

Empowering Energy Community and Mediterranean regulators for a common energy future



File:Mediterranee 02 EN.jpg

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

– Compliance Monitoring –

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ECRB is an institution of the Energy Community

About MEDREG

MEDREG is the Association of Mediterranean Energy Regulators, bringing 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 a level playing field for all Mediterranean energy actors by encouraging and facilitating the establishment of a sound legal and regulatory framework.

Based on independent and objective regulatory bodies, energy markets are more likely 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 aims at fostering consumer's 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 acts as a collaborative platform for regulators from the Northern and the Southern shore of the Mediterranean to exchange technical knowledge and good practices while supporting each other to reinforce their regulatory capacity.

MEDREG acts as a platform providing 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 contribution of its members.

The MEDREG Secretariat is located in Milan, Italy.

For more information, visit www.medreg-regulators.org.

If you have any queries relating to this paper, please contact:

MEDREG Secretariat

Telephone: +39 02 65565 524

E-mail: vlenzi@medreg-regulators.org

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 a President and the European Commission, acting as Vice-Presidency supported by the Agency for the Cooperation of Energy Regulators (ACER).

ECRB's mission builds 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 works in the public interest by building a bridge between the technical needs of the regulated industry and the interest of consumers. As an institution of the Energy Community, ECRB advises the Energy Community Ministerial Council and Permanent High-Level Group on details of 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 adoption of network codes.

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

ECRB wishes to thank in particular the members of the ECRB Gas Working Group for their work in preparing this report.

For more information, visit www.energy-community.org – institutions: ECRB

If you have any queries relating to this paper, please contact:

ECRB Section at Energy Community Secretariat

Telephone: +43 1 5352222 27

E-mail: nina.grall@energy-community.org

² The Energy Community comprises 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 line with UNSCR 1244/1999 and the ICJ Advisory Opinion on the Kosovo declaration of independence.

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EXECUTIVE SUMMARY

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

The Mediterranean zone has the potential to gain importance as part of the EU policy regarding security of gas supply as well as commercial ties. Therefore, it is recommendable and beneficial for all 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 very effective instrument for removing market barriers and facilitating competition. For this purpose, adoption and enactment of standardised and market-driven provisions for capacity allocation and congestion management are required.

This report assesses the level of transparency in gas infrastructure – transmission pipelines, LNG facilities and storages – among the members of the Association for the Mediterranean Regulators (MEDREG) and the Energy Community Regulatory Board (ECRB). Publication requirements differ among the monitored countries. This report aims at achieving a minimum common transparency standard by identifying necessary improvements and concluding on 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 needed. 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 very encouraging to observe that the questions under priority 1, which are a requirement for all countries, the answers are often responded affirmatively, namely 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 as this implies that even countries without specific transparency legislation already have this information in place, which is promising for achieving full transparency.

The results for the questions under priority 2 are more mixed and here further efforts will be needed in order for non-EU MEDREG members to improve their transparency. This conclusion is also true 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 actors involved in the energy sector have easy-accessible and non-discriminatory access to the information they need to perform their activities and fulfil their obligations. Therefore, transparency is a key principle to be followed in every country in the region.

1. INTRODUCTION

Establishing an integrated and well-functioning energy market which ensures energy security and stability has been one of the main 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 set up with the major purpose of achieving an integrated, harmonised and stable gas market for the Mediterranean region. Among the other principles, MEDREG adopted the principle of transparency and is promoting the achievement of a consistent, harmonised and investment-friendly regulatory framework aiming at the maximum benefits to energy consumers in the Mediterranean region. For the market functioning and integration, 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 the transmission, LNG and storage system operators provide the information market players need, on a fair and non-discriminatory basis.

The purpose of this study is to evaluate 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 have been collected in 2019, already for the third time for MEDREG members, using the same questionnaire as developed in 2009. This research indicates that the level of transparency has increased in gas transmission among the MEDREG members in the recent years.

The outline of the report is as follows: section 2 discusses the employed methodology and provides a solid background for the study. This background consists of the EU legislation on transparency and their transparency requirements. The regional coverage of the MEDREG and ECRB members is also presented. The spread of gas infrastructure in the sense of transmission, LNG facilities and storages are also discussed. Section 3 presents the results from the survey 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 draws the main conclusions and provides recommendations for measures to improve transparency.

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

2. BACKGROUND

Transparency is a key enabler for 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 do not involve complex processes or fundamental adjustments, other than online sharing of information, that is already available to system operators and data owners.

In the light of this, 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, awareness for the need of a harmonised and comprehensive set of rules for transparency came to the agenda. The transparency provisions of Regulation (EU) 715/2009 on conditions for access to the natural gas transmission networks (hereinafter called 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, the 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 for **transmission system operators** (TSO). TSOs are obliged to publish the following data in a meaningful, quantifiably clear and easily accessible manner and on a non-discriminatory basis:

- Detailed information on 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 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;
- Incurred costs and generated revenues related to balance of the system.

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.

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, quantifiable clear and easily accessible manner and on a non-discriminatory basis:

- Detailed information on offered services and applied conditions;
- Technical information necessary for effective network access;
- Reasonably and sufficiently detailed information on tariff derivation, methodology and structure of tariffs for the facilities under regulated third-party access (TPA);
- Information on technical, contracted and available capacities on numerical basis on 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 daily basis.

The provisions of the Gas Regulation are **not legally binding in all 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 for the 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 has been provided by ECRB and MEDREG members in the summer of 2019 based on a questionnaire focusing on the three chapters of the GGP on gas transparency, namely:

- Information on 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 summarizing the answers to the questionnaires.

This approach is chosen to allow for meaningful benchmarking of transparency commitments in the analysed countries as the Gas Regulation is not applicable in all MEDREG countries (see Figure 1). The GGP establishes 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 certain 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), the present report only displays a part of their full set of legal obligations.

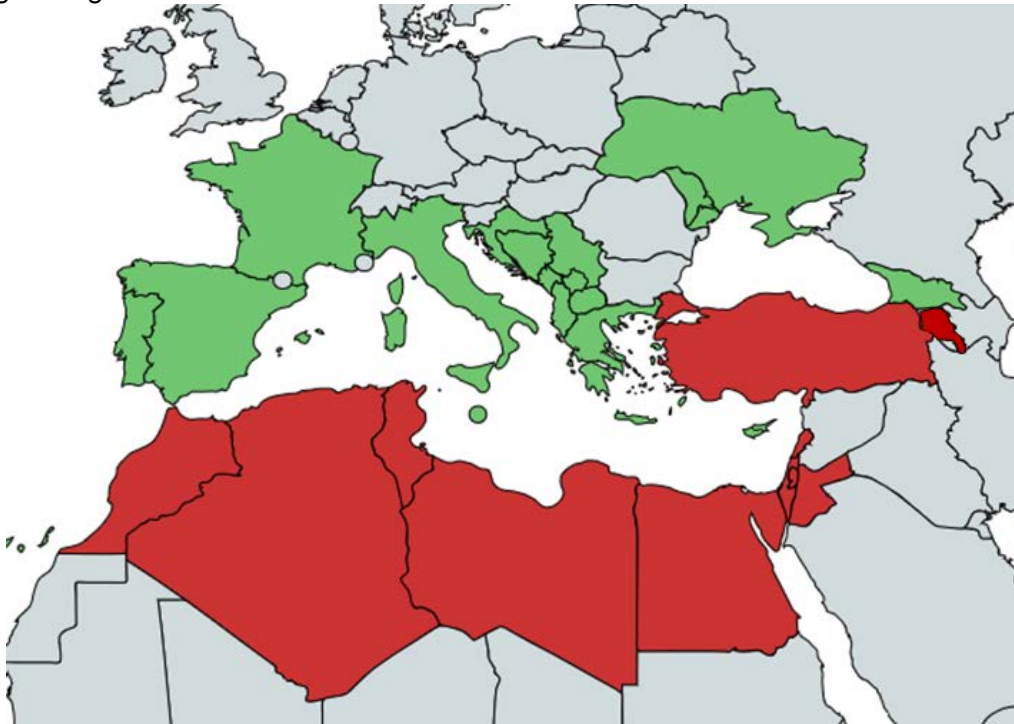


Figure 1: Applicability of the Gas Regulation in ECRB and MEDREG countries
[Legend: green – the EU Gas Directive is legally binding; red – the EU Gas Directive does not apply]

To reflect the different levels of market development in the analysed countries – and in particular in those for which the Gas Regulation is not legally binding – the GGP define two priority levels for publication requirements:

- Publication requirements classified as priority 1 should be implemented in all countries regardless of the level 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 in place.⁸

⁷ ECRB publishes an assessment of the Energy Community Contracting Parties' compliance with the entire transparency obligations under the Gas Regulation on 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 at providing an assessment of the progress made in the MEDREG members since the “2nd status review 2015 on transparency in the Mediterranean region and monitoring of the GGP on transparency” report.⁹

For the MEDREG countries the survey has been undertaken for the third time in 2019 following related reports in 2011 and 2015;¹⁰ joint assessment for ECRB and MEDREG countries is presented in the present report for the first time. Table 1 summarises which countries have responded in the three surveys. It shows that the number of responses increased from 12 in 2011 to 16 in 2015 to 20 in 2019. However, in 2019, not only MEDREG members responded, but also members from ECRB.

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				
15	Lebanon		Y			Y#
16	Libya		Y			
17	Malta		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	20

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

Responses were received from Cyprus and Lebanon, but due to their gas markets not yet being developed all answers were “not applicable”. Therefore, these answers could not be used in the analysis of this report.

* No responses were received from Malta, where an LNG facility has recently been built, but their gas markets are not yet being fully developed.

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

¹⁰ Cf. <http://www.medreg-regulators.org/Publications/NaturalGas.aspx>, namely 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).

† Even though there is a gas storage in Serbia, this is not yet subject to transparency rules and here the regulator replied 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 as shown 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://silivrieht.botas.gov.tr https://tuzgolueht.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 specif 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 the ECRB and MEDREG members. The countries are shown in Table 3 together with their main regulatory bodies and their websites.

Table 3: ECRB and MEDREG members

		MEMBERSHIP		COMPETENT AUTHORITY			WEBSITE
		ECRB	MEDREG	NAME	SCOPE	AUTHORITY	
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	Gas	Ministry	https://memr.gov.jo
14	Kosovo*	Y		EMRC	Energy	NRA	http://www.emrc.gov
15	Libya		Y	ERO	Energy	NRA	https://www.ero-ks.org/w/shqip/
16	Lebanon		Y	ME		Ministry	
17	Lebanon		Y	LCEC		Ministry	http://www.lcec.org.lb/
18	Malta		Y	REWS	Energy	NRA	https://www.rews.org.mt/
19	Moldova	Y		ANRE	Energy	NRA	http://www.anre.md/
20	Montenegro	Y	Y	REGAGEN	Energy	NRA	http://regagen.co.me
21	Morocco		Y	MEM		Ministry	http://www.mem.gov.ma/
22	North Macedonia	Y		ERC	Energy	NRA	http://www.erc.org.mk/
23	Palestinian Authority		Y				
24	Portugal		Y	ERSE	Energy	NRA	http://www.erse.pt/
25	Serbia	Y		AERS	Energy	NRA	https://www.aers.rs/
26	Slovenia		Y	AGEN	Energy	NRA	https://www.agen-rs.si/
27	Spain		Y	CNMC	Energy	NRA	https://www.cnmc.es/
28	Tunisia		Y	MIT		Ministry	http://www.tunisieindustrie.gov.tn/
29	Turkey	Y	Y	EMRA	Energy	NRA	http://www.epdk.gov.tr/
30	Ukraine	Y		NEURC	Energy	NRA	http://www.nerc.gov.ua/
		11	22				

'Energy' means electricity and gas.

Figure 2 presents the ECRB and MEDREG members. Some countries are participating in both organisations, namely Albania, Bosnia and Herzegovina, and Montenegro and Turkey.



Figure 2: ECRB and MEDREG members

[Legend: blue – MEDREG members; yellow – ECRB members; blue & yellow – members of both ECRB and MEDREG]

4. GAS MARKET FUNDAMENTALS OF THE ANALYSED COUNTRIES

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

Currently, some ECRB and MEDREG members still do not have gas infrastructure. For instance, Kosovo*, Montenegro, Malta, Cyprus, Palestinian Authority and Lebanon do not yet have any gas transmission infrastructure in place, whereas Malta only has an LNG facility. Of the countries with gas infrastructure, Croatia, Libya, Malta, Morocco, Spain and Tunisia did not provide any input into the present survey. Even though they do not have any gas infrastructure, Cyprus and Lebanon returned a filled-out questionnaire, but both responded to all answers with “not applicable”. Therefore, these two countries are not included in the analysis of this report. Furthermore, Bosnia and Herzegovina only provided information for the entity Republika Srpska. Finally, Albania only operates a very limited gas transmission network which may in some instances explain lack of compliance with the GGP. Still, the country has gas related primary and secondary legislation in place and is therefore included in the present survey.

Among most ECRB and MEDREG members, except for EU member states, gas markets are still under development. These countries are still in a process of establishing and designing functional gas markets with the aim of complying with the best international practices, norms, standards and regulatory aspects. Among these countries Turkey can be considered as an exception, where a gas delivery started in 1987 and the gas market development is already quite advanced.

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

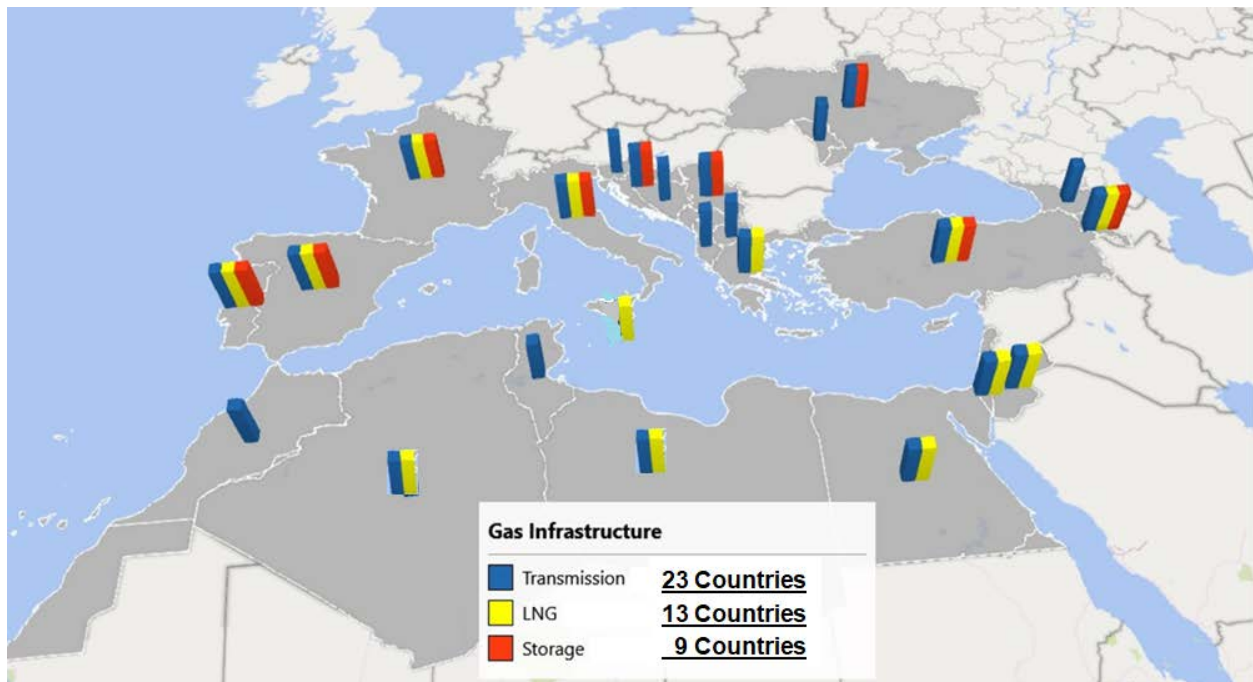


Figure 3: ECRB and MEDREG members – infrastructure map

Gas transmission is in place 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 are in operation in nine countries. Most of them are in the EU member states, namely Croatia, France, Italy, Portugal, Spain; four of them are members of or observers to ECRB, namely Armenia, Serbia, Turkey and Ukraine.

The fact that gas transmission systems are in operation in almost 80% of the analyzed countries supports the call for further harmonizing rules, regulations and standardizations of EU, ECRB and MEDREG member countries to allow interconnected infrastructure to smoothly operate on streamlined standards and facilitate investments throughout the entire region.

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

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

Table 4 shows that gas transmission systems are in operation in all countries that have gas infrastructure. The 18 analysed countries comprise 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.

From Table 4 it can be seen that among most of the ECRB and MEDREG members where gas infrastructure is in place, a regulating institution is also established. Table 3 also explains in more detail whether the regulatory function is performed by a regulatory authority or the ministry. In six countries (Israel, Jordan, Libya, Lebanon, Morocco and Tunisia) regulatory activities are performed by a ministry. Table 4 explains more in detail whether the **regulatory function** is performed by a regulatory authority or the Ministry: only two countries (Israel and Jordan) do not have a separate regulatory authority established but regulation activities are performed by a Ministry.

Table 4: Gas market infrastructure and level of regulation

	Transmission	Regulated Transmission	LNG	Regulated LNG	Storage	Regulated storage
Albania	Y	Y				
Algeria	Y	Y	Y			
Armenia	Y	Y	N		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				
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 outlines that transmission infrastructure is **regulated** in all analyzed countries, while regulated LNG represent 69% of the countries which have LNG in place and regulated storage 89%.

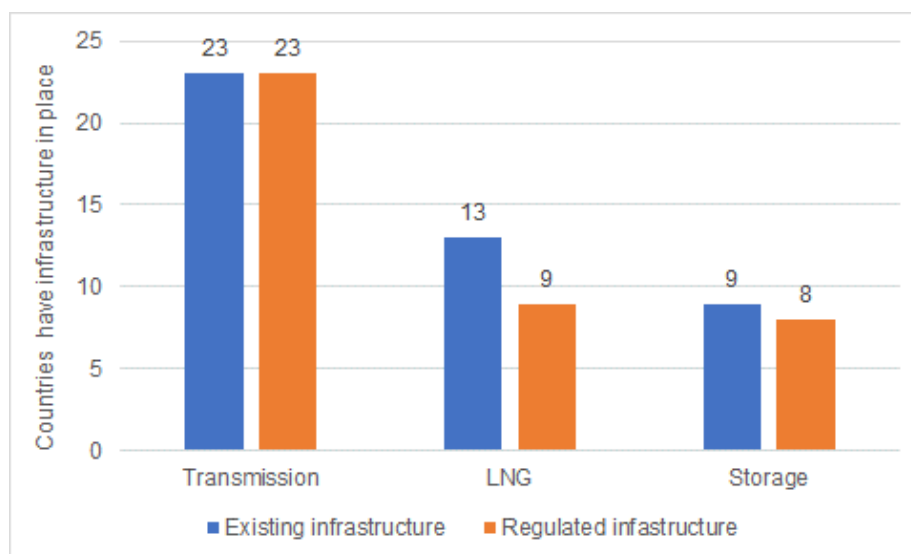


Figure 4: Regulated infrastructure

Figure 5 outlines that transmission infrastructure is regulated in all analysed countries, while regulated LNG represent 69% of the countries which have LNG in place and regulated storage represent 89%.

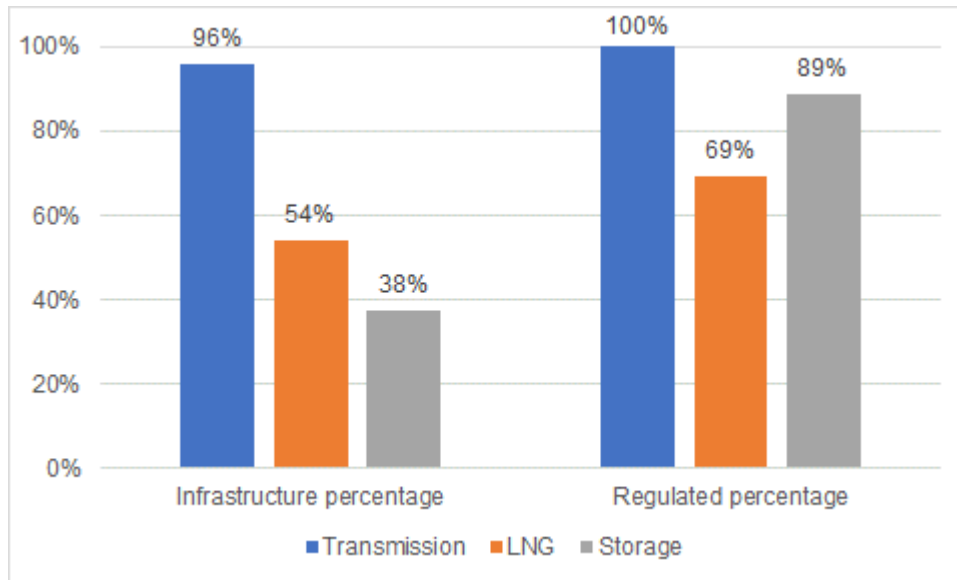


Figure 5: Infrastructure statistics

5. FINDINGS

5.1. Transmission

5.1.1. General overview

Transmission of natural gas through pipelines is historically the most important means to bring natural gas from the exploration fields to the consumer. Even today, this is still the most common way for delivering gas to end users. The limitations of pipeline transport has led to connection of consumers that are located in relative close proximity to the pipelines, where the consumers are often dependent on only one single supplier.

For that reason, all of the ECRB and MEDREG countries that contributed to this survey have pipeline transmission facilities in place. Moreover, all these transmission pipelines are regulated, but 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. A detailed country by country overview is available in the attachment to this report.

5.1.2. 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 needs to be in place and published.

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

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

The answers from the returned questionnaires show that most countries have all relevant information in place that should be published. The exceptions are Egypt, Jordan and Turkey. For Egypt, the network code, which shall reveal such information, is currently under development and formal approval is in progress. For Turkey, this information is not published fully in line with the GGP. General information on the transmission system and maps of the network exists on the website of BOTAŞ, as well as a list of all exit points. In addition to that, Jordan is still at the beginning phase of developing its new legislation and gas market, while gas quality and pressure requirements are not yet published.

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

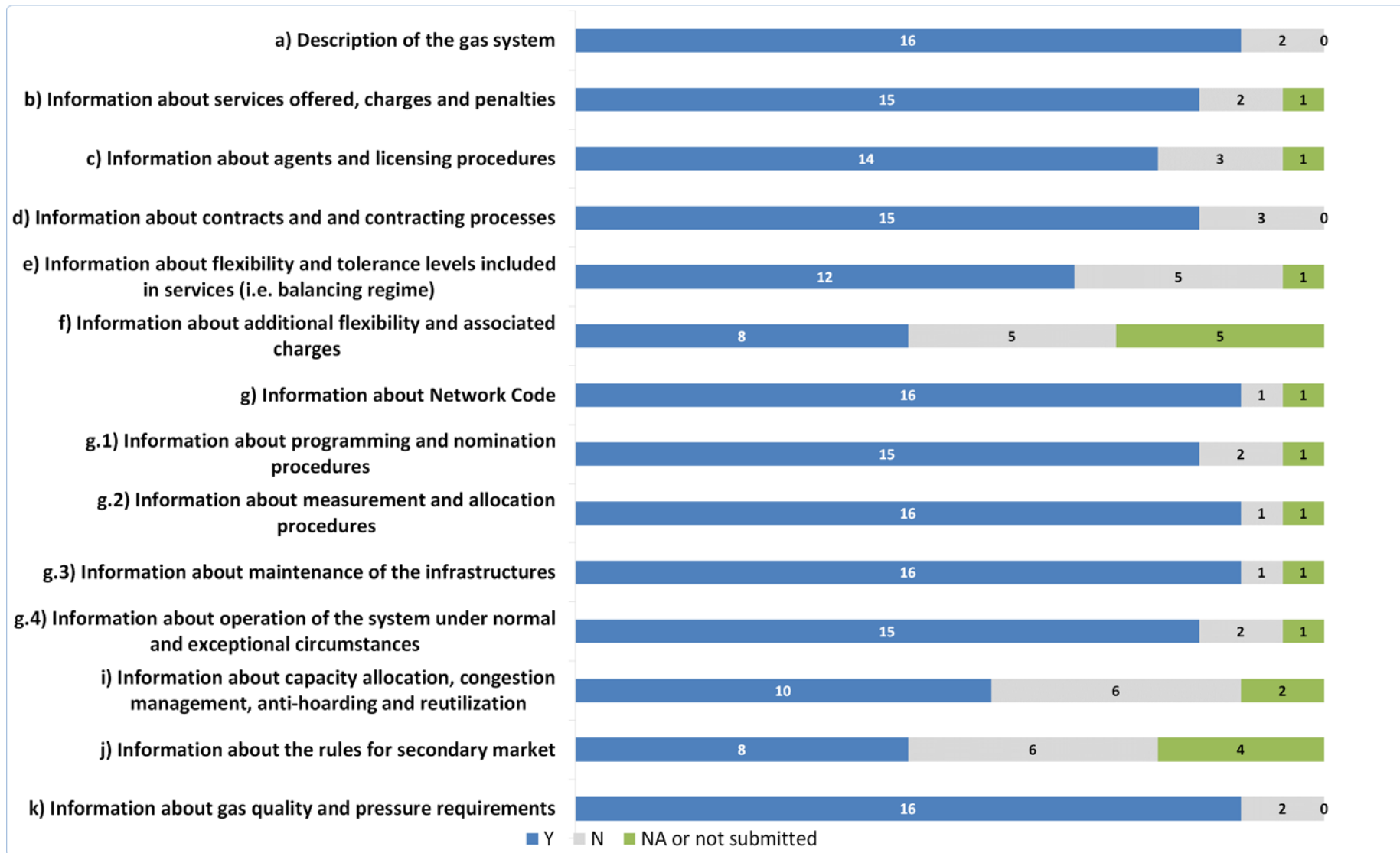


Figure 6: Information on system and services – transmission

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

- *Information on services offered, their charges and penalties in case of over-/under-utilisation of contracted capacity* [GGP, 1b] is available in all analysed markets except Albania and Algeria. The requirement is not applicable in Jordan, because the infrastructure is still under development and not yet operational (this also applies for Jordan in to the next bullets below).
- *Information about subjects/entities that can 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. 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 all analysed countries, but 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 for Armenia, while the requirement is not applicable in Jordan. All countries include publication 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 missing.
- *Information on capacity allocation, congestion management, anti-hoarding and reutilisation* [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, which 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 are not yet implemented.

It can be concluded that priority (2) information requirements are answered affirmatively to a large extent. However, not for Armenia and Jordan and, not 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, in Moldova rules on balancing are currently under development.

The extent of non-compliance with the GGP is, however, much higher when it comes to capacity allocation and congestion management rules. Regarding this item, information is missing in

almost half of the analysed markets. Among them, are Albania and Bosnia and Herzegovina. Moreover, Bosnia and Herzegovina is lacking legislative gas market rules.

5.1.3. Information on capacity situation

The survey has one question under **priority (1)** class of information, which is required by the GGP for all analysed countries, i.e.:

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

Furthermore, the survey has two questions under **priority (2)** class of information, which is required by the GGP for all countries that have TPA, i.e.:

- *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 available capacities based on network modelling and flow simulations, considering all relevant operational parameters for an efficient and safe operation of the system.
- Historical maximum and minimum monthly capacity utilisation rates and annual average flows at the above points for the previous year, published no later than 30 January of the current year.
- Record keeping of all capacity contracts and all other relevant information in relation to calculating and providing access to available capacities. If necessary, the relevant national authorities shall have access to such records in relation to complaints about refusal of access, due to 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 country by country basis is available in the attachment to this report.

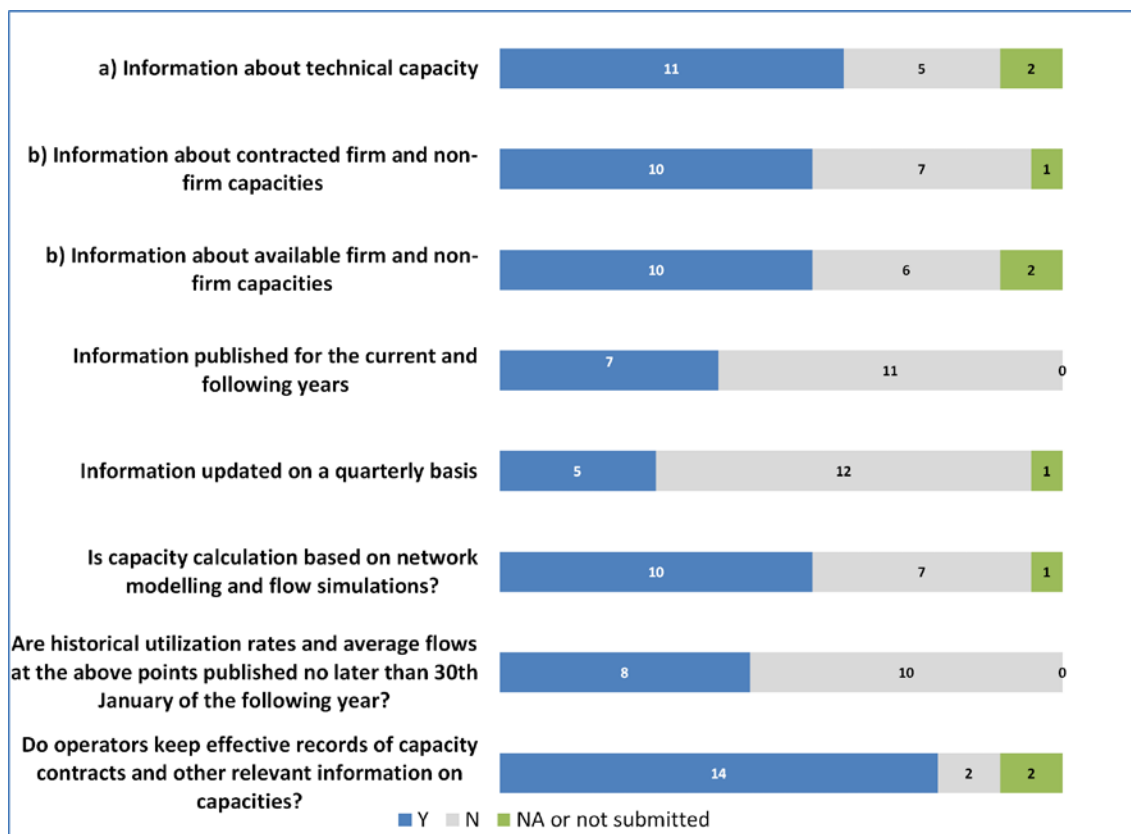


Figure 7: Information on capacity – transmission

When it comes to publication of *maximum technical / total contracted and available firm / non-firm capacities* [GGP, 2 a-c] the survey shows that this obligation is not only met in all the analysed EU countries, but also in North Macedonia, Serbia, Turkey and Ukraine. However, even though an obligation is stemming from the *acquis communautaire*, related information is not available in some of the analysed Energy Community countries, namely Albania and, partly, Bosnia and Herzegovina, whereas it is considered not applicable in Moldova. Again, it must be reiterated that Bosnia and Herzegovina lacks legislative gas market rules.

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

- Publication of the capacity related information [GGP, 2 a-c] on a *yearly 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, quarterly updates are provided, whereas a five-year outlook is not published.
- The *calculation of available capacities* is based on network modelling and flow simulations considering all relevant operational parameters in Egypt, France, Greece, Israel, Italy, Jordan, North Macedonia, Portugal, Slovenia and Turkey. In the other countries, the GGP required information is generally not provided, neither their updates. Therefore, these countries have not developed intricate calculation methods for available capacities either.

- Historical maximum and minimum monthly *capacity utilisation 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* about all capacity contracts and relevant information related to calculating and providing access to network capacities are kept in almost all analysed markets, except for Algeria, and Moldova, while it is considered not applicable in Armenia and Georgia.

Therefore, it can be concluded that compliance with capacity related publication requirements of the GGP is less developed for system related information. It reaches, on average, around 50% among EU member states, whereas some Contracting Parties being compliance frontrunners, namely France, Greece, Italy, Portugal and Slovenia.

5.2. LNG

5.2.1. General overview

LNG plays an important role for gas consuming countries around the world, including the EU, ECRB and MEDREG members, namely for diversification of gas sources and, thus, contributing to 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.

Ten of the ECRB and MEDREG countries that contributed to this survey have LNG facilities in place, namely Algeria, Egypt, France, Greece, Israel, Italy, Jordan, Portugal and Turkey.¹³ In all 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 establishing such regulations. Algeria has responded to all questions with not applicable, because they only operate 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.

5.2.2. Information on system and services

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

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

- *a detailed description of the LNG system* specifying the interconnection point with transmission systems [GGP, 1a] is available in all analysed LNG countries but Egypt and Israel.

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

- *gas quality and pressure* requirements [GGP, 1k] is 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, their charges and penalties in case of over-/under-utilisation of contracted capacity* [GGP, 1b] is available in half of the analysed markets but not in Armenia, Egypt and Israel. The requirement is not applicable in Jordan, because there the infrastructure is still under development and not yet operational (this also applies for Jordan in the next bullets below).
- *Information about subjects/entities that can require access to the services offered including information on related licensing procedures* [GGP, 1c] is available in all analysed countries except Armenia, Egypt and Israel, while 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 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 for Armenia and Egypt, while the requirement is not applicable in Jordan and Turkey, whereas 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 reutilisation* [GGP, 1i] is available in Greece, Italy, Portugal and Turkey.
- *Rules on secondary market trading* [GGP, 1j] is available for France, Greece, Italy and Portugal. The related requirement is not applicable in Jordan and Turkey, because regulations on secondary trade of capacity are not implemented yet.

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

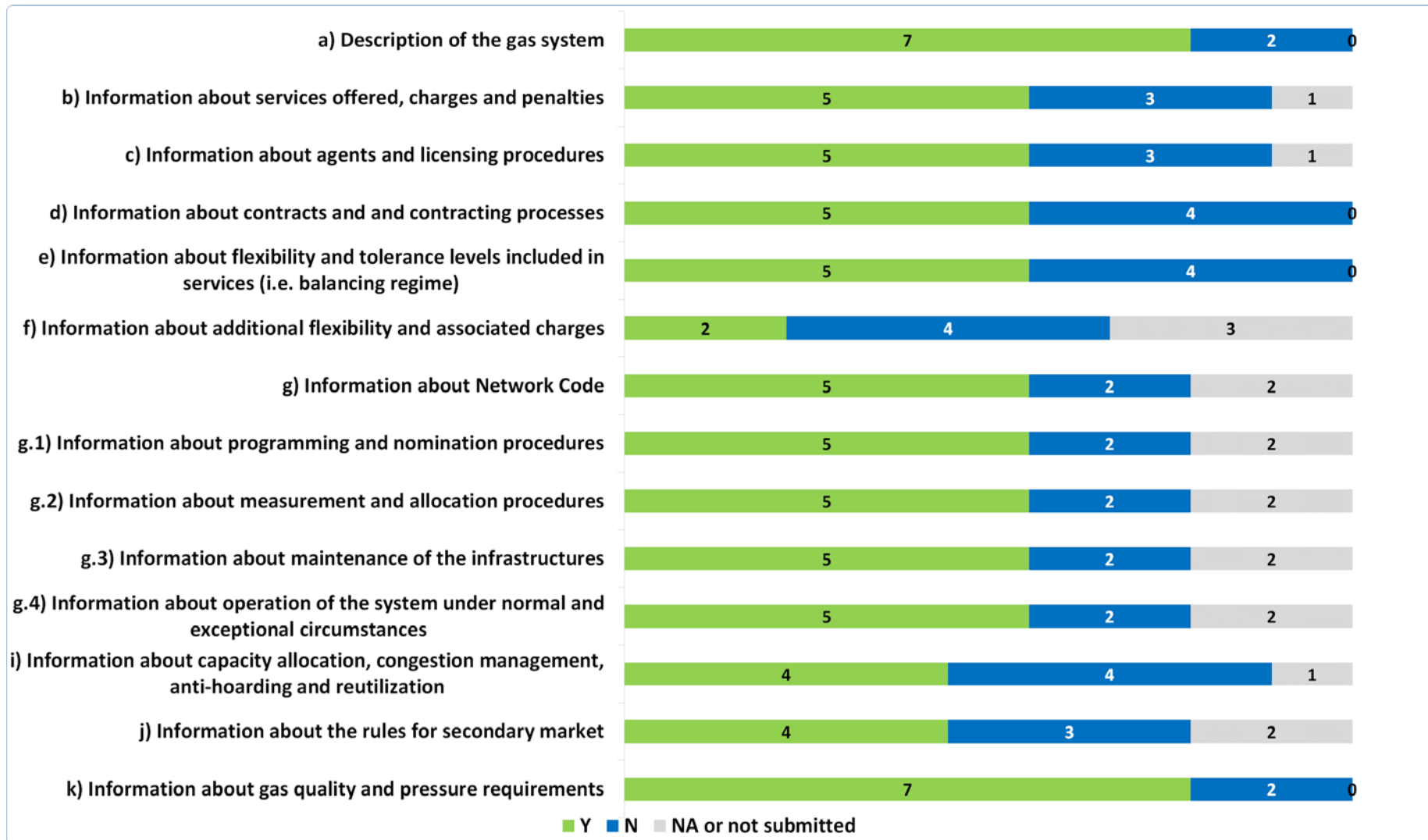


Figure 8: Information on system and services – LNG

5.2.3. Information on capacity situation

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

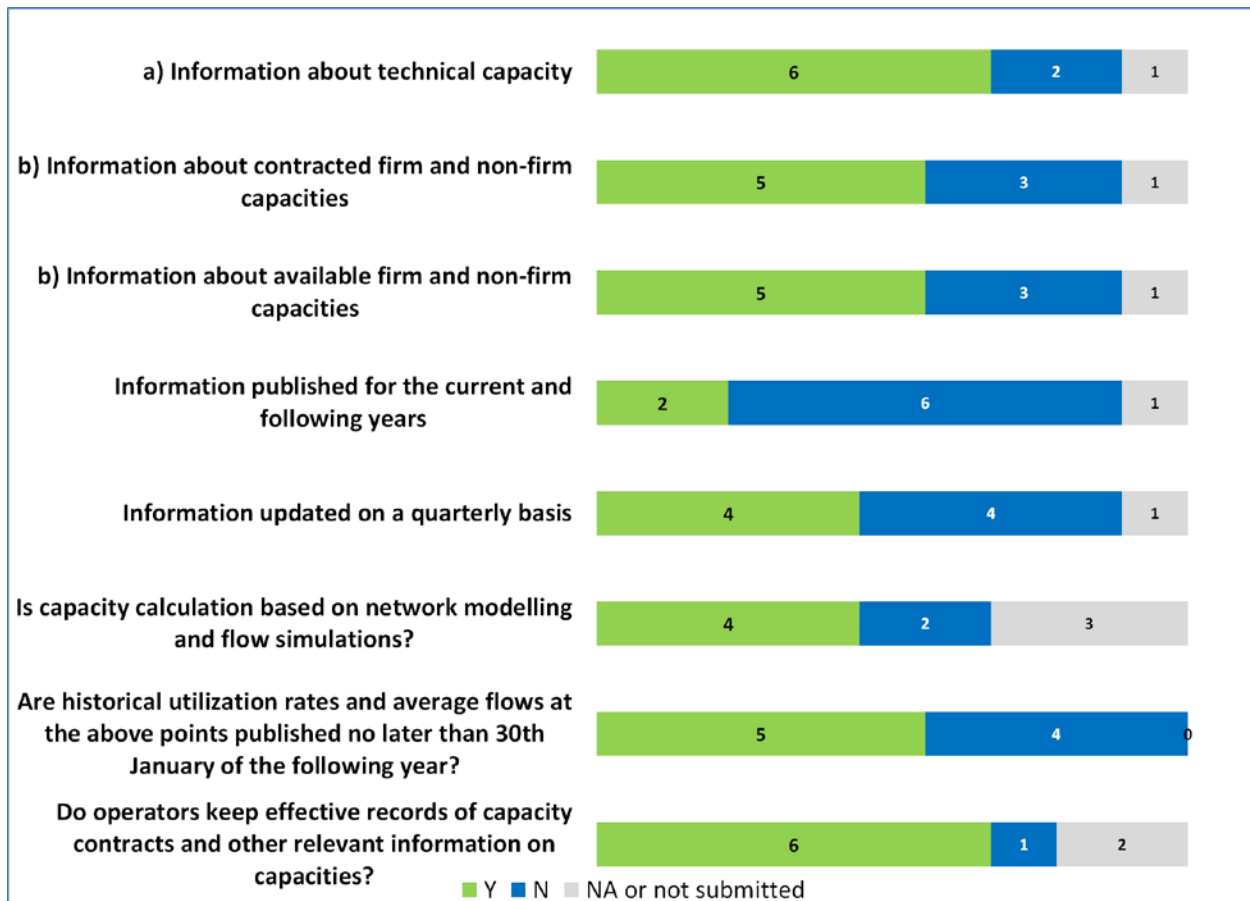


Figure 9: Information on the capacity situation – LNG

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

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

- Publication of the capacity related information [GGP, 2 a-c] on a *yearly basis for the next five years* is only available in Greece and Italy. In France, Portugal and Turkey only quarterly updates are provided, while a five-year outlook is not published. Greece published quarterly updates in additional to the five-year outlook. It is not published at all in Armenia, Egypt, Israel and Jordan.

- The *calculation of available capacities* is based on network modelling and flow simulations considering all relevant operational parameters in Greece, Jordan, Portugal and Turkey. Such modelling is not done in Armenia and Egypt. It is considered not applicable in France, Israel and Italy.
- Historical maximum and minimum monthly *capacity utilisation rates and annual average flows* are published by 30 January for the previous calendar year in France, Greece, Italy, Jordan and Portugal.
- *Records* about all capacity contracts and relevant information related to calculating and providing access to network capacities are almost kept in all analysed markets, except for Egypt, whereas 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 around 50%. Here the EU member states are typically the compliance frontrunners.

5.3. Storage

5.3.1. General overview

Like LNG, also storage contributes to security of supply. Only seven respondent countries have gas storage facilities, namely Armenia, France, Italy, Portugal, Serbia, Turkey and Ukraine. Only limited information is available for gas storages 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, whereas existing storage facilities are not subject to regulation. Moreover, the GGP requirements are not applicable in Serbia, neither is the Gas Regulation. As a result, all answers related to Serbia were given as “not applicable” and these are, therefore, excluded from the graphs below.

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

5.3.2. Information on system and services

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

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

- *a detailed description of the storage system* specifying the interconnection point with transmission systems [GGP, 1a] is available in all analysed countries with storage systems.
- *gas quality and pressure* requirements [GGP, 1k] is 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 services offered, their charges and penalties in case of over-/under-utilisation of contracted capacity* [GGP, 1b] is available for all the analysed markets, but it is missing for Armenia.
- *Information about subjects/entities that can require access to the services offered including information on related licensing et al procedures* [GGP, 1c] is available in all analysed countries, except for Armenia.
- *Information on the different contracts* available for the services offered and the contracting processes [GGP, 1d] is available in all the analysed countries, whereas 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 it 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 for Armenia, while 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 reutilisation* [GGP, 1i] is available in most countries, but not in Armenia. It is not applicable in France.
- *Rules on secondary market trading* [GGP, 1j] is available for most countries, but not in Armenia. It is not applicable in Turkey, because regulations on secondary trade of capacity are not implemented yet.

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

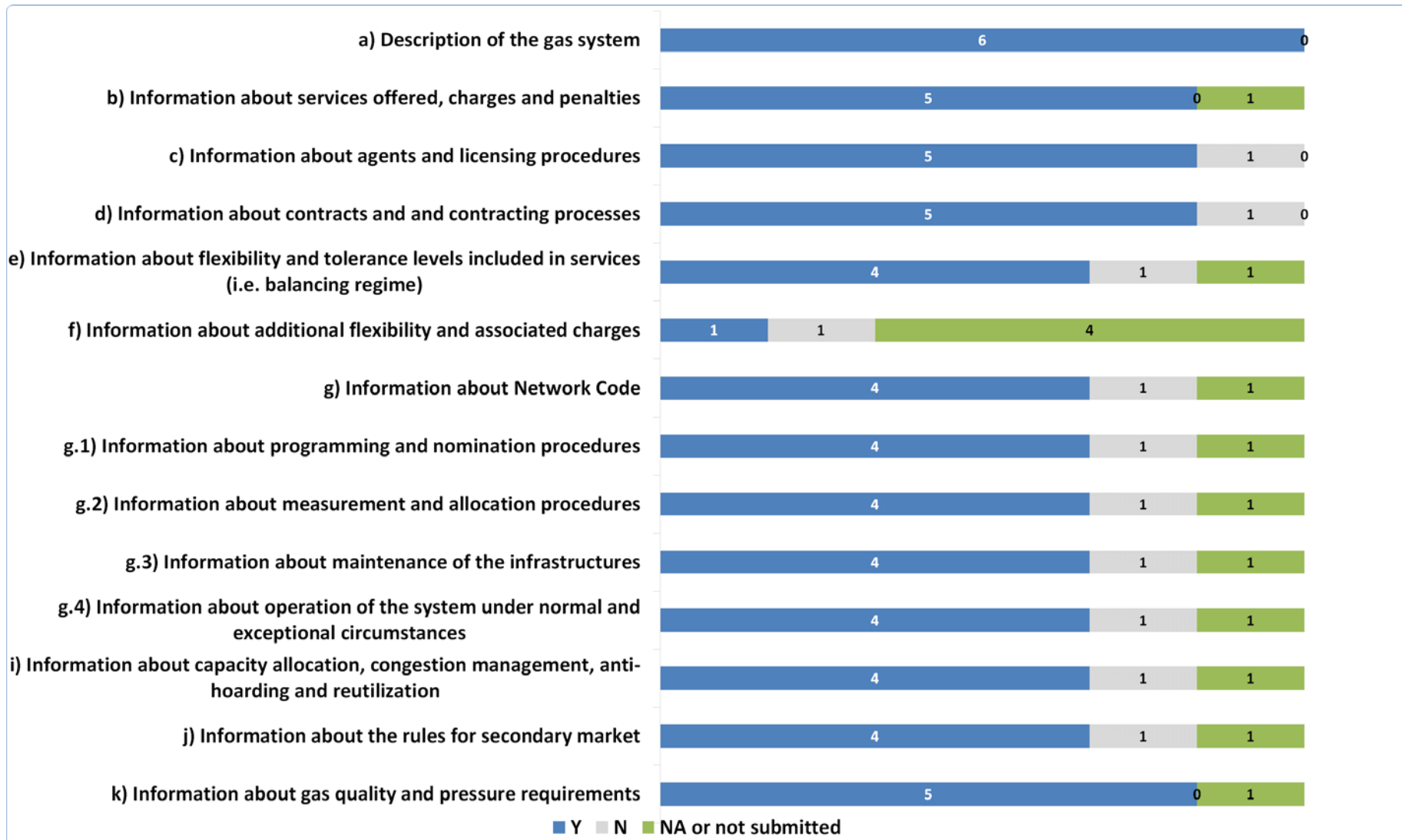


Figure 10: Information on system and services – Storage

5.3.3. Information on capacity situation

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

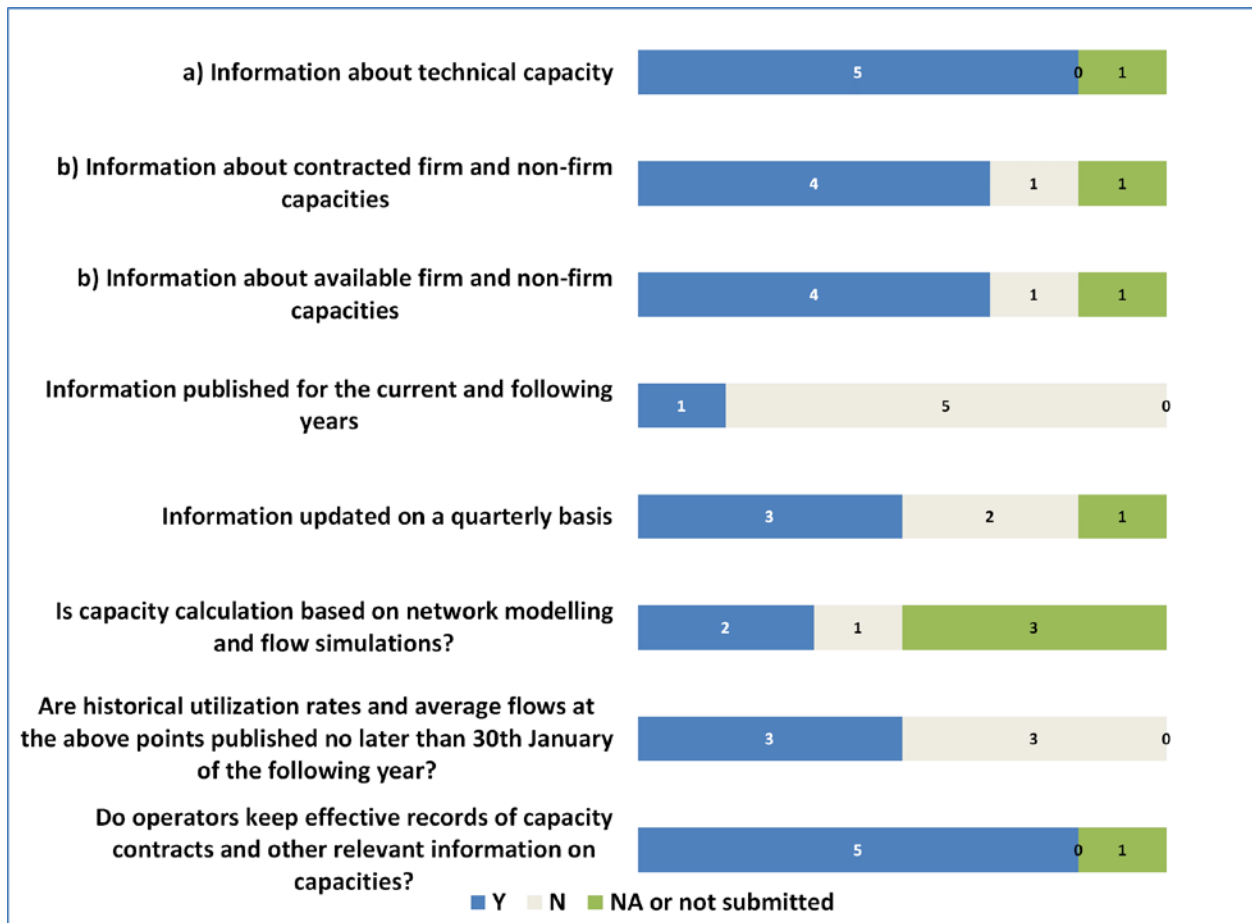


Figure 11: Information on capacity situation – Storage

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

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

- Publication of the capacity related information [GGP, 2 a-c] on a *yearly basis for the next five years* is only available in Ukraine. In France, Portugal and Turkey only quarterly updates are provided, while a five-year outlook is not published. It is not published at all in Armenia and Italy.

- The *calculation of available capacities* is based on network modelling and flow simulations considering all relevant operational parameters in Portugal and Turkey. Such modelling is not done in Armenia, whereas it is considered not applicable in France, Italy and Ukraine.
- Historical maximum and minimum monthly *capacity utilisation rates and annual average flows* are published by 30 January for the previous calendar year in all EU countries (France, Italy and Portugal). It is not published in Armenia, Turkey and Ukraine.
- *Records* about all capacity contracts and relevant information related to calculating and providing access to network capacities are almost kept in all analysed markets, whereas 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 around 50%. Here the EU member states are typically the compliance frontrunners.

5.4. Additional information

Additional information requirements verify whether the data is also available in English, in addition to the national language. Moreover, the accessibility of the presented data and being free of charge is also inquired into.

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 shows that:

- The level of compliance with availability of information in English varies among the analysed countries. It is in place in all the analysed EU countries (France, Greece, Italy, Portugal and Slovenia) in this report. In addition, it is also published in English in Albania and Egypt.
- Information is disclosed in an easily accessible way via the internet in all analysed countries except for Algeria, Israel and Jordan, whereas 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 for Egypt, where the information is still under development by the relevant party.

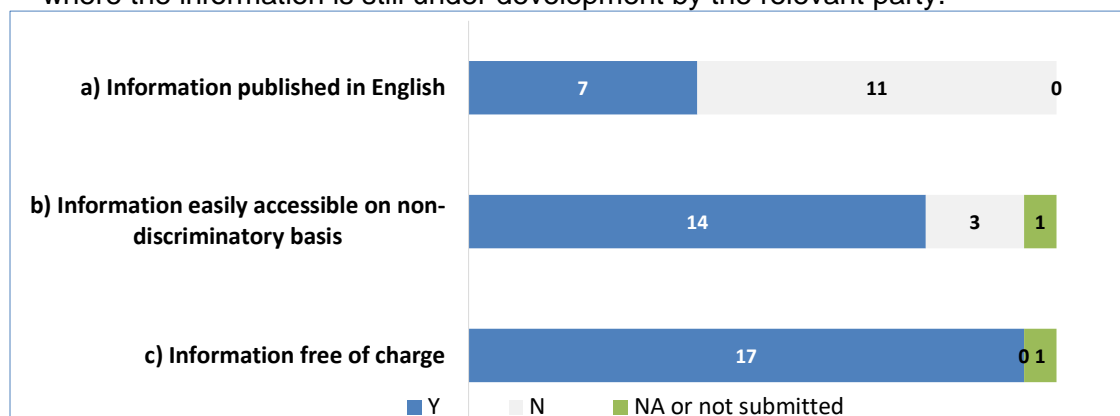


Figure 12: Additional Information

5.5. Comparison with first 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 yes answers for transmission in 2011 and the current 2019 study. This is presented for transmission only, as the number of participants in LNG and storage were too low in the 2011 study.

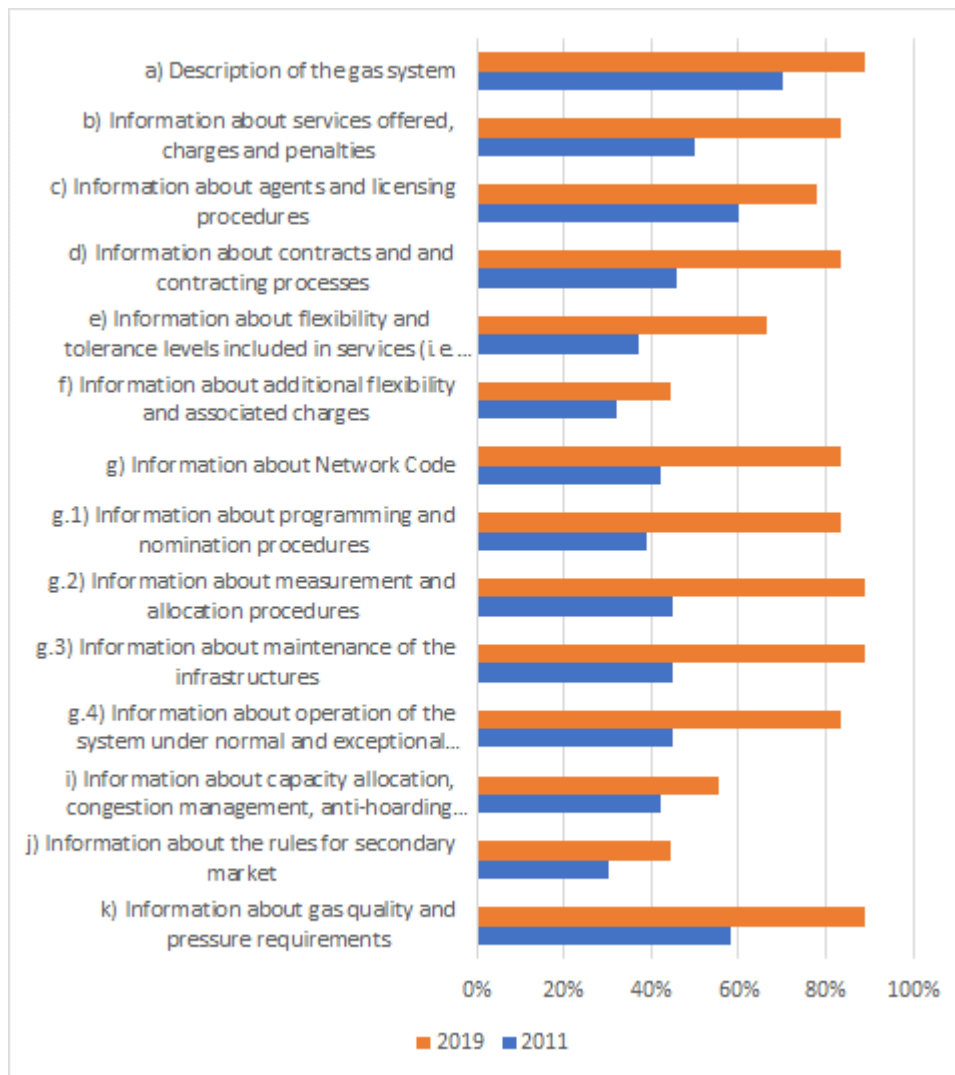


Figure 13: Information on system and services – transmission: percentage of yes answers

Figure 13 shows that the percentage of yes answers have increase for all questions in comparison to the previous study.

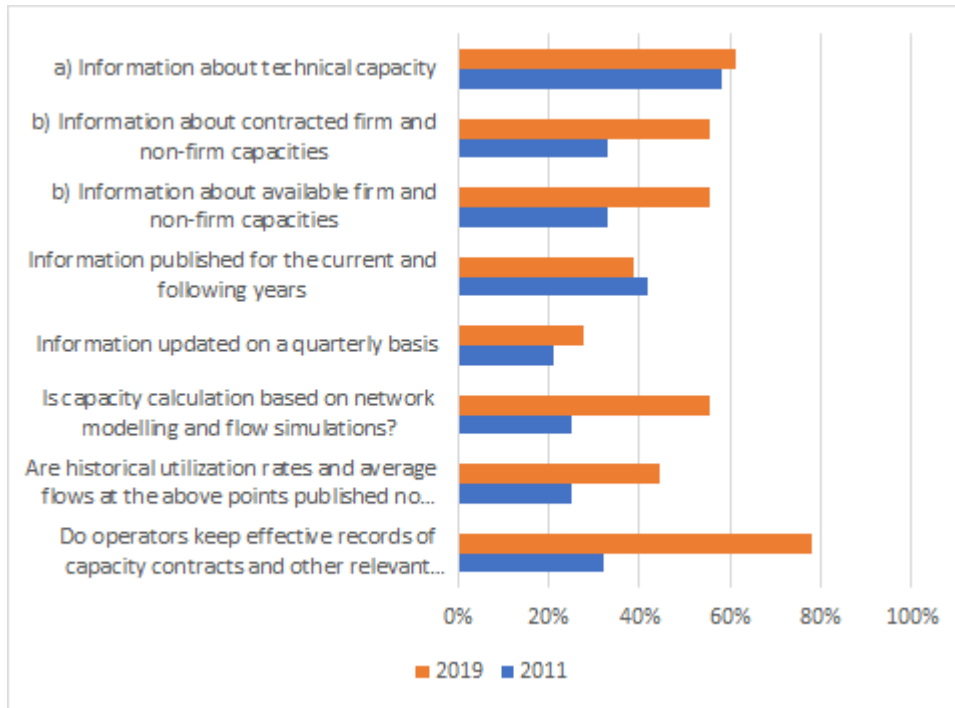


Figure 14: Information on capacity – transmission: percentage of yes answers

Figure 14 shows that the yes answers has increase for almost all questions, except for the question whether information is published for the current and following years.

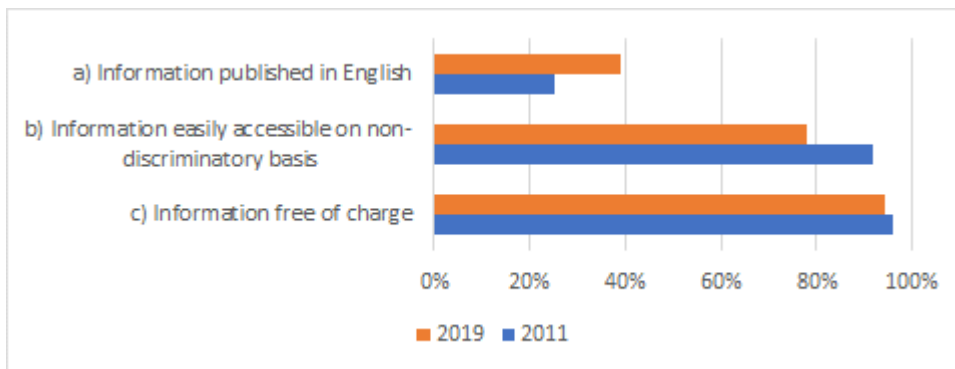


Figure 15: Additional Information: percentage of yes answers

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 main aim of this research has been to evaluate and assess the level of transparency in the gas markets among the members of MEDREG and ECRB.

- As a result of some detailed analysis, it can be concluded that a certain level of transparency has been established among these countries. However, improvements and further progress are needed. Legislation on transparency is not yet well established in some countries, namely among the non-EU MEDREG members. Therefore, this creates an impediment against the development and progression of the principle of transparency.
- It is very encouraging to observe that the questions under priority 1, which are a requirement for all countries, the answers are often responded affirmatively, namely 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 as this implies that even countries without specific transparency legislation already have this information in place, which is promising for achieving full transparency. Moreover, these affirmative responses have increased in comparison to the results of 2011 mainly 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 here further efforts will be needed in order for non-EU MEDREG members to improve their transparency. This conclusions is also true for 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 and make them clearer so that mainly Yes/No answers will be possible. Also, in case of a missing or not available (NA) answer, there is a need to explain why this answer is given or missing.
- In addition to LNG, CNG is also gaining in importance, e.g. in Turkey and Egypt. An assessment of the CNG market and their transparency is not yet 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 spread the common transparency Guidelines in all countries by driving MEDREG members who are not EU member states to consider proper actions to adopt transparency requirement through its legal or regulatory provisions.
- There is a need for a minimum set of common rules. The lack or weak harmonisation between EU, Energy Community and its Mediterranean neighbours, particularly in

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 documents, ECRB reports and working documents.

relation to the level of transparency develops a barrier to markets integration and harmonisation. The present survey confirms that voluntary rules are not enough.

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

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
NEURC	National Energy & Utilities Regulatory Commission (Ukraine)
MIT	Ministry of Industry (Tunisia)
NGA	Energy Regulator of Israel
NRA	National Regulatory Authority

Term	Definition
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