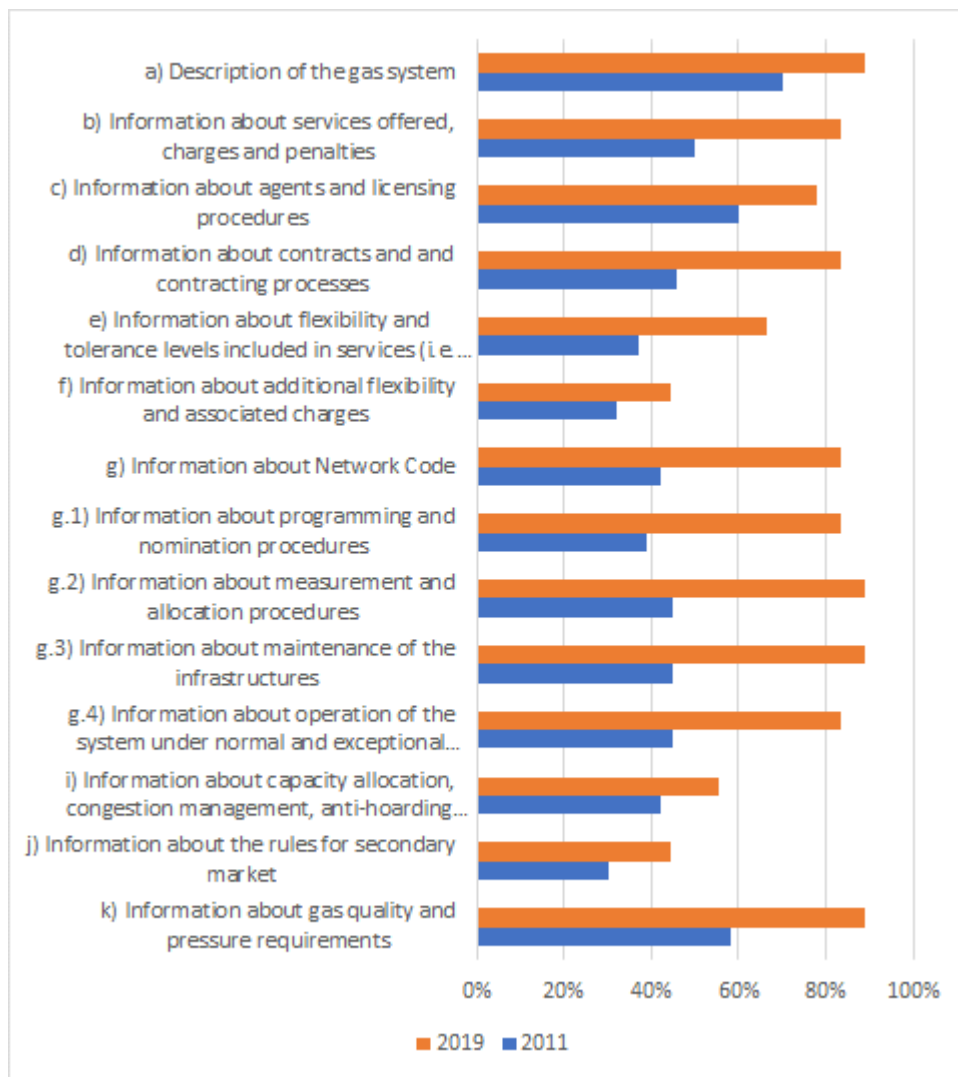


Figure 13: Information on system and services – Transmission: Percentage of affirmative answers

Figure 13 shows that the percentage of affirmative answers increases for all of the questions in comparison to the previous study.

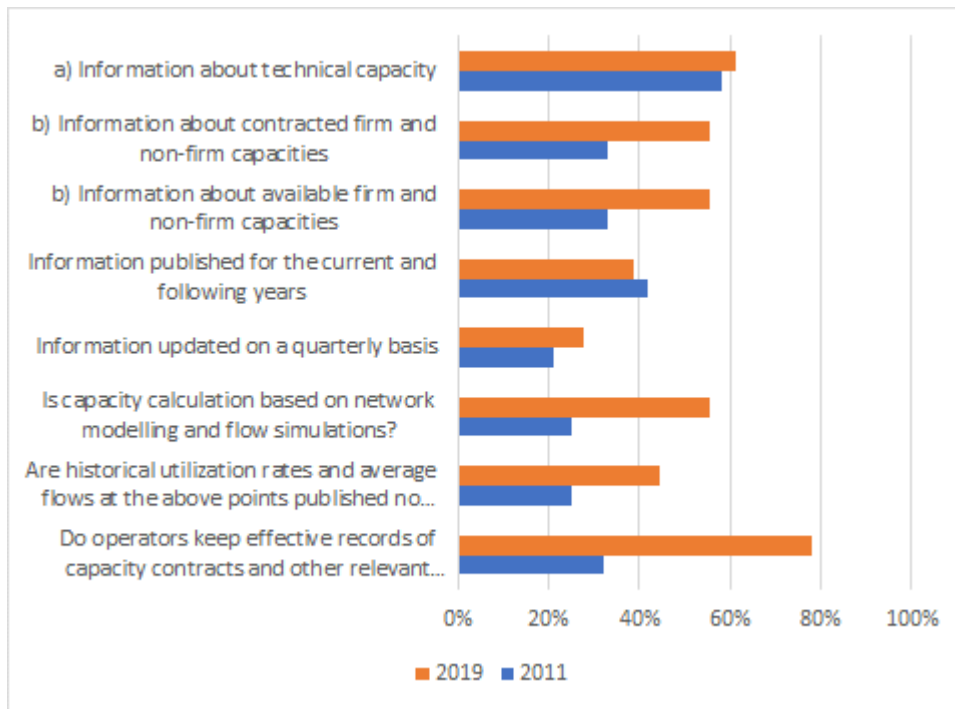


Figure 14: Information on capacity – Transmission: Percentage of affirmative answers

Figure 14 shows that the affirmative answers have increased for almost all questions, except for the question on whether the information is published for the current and following years.

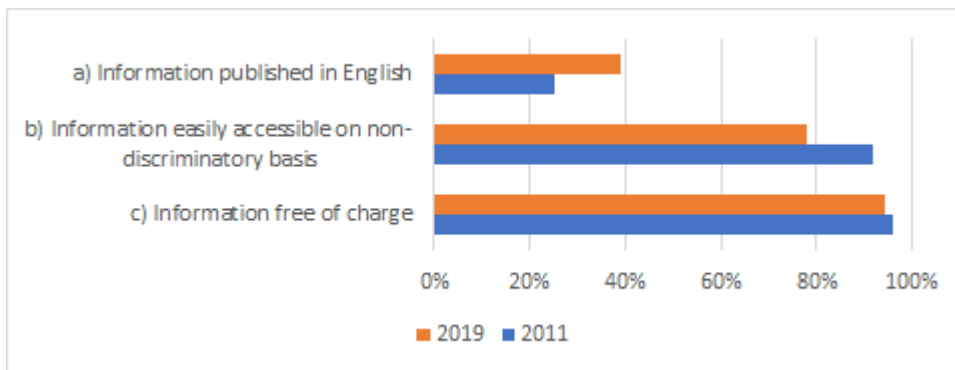


Figure 15: Additional Information: Percentage of affirmative answers

Figure 15 shows that the information is published more regularly in English. However, the other two questions see a decrease in “yes” answers.

6. CONCLUSIONS AND RECOMMENDATIONS

The predominant aim of this research was to evaluate and determine the extent of transparency in gas markets among the members of MEDREG and ECRB.

- As a result of the detailed analysis, it can be concluded that a certain level of transparency has been established among all of these countries. However, improvements and further progress are required. Legislation on transparency is not yet effectively established in some countries, namely the non-EU MEDREG members. This creates an impediment against the development and progress of the principle of transparency.
- It is highly encouraging to observe that for the questions under priority 1, which are a requirement for all countries, the answers are often responded affirmatively (88% for a detailed description of the gas system, 85% for gas quality and pressure requirements and 61% for providing information on maximum technical capacity). This is important since this implies that even countries without specific transparency legislations have already this information in place, which is promising for achieving complete transparency. Moreover, these affirmative responses have increased in comparison to the results of 2011, primarily for transmission. This indicates that transparency is improving among the MEDREG members. We cannot yet draw such a conclusion for ECRB members because they were not included in the previous surveys.¹⁴
- The results for the questions under priority 2 are more mixed and further efforts are required in order for non-EU MEDREG members to improve their transparency. This conclusion is also applicable to some ECRB members and observers; for instance, it is the case for Armenia, Georgia and Moldova.

Based on the above conclusions, the following recommendations can be made:

- It is recommended to simplify some of the questions posed and make them more comprehensible so that primarily Yes/No answers will be possible. Furthermore, in the case of missing or not available (NA) answers, there is a need to explain why this answer is provided or missing.
- In addition to LNG, CNG is also gaining importance in several regions, such as in Turkey and Egypt. An assessment of the CNG market and its transparency is not yet a part of the current survey, but it is **recommended** to add this to any future survey.
- MEDREG and ECRB should combine their efforts to set a framework to establish common transparency guidelines in all countries by driving MEDREG members who are not EU member states to consider appropriate actions to meet transparency requirements through its legal or regulatory provisions.

¹⁴ The developments of compliance with the transparency requirements of the Gas Regulation in the Energy Community member countries is analysed on an annual basis by ECRB. The monitoring reports are available at www.energy-community.org under the documents, ECRB reports and working documents section.

- There is a need for a minimum set of common rules. The lack of or weak harmonisation between EU, Energy Community and its Mediterranean neighbours, particularly in relation to the extent of transparency, becomes a barrier to market integration and harmonisation. The present survey confirms that voluntary rules are not sufficient.

Transparency should be aimed at whenever possible. It is one of the most important prerequisites to ensure that all the actors involved in the energy sector have easy and non-discriminatory access to the information they require to perform their activities and fulfil their obligations. Therefore, transparency is a key principle that should be followed in every country in the region.