NRA'S ROLE IN OPENING THE MARKET TO COMPETITION

Empowering Mediterranean regulators for a common energy future

REF: MED23-36 GA 3.2

Institutional Working Group (INS WG)

Co-funded by the European Union

ABSTRACT

This report examines the role of national regulatory authorities (NRAs) in promoting market competition in the energy sector, with a particular focus on the development of wholesale markets and the monitoring of electricity and gas markets. The report provides an overview of the relevant European Union (EU) regulatory framework and assesses the extent to which NRAs have implemented these provisions in their respective countries.

The report finds that NRAs play a crucial role in promoting market competition and ensuring fair and transparent access to energy markets. Wholesale market development is essential for creating a level playing field and enhancing competition. NRAs have played an active role in this development by implementing market rules and promoting new market entrants.

The report also emphasises the importance of monitoring and enforcement of market rules to ensure that they are respected and market abuse is prevented. NRAs have developed various monitoring tools, including market surveillance and investigation mechanisms, but the effectiveness of these measures could be improved.

NRAs face various challenges in promoting market competition, including limited resources and capacity, the complexity of the regulatory environment and resistance from incumbent market players. However, there are also opportunities for NRAs to enhance their effectiveness, such as by adopting a more proactive approach to market development and improving stakeholder engagement.

This report identifies various best practices that can improve the effectiveness of NRAs in promoting market competition and development. These include enhancing transparency and accountability, improving regulatory capacity, strengthening cooperation among NRAs and promoting stakeholder engagement.

In conclusion, this report highlights the critical role of NRAs in promoting market competition and ensuring fair and transparent access to energy markets. While NRAs have made significant progress in developing wholesale markets and monitoring mechanisms, there is still room for improvement in these areas. To enhance their effectiveness, NRAs should adopt best practices and work together to promote market competition and development.

ACKNOWLEDGEMENTS

This report is the result of a project carried out by the Mediterranean Energy Regulators (MEDREG) Institutional Working Group (INS WG), which contributed the data and comments. The MEDREG Secretariat wishes to express gratitude to the INS Working Group for their valuable contribution and efforts.

DISCLAIMER

This publication was produced with financial support from the European Union (EU). The contents are the sole responsibility of MEDREG and do not necessarily reflect the views of the EU.

ABOUT MEDREG

MEDREG is the association of Mediterranean Energy Regulators, comprising 28 members from 23 countries across the EU, the Balkans and the Middle East and North Africa (MENA) region.

MEDREG acts as a platform for facilitating information exchange and assisting its members along with fostering capacity development activities through webinars, training sessions and workshops. Mediterranean regulators work together to improve the harmonisation of regional energy markets and legislation, aiming for progressive market integration in the Euro-Mediterranean Basin.

Through constant cooperation and information exchange among its members, MEDREG aims to foster consumer rights, energy efficiency, infrastructure investment and development by employing safe, secure, cost-effective and environmentally sustainable energy systems.

The MEDREG Secretariat is in Milan, Italy.
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1
INTRODUCTION AND METHODOLOGY

1.1. Report Objective

The unbundling of the electricity and gas markets is a long process that most of the Mediterranean southern shore countries started in the early 2000s. One of the challenges that the national regulatory authorities (NRAs) are facing is transitioning from primary legislation to regulatory practice, introducing binding licensing and authorisation frameworks while also monitoring market indicators and designing a sustainable and favourable regulatory framework.

The first part of the report looks at the regulatory framework, the market structure and ownership, as well as the key laws and regulations applied across Mediterranean countries.

The second part of this report focuses on the wholesale market design and the role of NRAs in licensing, authorising and monitoring the electricity and gas markets.

During the energy crisis, governments and NRAs intervened in the market to protect consumers from the surge in energy prices. This report will analyse the mechanisms and measures taken by Mediterranean Energy Regulators (MEDREG) members to mitigate the impact of the energy crisis on consumers.

However, these interventions were criticised by market actors, and many countries are now revising their regulatory framework to be more flexible while still maintaining market freedom.

The objective of this report is to evaluate the role of NRAs in promoting market competition in the energy sector, with a specific focus on the development of wholesale markets, licensing and authorisation procedures and monitoring of the electricity and gas markets. The report aims to identify the key challenges and opportunities faced by NRAs in this regard and to identify best practices that can enhance their effectiveness.

The report's findings and recommendations can be valuable for Mediterranean countries as they strive to develop and modernise their energy sectors. By promoting market competition and opening up energy markets, NRAs can create a level playing field for new entrants, promote innovation and investment and improve energy security and affordability for consumers.

Moreover, the report's identification of best practices and challenges can help NRAs in Mediterranean countries learn from the experiences of their peers and develop effective regulatory frameworks that align with their specific needs and contexts.

Overall, this report can serve as a useful resource for NRAs, policymakers and stakeholders in the Mediterranean region as they work to promote energy sector development and modernisation.

1.2. Methodology

The methodology of this report is based on a benchmarking exercise conducted with MEDREG members to collect their experiences and knowledge related to the report's topic. The benchmarking exercise involved sending a questionnaire to NRAs in the Mediterranean region. The questionnaire covered various aspects of opening market competition, including wholesale market development, licensing and authorisation procedures and monitoring mechanisms.

The responses to the questionnaire were analysed to identify best practices, challenges and opportunities for NRAs in promoting market competition and development. Additionally, the report draws on relevant regulatory frameworks and guidelines from the Mediterranean countries to provide a comprehensive assessment of the current situation and potential for improvement.

Overall, the benchmarking exercise provides valuable insights into the experiences of NRAs in the Mediterranean region and serves as a key source of information for the analysis and recommendations presented in this report. The report's analysis is further informed by the relevant regulatory frameworks and guidelines from both the European Union (EU) and the Mediterranean countries, ensuring a comprehensive and well-informed assessment of the current situation and potential for improvement.

Figure 1. Benchmarking replies

2

REGULATORY FRAMEWORK AND MARKET STRUCTURE

This chapter aims to provide insights into the regulatory environment governing wholesale electricity and gas markets in Mediterranean countries and to explore how NRAs contribute to creating market competition.

2.1. Key Laws and Regulations Across Mediterranean Countries

To understand the regulatory frameworks, this section will provide an overview of the key laws and regulations that govern wholesale electricity and gas markets in the Mediterranean region. It will also analyse the extent to which these regulations promote competition.

2.1.1. Key Laws and Regulations Governing Wholesale Electricity and Gas Markets in the Mediterranean Region

In the Mediterranean region, the approach to establishing key laws and regulations governing the energy sector varies significantly between European and non-European countries. EU countries, with their integrated and interconnected energy markets, prioritise the establishment of common rules and regulations. This common framework is essential to ensure the harmonious functioning of cross-border energy transactions within the EU. However, EU member states also recognise the unique characteristics and needs of their individual markets and address them through individual national laws and regulations.

Conversely, in non-European countries within the Mediterranean region, the interaction between neighbouring nations in the energy sector is notably less pronounced than within the EU. This reduced cross-border engagement stems from differences in market structures, energy resources and historical contexts. Consequently, these countries predominantly adopt a national-level approach to shaping their energy regulations.

However, it is important to note that there is a discernible trend emerging across non-European Mediterranean countries. This trend involves a shift towards a more regional approach to energy regulation. While these countries possess diverse market structures and characteristics, they recognise the potential benefits of a unified regional energy framework. This shared vision for the future emphasises the importance of cooperation and coordination among neighbouring nations to create a regional approach that aligns with the unique needs and aspirations of the Mediterranean region as a whole.

This transition towards a regional approach is driven by the realisation that regional cooperation can unlock opportunities for shared resources, improved energy security and enhanced market competitiveness. Consequently, non-European Mediterranean countries are increasingly working to establish a regional energy framework that complements their national regulatory structures while fostering collaboration on a broader scale.

Across all the countries we examined, a common theme emerged: the pivotal role of NRAs in overseeing and regulating the energy sector. NRAs ensure compliance with existing regulations and, in some cases, establish specific regulations for dedicated topics. However, in the cases of Albania, Algeria and Jordan, NRAs not only oversee but also actively contribute to shaping the regulatory landscape by issuing their own legislative texts. The key laws and regulations are listed in Annex 1.

2.1.2. Regional Regulatory Gaps and Limitations

In the ever-changing energy market landscape, one fundamental truth remains: change is the only constant. The dynamic nature of these markets necessitates continuous adaptation to accommodate emerging challenges, capitalise on new opportunities and align with evolving national and regional strategies.

In this evolving situation, it becomes imperative to scrutinise the regulatory frameworks governing the Mediterranean region's energy markets. Identifying regulatory gaps and limitations within these frameworks serves as a critical exercise, illuminating areas where adjustments are needed to bolster market resilience, competitiveness and sustainability.

Therefore, it is important to be flexible and prepared for changes in the markets. In this context, evaluating whether there are any plans to revise or update the regulatory framework soon becomes a central focus.

Albania

- **Gaps or limitations:** The current regulatory framework is comprehensive, and no gaps or limitations have been identified at this time.
- **Plans to revise or update:** As the market is evolving, conducting reviews related to PX operations and market growth will be necessary.

Algeria (Electricity and Gas Regulatory Commission - CREG)

- **Gaps or limitations:** The national law did not specify the market model to be followed.
- **Plans to revise or update:** A reflection, aiming to modify the law for better implementation, is currently underway in collaboration with the Ministry of Energy and the operator.

Algeria (Hydrocarbons Regulatory Authority - ARH)

- **Gaps or limitations:** None identified at the moment.
- **Plans to revise or update:** Since the texts are relatively new, they are currently in the application phase. Workshops are scheduled for 2024 to review them with all stakeholders and identify areas for improvement.

Bosnia and Herzegovina

- **Gaps or limitations:** In Bosnia and Herzegovina, there is no legal basis for establishing an organised electricity market/power exchange and integrating it with neighbouring markets. Also, the applicable law does not specify the State Electricity Regulatory Commission (SERC)'s jurisdiction to impose executive measures and sanctions for violations of the rules.

Additionally, the relevant applicable law defines the scope of SERC's jurisdictions and responsibilities but does not provide the legal basis that would enable SERC to transpose and implement all relevant parts of the new energy package.

- **Plans to revise or update:** Fully aware of the regulatory duties arising from the new energy package, SERC plans to create and adopt all relevant secondary legislation in accordance with the new laws.

Cyprus

- **Gaps or limitations:** The competitive electricity market in Cyprus is still in a transitional arrangement period. Cyprus Energy Regulatory Authority (CERA) will be able to identify any gaps or limitations as soon as the market is fully operational.
- **Plans to revise or update:** There are currently no plans for revision or update.

Egypt (EgyptERA)

- **Gaps or limitations:** The current regulations need to address different schemes such as Feed-in Tariff "FiT", Build, Own, Operate "BOO", Build, Own, Operate, Transfer "BOOT" and net metering. The transitional phase before opening the electricity market needs extensive revision of contracts and tariff subsidies.
- **Plans to revise or update:** Currently, the electricity market is undergoing revisions and updates to tackle the gaps listed above.

Egypt (GasReg)

- **Gaps or limitations:** The main gaps and limitations of the current situation are related to the legacy contracts, specifically the long-term ones.
- **Plans to revise or update:** Many aspects of the new gas market design are under review and subject to feasibility studies to remove any barriers in the gas market.

France

- **Gaps or limitations:** Currently, no gaps or limitations have been identified.
- **Plans to revise or update:** The electricity market design rules are currently under review at the EU level, as is the regulation on gas (referred to as the gas package). Once approved, these will also be applicable in France.

Greece

- **Gaps or limitations:** The question mostly depends on legislative/governmental initiative.
- **Plans to revise or update:** It is possible to update the Codes of Energy (two distinct codes, one for electricity and one for gas) for supply to customers. Furthermore, there may be a need to 'trim' (edit/improve) the recently established requirement for legal/functional unbundling for Distribution System Operators (DSOs), which was formerly under the regime of ownership unbundling obligations.

It is important to highlight that the competence of energy markets' monitoring and supervision is jointly delegated by national law to the Ministry of Energy and the NRA.

Israel (Natural Gas Authority - NGA)

- **Gaps or limitations:** There are no gaps or limitations in the current regulatory framework that need to be addressed.
- **Plans to revise or update:** As part of its collaboration with MEDREG, NGA has requested support to enhance its understanding of global natural gas trading in order to improve its knowledge of the gas exchange market within the region and beyond.

Italy

- **Gaps or limitations:** Currently, no gaps or limitations have been identified. The system complies with EU provisions.
- **Plans to revise or update:** Similar to France, the market design is based on EU regulations. Therefore, any possible decisions to revise or update will be made in accordance with EU updates.

Jordan

- **Gaps or limitations:** Storage technology is an important element in the Jordanian energy strategy. However, it has not been introduced in the regulatory framework until now.

- **Plans to revise or update:** the Jordanian Energy and Minerals Regulatory Commission (EMRC) and the Ministry of Energy Mineral Resources (MEMR) are working on updating the General Electricity Law and are emphasising the need to transition from a single-buyer model to a competitive market. However, this issue is still under consideration in the preliminary phase.

Lebanon

- **Gaps or limitations:** A major gap is the absence of the Electricity Regulatory Authority (ERA), the national regulatory body that is yet to be established. Consequently, the sector currently suffers from inadequate regulatory governance and limited implementation of best practices for tariff regulation. Moreover, the lack of infrastructure has hindered the development of the unbundling of the gas market.
- **Plans to revise or update:** Law No. 462 aims to organise the electricity sector, establish the ERA and segregate electricity activities. The Ministry of Energy and Water (MEW) is advocating for the establishment and separation of ERA's activities. A steering committee comprising representatives from MEW, Electricité du Liban (EDL) and the Lebanese Center for Energy Conservation (LCEC) has been guiding the European Bank for Reconstruction and Development (EBRD) in the development of the draft law for Distributed Renewable Energies (DREs) since May 2019.

This law sets the groundwork for promoting DRE production. It establishes principles for net metering projects and peer-to-peer renewable energy trading via power purchase agreements and equipment leasing. The draft law has been examined in specialised parliamentary committees, approved by the Council of Ministers and is now awaiting final approval in the Parliament's general assembly.

Malta

- **Gaps or limitations:** Currently, no gaps or limitations have been identified.
- **Plans to revise or update:** Currently, there are no plans to revise or update the law.

Morocco

- **Gaps or limitations:** The regulator regularly evaluates and enhances its regulatory framework for the electricity sector. This involves consulting with stakeholders, monitoring industry developments and learning from global best practices. The focus is on fostering competition, promoting market liberalisation, ensuring fair rules and implementing transparent market practices. The goal is to create a level playing field for all participants, encourage investment and innovation and provide consumers with a variety of choices.
- **Plans to revise or update:** Autorité Nationale de Régulation de l'Electricité (ANRE) continuously monitors the energy landscape and engages in regular reviews to ensure that the regulatory framework remains effective and aligned with the evolving needs of the sector. ANRE has made significant contributions to the latest published laws and will continue to do so with many upcoming amendments.

Montenegro

- **Gaps or limitations:** For the further development of the wholesale electricity market, Nominated Electricity Market Operators (NEMO) should be designated, and the Transmission System Operator (TSO) and NEMO should adopt bylaws related to market coupling. The mentioned bylaws are subject to approval by the NRA.
- **Plans to revise or update:** The legal framework should be harmonised with the new legislative package adopted by the Energy Community ('Clean Energy Package'). The deadline was the end of 2023. After the adoption of new laws, secondary acts should also be harmonised.

Portugal

- **Gaps or limitations:** Following the enactment of Decree Law 15/2022 on the National Electricity System, which transposed EU Directives 2019/944 and 2018/2001, Energy Services Regulatory Authority (ERSE) initiated public consultations on all regulations in the electricity and gas sectors. Consequently, new regulations were approved in July 2023 and are expected to mitigate any potential gaps or limitations that may have existed previously.
- **Plans to revise or update:** Following the cross-cutting regulatory review in the first half of 2023, no further review or update is planned.

Spain

- **Gaps or limitations:** Currently, no gaps or limitations have been identified. However, the National Commission for Markets and Competition (Comisión Nacional de los Mercados y la Competencia CNMC) has the authority to approve regulatory changes (via Circulars and Resolutions) to implement EU regulations and amend the existing national regulatory framework.
- **Plans to revise or update:** According to EU legislation, member states are required to draft National Energy and Climate Plans (NECPs) to define national targets for decarbonisation for the period 2023–2030. The national plans outline the strategies of EU countries for addressing energy efficiency, renewables, greenhouse gas emissions reductions, interconnections and research and innovation. The Spanish government published the National Plan in 2020. This document is currently being revised, and a public consultation was launched in September 2023.[1]

Türkiye

- **Gaps or limitations:** Both the electricity and gas laws have been in effect since 2001. Therefore, some legislation and regulations require updates.
- **Plans to revise or update:** There are currently no proposals or plans to amend the laws. However, secondary legislation and regulations undergo continuous amendment processes. They are amended as necessary. In the natural gas market, work on amending the secondary legislation is ongoing following the law amendment made in April 2023.

2.2. Market Structure and Ownership Across Countries

Market unbundling is the process of separating the different activities involved in the provision of energy services, such as production, transmission and distribution, into distinct entities that operate independently of each other. The objective of this process is to create a level playing field for all market participants and promote competition, innovation and investment in the energy sector.

Market unbundling can take several forms, including functional, legal and ownership unbundling. Functional unbundling involves separating the operational functions of energy services, such as generation, transmission and distribution. Legal unbundling, on the other hand, involves separating legal entities that are involved in different parts of the energy value chain. Ownership unbundling involves divesting ownership interests in one part of the energy value chain to ensure that it operates independently of other parts.

2.2.1. State of the Market: Unbundling and Wholesale Market Development in the Mediterranean Region

[1] More information is available here: https://energia.gob.es/es-es/participacion/paginas/DetalleParticipacionPublica.aspx?k=540

MEDREG's Regulatory Outlook has been an important tool for monitoring the regulatory framework and promoting regulatory convergence in the Mediterranean region. The Regulatory Outlook has highlighted the progress made by some countries in implementing market unbundling measures and establishing competitive wholesale markets while also identifying the challenges faced by others. The analysis provided by the Regulatory Outlook has informed the development of this report, which aims to provide a more comprehensive assessment of the role of NRAs in promoting market competition and development in the Mediterranean region. By building on the insights gained through the Regulatory Outlook, this report seeks to contribute to the ongoing efforts to promote regulatory convergence and market competition in the Mediterranean region.

MEDREG's Regulatory Outlook for 2022:

'The level of market opening in the Mediterranean region varies from one region to another. The EU, Türkiye and the Balkan countries have most likely reached a high level of market opening. However, in the south shore countries, the primary legislation foresees the full opening of the market. Nevertheless, the level of market opening is lower, and in most cases, it only concerns the generation side. The gas market liberalization is progressing at a slower pace, with variations among members based on the legislative framework in place.

Market monitoring is a prerequisite for EU Member States and Energy Community Contracting parties as per EU legislation, and for several other MEDREG members, such as EMRA (Türkiye), EMRC (Jordan) and ANRE (Morocco). 20 out of 23 NRAs stated that they are responsible for collecting information on market dominance as well as on predatory and anti-competitive behavior'.

The state of market unbundling in the Mediterranean region varies among countries and sectors. The Mediterranean Electricity Markets Observatory (MEMO+) report, which provides a comprehensive overview of the energy markets in the Mediterranean region, indicates that several countries have made progress in implementing market unbundling measures, while others are encountering significant challenges.

For example, MEMO+ highlights the progress made by Morocco in implementing legal unbundling measures, which have contributed to the development of a competitive electricity market. In contrast, some countries, such as Algeria, face significant challenges in implementing market unbundling measures due to the dominance of state-owned companies in the energy sector.

Overall, the state of market unbundling in the Mediterranean region is a complex and evolving issue that requires careful consideration of the specific challenges and opportunities faced by each country and sector. This report aims to provide a comprehensive assessment of the role of NRAs in promoting market competition and development in this context.

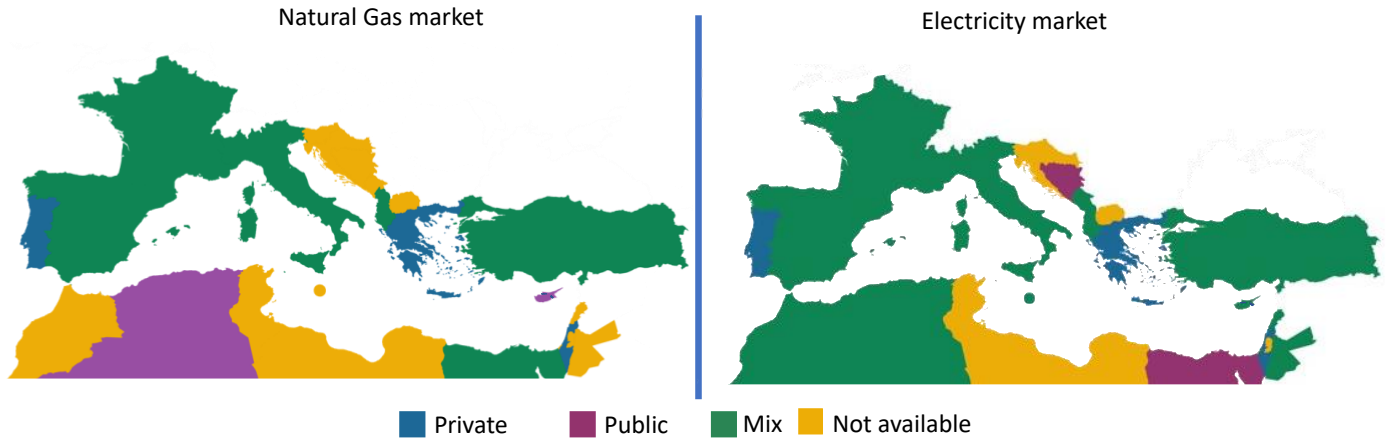

Figure 2. The ownership structure of electricity and gas companies in the region[2]

In the figure above, the ownership structure of energy markets (electricity and gas) varies from one country to another. However, in most cases, it is a mix of the public and private sectors. In the electricity market, there is commonly a dominant player in power generation, usually the historical operator. Similarly, the distribution part involves a mix of the public and private sectors. The specific characteristics of each country are outlined below.

Algeria:

After opening the electricity production activity to competition through Law 02-01 and restructuring the public operator, there is a mix of public utility and private entities with two producers of conventional and ENR electricity (public) from the incumbent operator, in addition to some Independent Power Producers "PPIs". However, both the electricity transmission network and the gas transport network are considered natural monopolies managed by a single operator, typically the incumbent operator. This manager is a subsidiary of the incumbent operator.

Bosnia and Herzegovina:

None of the incumbent electricity companies have been privatised. They are exclusively or almost exclusively owned by the entities of the Brčko District of Bosnia and Herzegovina. Elektroprivreda BiH and Elektroprivreda HZHB are owned by the Federation of Bosnia and Herzegovina, with the Federation owning 90% of the shares and the remaining 10% being held by minority shareholders. Elektroprivreda Republike Srpske is owned by Republika Srpska, with 10% of shares owned by minority shareholders. Komunalno Brčko is fully owned by the Brčko District of Bosnia and Herzegovina.

Cyprus:

The electricity generation and supply activities are considered competitive, allowing interested parties with relevant licences from CERA to participate in the market as independent producers or suppliers.

[2] Information about the structure is not available.

Despite its competitive nature, the Electricity Authority of Cyprus (EAC) holds a dominant position as a producer and supplier, leading to CERA's regulation of EAC. CERA exercises control over EAC to ensure a conducive environment for the entry of new independent producers and suppliers.

In the gas market, a Natural Gas Company (DEFA) is responsible for the import, storage, distribution, transmission, supply and trading of natural gas, as well as managing the distribution and supply system.

DEFA has been appointed as the sole importer and distributor of natural gas in Cyprus through a decree from the Council of Ministers, with the directive to secure the necessary gas quantities at the best commercial terms.

The Natural Gas Infrastructure Company (ETYFA), a DEFA subsidiary, owns Liquified Natural Gas infrastructure, including a floating storage regasification unit (FSRU). The EAC has a 30% ownership stake in ETYFA.

Initially, natural gas will be supplied through ETYFA to licensed power producers, extending to other consumers at a later stage. The current status indicates that Cyprus' gas market is not operational.

Egypt (GasReg):

The ownership structure of the natural gas market is a mix of public and private entities (supply and distribution), with a single TSO named 'Gasco' and a single shipper called EGAS.

France:

Electricity (Électricité de France [EDF]) Ownership Structure:

According to the Energy Code, Article L. 111-67 specifies that EDF, a limited company, is to be owned at least 70% by the State. Since June 2023, the French State has become the sole shareholder of EDF, with the aim of ensuring the lowest possible prices for customers and maintaining the unity of EDF. The nationalisation is aligned with government objectives to expedite critical projects, including increasing output from existing nuclear facilities and building new EPR2 technology nuclear reactors by 2050. The French state initially owned 84% of EDF, and in July 2022, the government expressed its intent to acquire full control.

Gas (ENGIE) Ownership Structure:

- As per Article L 111-68 of the Law of 22 May 2019 (PACTE), the state is required to hold at least one share in the capital of ENGIE.

- In reality, the French State holds 23.64% of ENGIE's capital and 33.20% of the associated voting rights.

- The State retains legal authority to maintain control over strategic assets, irrespective of its share percentage. This control is facilitated through various means, including regulation by the Commission de Régulation de l'Energie (CRE), oversight and enforcement of public service obligations, veto rights over specific state actions and requisitioning powers in exceptional circumstances.

Israel:

The ownership structure of electricity and gas companies in Israel is private. The main player in the natural gas market in Israel is Chevron, which is both the partner of the country's two largest reservoirs and their operator.

Italy:[3]

In the electricity sector, there is a dominant player, the state-owned company Enel, plus a plethora of medium and small players mainly acting in production, retail and trading activities.

The gas sector resembles the electricity sector, but the state-owned company Eni, despite being significant, is not as dominant as Enel in the electricity sector.

Jordan:

The generation sector is predominantly privately owned, with the exception of SAMRA, a state-owned company with an installed capacity of 1250 MW. Additionally, the transmission sector is state-owned. However, the distribution sector is characterised by private ownership.

Malta:

Enemalta plc is the only entity in the electricity sector licensed to carry out all three activities of generation, distribution and supply simultaneously. The licence conditions issued to Enemalta plc require the submission of licence monitoring reports, which should include separate profit and loss accounts, as well as balance sheets for each of the three activities. Enemalta plc's involvement in the electricity generation sector is limited to providing backup generation services. The company is controlled by the Maltese Government, which holds 67% its shares.

The electricity generation sector was liberalised in 2005. However, two significant independent power producers (IPPs), namely ElectroGas Malta Ltd and D3 Power Generation Ltd, entered the sector in 2017. Otherwise, independent power production is limited to small producers generating electricity from renewable sources.

In Malta, natural gas is not distributed to final consumers; instead, it is imported through an LNG terminal operated by ElectroGas Malta Ltd solely for electricity generation purposes.

Morocco:

Electricity companies in Morocco have a diverse ownership structure, encompassing both public and private stakeholders.

The ownership dynamics of these companies are rapidly evolving due to the continual development of the energy sector and its increasing appeal to investors. Soon, the historical utility is expected to undergo unbundling in its transmission operations. These transformations are endorsed by the whole Kingdom, which encourages the participation of all relevant stakeholders to cultivate a developed market that is attractive to investors and leans towards liberalisation. Throughout 2023, numerous high-level meetings have taken place to expedite and ensure the effective integration of renewable energy initiatives within the Kingdom.

[3] https://www.arera.it/allegati/relaz_ann/22/RA22_volume_1.pdf Please refer to Table 2.1 (page 99), Table 2.47 (page 165) and Table 3.3 (page 237)

Spain:

A. Electricity Sector:

The ownership structure of companies in the electricity sector is mixed. Indeed, some energy supply activities are carried out by private companies, while others are managed by companies of a mixed nature.

- The transmission of energy is overseen by a single system operator (TSO), the company 'Red Eléctrica de España (REE)'. Its ownership structure consists of 20% being held by the Sociedad Estatal de Participaciones Industriales (SEPI), the primary manager of the Spanish government's business holdings, and the remaining 80% being publicly traded on international financial markets. This ownership is subject to the unbundling regime and control established by the Electricity Act.

- The distribution network in Spain is operated by private companies, which operate as natural monopolies divided geographically. There are five main distributors in Spain: ENDESA, Iberdrola, Union Fenosa, Hidrocantábrico and Viesgo, all of which are private companies.

- The generation and retail activities of electricity are carried out by private companies in a free, competitive environment.

B. Gas Sector:

The gas sector has a mixed ownership structure. Private companies dominate the supply, retail, and distribution of gas, while Enagas Transporte S.A.U. controls over 90% of the national transport pipelines. Currently, SEPI holds a 5% share in this transportation system operator, while private investors own the remaining 95%.

Türkiye

Electricity:

Generation – As of April 2023, 20% of the installed capacity is owned by the state-owned electricity generation company (EÜAŞ), while the remaining 80% is owned by numerous private companies.

Transmission – There is only one transmission company (TEİAŞ), which is 100% owned by the state.

Distribution – There are 21 distribution companies, all of which are 100% privately owned.

Wholesale/Retail – The state-owned electricity generation company EÜAŞ, along with many other private companies, engage in commercial buying and selling activities. Most of those activities are carried out by the electricity exchange company EPİAŞ. Sixty per cent of EPİAŞ is indirectly owned by the state, and the remaining 40% is owned by private companies.

Natural Gas:

Production/Import/Wholesale – Except for the Black Sea, gas production is negligible. There are 82 import licences available, out of which, 14 are long-term licences, and 68 are spot licences. Additionally, seven of the import licences belong to BOTAŞ. According to 2022 data, BOTAŞ holds approximately 96% of the market share.

Transmission – BOTAŞ is the only pipeline transmission company licensed by the Energy Market Regulatory Authority (EMRA). There are two other transmission pipelines, namely the Trans Anatolian Pipeline (TANAP)

and the Baku-Tbilisi-Erzurum (BTE) Pipeline, which transport natural gas. But those pipelines are outside EMRA's jurisdiction.

Storage – There are two underground storage facilities, both owned by BOTAŞ. BOTAŞ also owns three LNG terminals. There are two other LNG terminals owned by private companies, namely, EGEGAZ and ETKİ LİMAN.

Distribution – There are 72 distribution companies. All of them, except one, are private companies. Only the distribution company operating in İstanbul (İGDAŞ) is owned by İstanbul Metropolitan Municipality.

2.2.2. Market Unbundling

- **Common aspects of market unbundling in the Mediterranean region:**

Market unbundling, which involves the separation of various energy market functions to promote competition and efficiency, is a common regulatory practice in several countries. The primary drivers for market unbundling are enhanced competition, increased efficiency and improved quality of energy services. The unbundling process typically involves separating the ownership and operation of key energy market components, such as generation, transmission, distribution and supply. This separation is aimed at preventing conflicts of interest, ensuring transparent access to networks and fostering innovation in the energy sector. Across the Mediterranean region, key common aspects related to market unbundling include:

- **Reasons for Unbundling:** The primary reasons for implementing market unbundling are consistent with EU directives and international best practices. These reasons include fostering competition, complying with EU rules, ensuring equal access to networks, enhancing market efficiency through specialisation, increasing transparency, mitigating monopoly power, attracting investment and promoting economic growth.
- **Outcome of Unbundling:** In most cases, the unbundling process has resulted in the separation of ownership and operation of energy market components. This outcome ensures that different entities are responsible for generation, transmission, distribution and supply activities. The specifics of ownership separation may vary between countries, but the general goal is to create independent entities responsible for each function.
- **Plans to Revise or Update Unbundling:** Some countries are planning to revise or update their unbundling processes. These revisions are often driven by changes in regulatory frameworks, evolving market conditions or the need to further enhance competition and efficiency. However, several countries have indicated that no immediate updates or revisions are planned, as the initial unbundling objectives have been achieved.

The figure below illustrates the state of the unbundling process in the Mediterranean region.[4]

[4] For Israel, we are referring to the gas sector.

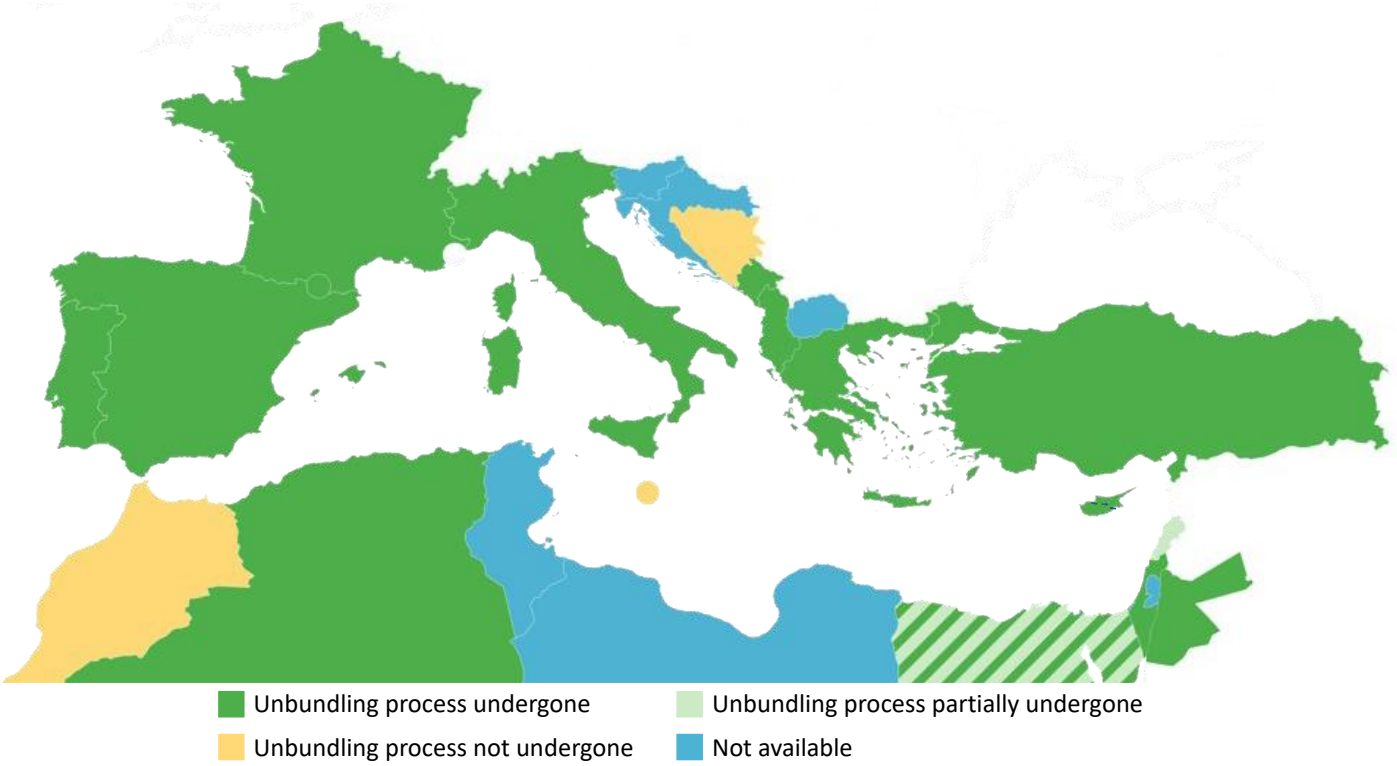

Figure 3. Market unbundling development in the region[5]

- **Generation, transmission and distribution functions separation:**

Across the Mediterranean region, several commonalities emerge when examining the separation of electricity and gas market functions. Firstly, the need for unbundling and separating activities is a shared objective among these countries. Whether through ownership unbundling, legal unbundling or other mechanisms, the aim is to create clear distinctions between different functions within the energy sector. Secondly, there is a strong emphasis on regulatory oversight and monitoring to ensure compliance with these separation measures. Regulatory bodies are responsible for supervising various aspects of the energy market, from transmission to distribution, to guarantee that separation is effectively maintained. Lastly, in some countries, there remains a degree of public ownership or state control in certain segments of the energy supply chain. This can present challenges when transitioning to more competitive market structures, requiring careful consideration of regulatory frameworks to strike a balance between competition and stability. The country-specific variations in the separation of electricity and gas market functions are outlined below:

• **Albania:** Electricity production in Albania is carried out by licensed public and private companies. Public companies include KESH sh.a. and HEC 'Lanabregas' sh.a., with 100% state ownership. The electricity transmission system in Albania is managed by a public company (OST sh.a.) with 100% state ownership. Electricity distribution in Albania is carried out by the DSO (OSSH sh.a.), licensed by ERE according to the amended provisions of Law No. 43/2015, 'On Power Sector'. A clear separation of ownership and monitoring is achieved.

[5] Information about the market unbundling is not available.

- **Algeria:** The unbundling of activities (electricity production, electricity transmission, gas transmission and distribution of electricity and gas) that were previously under the control of the incumbent operator occurred immediately after the law was promulgated. The incumbent operator was split into a group consisting of a holding company and subsidiaries, each of which operates in the mentioned activities. The transport of electricity and gas is a natural monopoly. The electricity production-transmission balance activity is carried out by a subsidiary called OS System Operator.
- **Cyprus:** With RDs 03/2014 and 04/2014, accounting and operational unbundling for the incumbent operator into four regulated activities (RA), namely generation, transmission, distribution and supply, was implemented. Furthermore, distribution incorporates both the Distribution System Owner (DAO) and the DSO, which are independent entities but owned by EAC. The TSO is independent but is staffed by the EAC (this will change with the new law voted in 2021).
- **Bosnia and Herzegovina:** Companies are not fully separated; they are vertically integrated.
- **Egypt (EgyptERA)**: Each company (generation, distribution or transmission) has a board of directors and a chairman. However, they operate under the umbrella of the Egyptian Electricity Holding Company (EEHC).
- **Egypt (GasReg)**: The unbundling was achieved to improve efficiency. The generation, transmission and distribution functions were originally separated, with each function having its own regulator under a standalone ministry. Additionally, these functions are implemented by different companies with their own legal structures. They should obtain a separate licence from the regulator for each function. Private and public companies own the assets, while the regulator is responsible for monitoring.
- **France**: The separation was done based on activities and a chosen regulatory model.
- **Greece**: An appropriate unbundling regime was established.
- **Israel:** The functions in the gas market are separated as follows: generation is handled by private companies; transmission is managed by INGL (a government company) and distribution is divided among six private companies. This separation clearly distinguishes ownership and monitoring functions, with the Petroleum unit in the Ministry of Energy responsible for generation and the NGA in charge of transmission and distribution.
- **Italy**: Transmission follows ownership unbundling, while distribution has separate decision-making.
- **Jordan**: Unbundling is carried out for each activity.
- **Lebanon**: EDL has exclusive rights for generation, transmission and distribution. Also, since 2012, Distribution Services Providers (DSP) projects have been implemented. Moreover, the enforcement of Law 462/2002 would lead to unbundling the electricity sector, restricting transmission to EDL only.
- **Malta**: Enemalta plc controls all three activities, but financial separation is mandated.
- **Morocco**: The generation of electricity in Morocco involves various entities, including both state-owned and private actors known as IPPs. With the arrival of the new law, there are also auto-generators. However, by law, the transmission of electricity is managed by the TSO, which is responsible for operating and maintaining the high-voltage transmission grid and ensuring the efficient and reliable transport of electricity across different regions of Morocco. The TSO further ensures that electricity generated by various sources is transmitted to distribution networks and large consumers. In addition, electricity distribution is

carried out by several distribution companies operating in different regions of Morocco. These distribution companies, including both state-owned entities and private companies, are responsible for delivering electricity to end consumers. They operate the medium- and low-voltage distribution networks, maintain the infrastructure and handle customer service-related activities.

- **Montenegro**: There is a clear separation between all three functions.
- **Portugal**: Ownership unbundling has been implemented. Electricity generation operates within a competitive framework. In a monopoly regime, transmission is an RA that is fully separated. Roughly 99% of electricity distribution in mainland Portugal is handled by one company, E-Redes, with the remaining 1% being managed by 11 smaller entities (cooperatives) in specific localised areas.
- **Spain**: Electricity generation and supply operate in a regime of free competition. Transmission and distribution are RAs segregated from the monopoly regime, with electricity and gas TSOs following an ownership unbundling model. Gas supply and retail operate under free competition, while network activities are performed under a natural monopoly regime.
- **Türkiye**: Legal and ownership unbundling is followed for the electricity sector and legal and accounting unbundling is followed for the natural gas sector. Moreover, in the electricity sector, there is a clear separation of ownership and monitoring. However, because of the dominant position and vertically integrated structure of the state-owned BOTAŞ, ownership unbundling has not yet reached a satisfactory level in the natural gas market.

- **Regulatory practice design and implementation and the NRA's role in monitoring the efficiency of the unbundling:**

Regulatory practice design and implementation are critical components in ensuring successful market competition in the energy sector, including market unbundling and wholesale market development. The design of regulatory practices should consider the specific characteristics of the national energy market and the regulatory objectives. It should also consider the lessons learned from the experiences of other countries in the region and beyond. In the Mediterranean region, regulatory frameworks vary significantly, with some countries having a long history of liberalisation and others only beginning to develop competitive markets. For example, Türkiye has implemented an unbundling framework that separates generation, transmission and distribution and has established a competitive wholesale market. Similarly, Morocco has taken significant steps in liberalising its energy market, including the establishment of a regulatory authority, the ANRE and the introduction of renewable energy policies.

The implementation of regulatory practices requires adequate resources and institutional capacity, including staff with the necessary expertise and experience. Effective communication and engagement with stakeholders, including market participants, consumers and civil society organisations, are also essential to ensuring the legitimacy and credibility of regulatory practices. The implementation of regulatory practices in the Mediterranean region faces several challenges, including limited institutional capacity, inadequate resources and resistance from vested interests. For example, in Egypt, despite the establishment of the Egyptian Electric Utility and Consumer Protection Regulatory Agency (EgyptERA), the implementation of regulatory practices has been slow, and some market participants have been resistant to change.

To overcome these challenges, NRAs in the Mediterranean region have taken various steps to enhance the effectiveness and efficiency of regulatory practices. For example, some NRAs have adopted performance-based regulation, which incentivises market participants to improve their performance and efficiency. In Tunisia, the Agence de Régulation de l'Electricité et du Gaz (AREG) has adopted performance-based regulation for electricity distribution companies. This approach has led to improvements in network reliability and reduced power outages. Another example is the establishment of regional regulatory associations, such as the Association of MEDREG, which promotes the cooperation and exchange of best practices among NRAs in the Mediterranean region.

Furthermore, regulatory practice design and implementation are crucial for the successful implementation of market unbundling and wholesale market development in the Mediterranean region. NRAs in the region face various challenges, but they have also taken steps to enhance the effectiveness and efficiency of regulatory practices. By learning from the experiences of Mediterranean and other countries, NRAs can continue to improve their regulatory frameworks and promote market competition. This, in turn, can create a more stable and predictable business environment for investors and participants in the energy market.

- **Regulatory oversight and capacity building in the energy sector:**

All the countries in the Mediterranean region share several fundamental common aspects in their approaches to overseeing the electricity and gas sectors. Firstly, each country has established comprehensive policies and procedures aimed at ensuring compliance with regulatory requirements. These policies serve as the foundation for regulatory oversight, detailing the rules and guidelines that market participants, including energy companies, must adhere to. Secondly, accessibility and transparency are key principles across all these regulatory frameworks. To promote fair competition and inform stakeholders, regulatory rules and regulations are readily accessible to both market participants and the general public. This transparency ensures that everyone can understand and comply with the regulations governing these vital sectors.

Another shared aspect is the vigilant monitoring of the unbundling process. Ensuring the independence of entities involved in energy generation, distribution and supply is essential for fair competition and prevention of any undue advantage or discrimination. All these countries have mechanisms in place to actively monitor the unbundling of these activities and verify their compliance with separation requirements. Additionally, close cooperation with stakeholders is a common theme. NRAs across these countries actively engage with market participants by seeking input through consultations, hearings and feedback mechanisms. This cooperation ensures that regulatory decisions consider the perspectives and concerns of those directly involved in the energy sector.

Lastly, all of these countries possess the necessary resources and technical capacity to oversee the electricity and gas sectors effectively. This includes having well-qualified staff with expertise in energy markets, as well as access to essential tools and data for monitoring and enforcing compliance. These shared aspects collectively form the backbone of regulatory oversight in these countries, helping maintain fair and competitive energy markets while ensuring compliance with essential regulatory requirements.

The table below provides a country-wise overview.

Country	Regulatory Oversight and Capacity Building in the Energy Sector
Albania	**Policies and Procedures:** Albania ensures compliance by monitoring the implementation process and submitting periodic reports. **Regulatory Framework Access:** Albania maintains a highly transparent regulatory framework that is accessible to all. **Monitoring Unbundling:** The NRA collaborates with stakeholders through monitoring, making recommendations, holding meetings and conducting hearings. **Resources and Technical Capacity:** Albania has qualified staff and collaborations in place. **Policies and Procedures Updates:** Updates are communicated through reports and monitoring.
Algeria	**Policies and Procedures:** CREG ensures compliance through the implementation of commitment and performance improvement plans and the delivery of authorisations and audits. **Regulatory Framework Access:** The regulations relating to the sector are available on the official government website, as well as on the websites of CREG and the Ministry of Energy. **Monitoring Unbundling:** CREG monitors the achievements of the concessions by reviewing reports on the implementation of the commitments and performance improvement plans that it develops. Additionally, CREG carries out audits (technical/management) of regulated and non-regulated operators, including DSOs and producers, such as reviewing the companies' accounts in the sector, etc. **Resources and Technical Capacity:** CREG, through its specialised human resources, conducts technical audits on-site and utilises web platforms to collect operator data. **Policies and Procedures Updates:** Even if the market is not yet established, the regulations regarding electricity and gas distribution apply.
Bosnia-Herzegovina	**Policies and Procedures:** Bosnia-Herzegovina conducts continuous regulatory monitoring and implements regulatory administrative measures. However, SERC does not have the jurisdiction to impose fines and other penalties. **Regulatory Framework Access:** The regulatory framework is published in the Official Gazette of Bosnia and Herzegovina. SERC's website and public hearings are used in the development of the regulatory framework. **Monitoring Unbundling:** SERC continuously monitors the operations of licensed entities and their compliance with the licence conditions. Monitoring is performed by analysing regular and special reports submitted by all licensed entities, as well as by visiting the licensees. SERC also leads tariff proceedings and approves relevant documents of regulated companies to ensure optimal conditions for the efficient operation of the electricity market. **Resources and Technical Capacity:** SERC has well-trained and experienced staff and sufficient funds to oversee the electricity sector effectively.

Country	Regulatory Oversight and Capacity Building in the Energy Sector
	Policies and Procedures Updates: Sta SERC's staff actively participates in all working groups, workshops and training organised by the Energy Community Secretariat and other relevant institutions. Through these activities, the staff stays informed about the latest developments in EU legislation and can plan the necessary adaptations in its policy.
Cyprus	**Policies and Procedures:** Cyprus has obtained an exemption from Article 43 of Directive 2019/944, allowing the country to maintain its existing regime on Transmission System Operator (TSO) unbundling. The Cyprus TSO (TSOC) is legally independent of the Owner of the Transmission System (OTS), the Owner of the Distribution System (ODS) and the Distribution System Operator (DSO), which is the Electricity Authority of Cyprus (EAC). The laws regulating the electricity market in 2021 and 2022 ensure the TSOC's independence from the EAC. These laws require electricity companies to maintain separate accounts for transmission and distribution activities to prevent discrimination, cross-subsidies and distortion of competition. The EAC, as instructed by CERA, publishes audited separate accounts for public inspection on its website. **Regulatory Framework Access:** The regulatory frameworks adhere to all transparency provisions and suggestions of the EC and are accessible to the public via CERA's website. **Monitoring Unbundling:** CERA conducted compliance checks on the EAC to ensure functional unbundling, in line with Regulatory Decision 04/2014. Specialised audits were performed at different times to assess the proper implementation of the Vertically Integrated Undertaking (VIU) – EAC. In 2022, Decision 342/2022 initiated a pilot compliance check for EAC's core regulated transmission activity, potentially extending to other VIU units and affecting its functioning. The results are currently being processed by CERA. **Resources and Technical Capacity:** CERA, staffed by experts with diverse backgrounds in engineering and law, has the knowledge to handle its tasks. In times of resource constraints, external support is enlisted to ensure successful task fulfilment. **Policies and Procedures Updates:** CERA's staff gain expertise and knowledge through their involvement in associations such as ACER, CEER and MEDREG, numerous training programmes and various technical support services provided by external consultants.
Egypt (GasReg)	**Policies and Procedures:** To ensure compliance with procedures, various mechanisms are in place, such as licences, codes, tariff regulations, monitoring plans, accounting unbundling and regulatory decrees. **Regulatory Framework Access:** All regulations are published and accessible on the GasReg website. **Monitoring Unbundling:** This involves reviewing accounting and financial documents, budgets, records, filling out of templates by licensees, clarification meetings, inspection visits and due diligence. **Resources and Technical Capacity:** GasReg has well-trained and experienced staff from different backgrounds (legal, technical, economics and financial) **Policies and Procedures Updates:** This is done by actively participating in energy-related committees and associations, suggesting energy-related laws, decrees and legislative drafts and continuously adapting and reviewing gas regulations.

Country	Regulatory Oversight and Capacity Building in the Energy Sector
Egypt (EgyptERA)	**Policies and Procedures:** Egypt ensures compliance through the grid code and collaboration with stakeholders. **Regulatory Framework Access:** The regulatory framework is transparent and easily accessible through the EgyptERA's website. **Monitoring Unbundling:** Monitoring occurs during the licensing process and performance evaluation. **Resources and Technical Capacity:** Technical and economic benchmark analysis is employed. **Policies and Procedures Updates:** Open channels with market players are maintained for feedback and suggestions.
France	**Policies and Procedures:** France's energy code empowers the regulator to gather the necessary data for regulatory duties. **Regulatory Framework Access:** Transparency, accessibility and consistency are maintained in the regulatory framework. **Monitoring Unbundling:** CRE oversees compliance with independence rules and codes of conduct. **Resources and Technical Capacity:** CRE has highly regarded technical staff in key directorates. **Policies and Procedures Updates:** CRE engages in energy market insights and collaborates with international institutions.
Greece	**Policies and Procedures:** Greece has a detailed national energy regime and enforces compliance policies based on the regime. **Regulatory Framework Access:** The NRA's website is regularly updated with relevant legislation. **Monitoring Unbundling:** Unbundling is monitored through open communication processes. **Resources and Technical Capacity:** Consumer protection and market monitoring tools are in place. **Policies and Procedures Updates:** Specialised departments and international cooperation facilitate policy adaptation.
Israel (NGA)	**Regulatory Framework Access:** Information regarding the transmission and distribution of the gas market is available on NGA's official website. **Monitoring Unbundling:** The monitoring is carried out by NGA, and every two months, they organise face-to-face discussions with INGL (Israel Gas TSO) to monitor the regulatory charge. The price outcomes are published quarterly. **Resources and Technical Capacity:** NGA has expert personnel in economics, engineering and regulation, as well as consulting companies specialising in techno-economic, engineering and geological analyses. Additionally, they utilise advanced software for gas flow planning. **Policies and Procedures Updates:** NGA has several ways to stay informed about changing market conditions and adapt its policies and procedures accordingly: daily contact with INGL, bi-monthly meetings, mandatory reports and building a computerised system for daily reporting to regulated companies.
Italy	**Policies and Procedures:** Italy conducts annual data collection and investigation processes. **Regulatory Framework Access:** Decisions that affect external parties are published and made accessible. **Monitoring Unbundling:** Compliance is monitored through data collection and investigation. **Resources and Technical Capacity:** Technical staff and IT tools support effective oversight.

Country	Regulatory Oversight and Capacity Building in the Energy Sector
	Policies and Procedures Updates: Monitoring activities ensure regulatory compliance.
Jordan	**Policies and Procedures:** Jordan follows laws, bylaws, licences, codes and directives. **Regulatory Framework Access:** Regulations are published on the regulator's website. **Monitoring Unbundling:** Monitoring is carried out through instruments provided in laws and regulations. **Resources and Technical Capacity:** Technical staff are primarily responsible for oversight. **Policies and Procedures Updates:** Periodic data and performance indicators are requested.
Lebanon	**Policies and Procedures**: Lebanon's Ministry of Energy and Water works on policy papers for compliance. **Regulatory Framework Access:** Laws and decisions are public and available via official channels. **Monitoring Unbundling:** ERA plays a key role in ensuring unbundling and independence. **Resources and Technical Capacity:** Law No. 462 outlines the regulator's income resources. **Policies and Procedures Updates:** The ministry adheres to international and national market trends for adaptation.
Malta	**Policies and Procedures:** Malta uses internal accounting separation to prevent discrimination and cross-subsidisation. **Regulatory Framework Access:** Regulations are published in the government's Gazette and on official websites. **Monitoring Unbundling:** Enemalta plc is the licensed entity for all three activities, and separate accounts for all three are maintained. **Resources and Technical Capacity:** The regulatory framework is based on EU legislation, ensuring transparency and consistency. **Policies and Procedures Updates:** Unbundling of accounts has been implemented, and upcoming legal changes will be properly executed.
Morocco	**Policies and Procedures:** Morocco has implemented a thorough regulatory framework that outlines the rights, obligations and duties of market participants. This framework encompasses laws, regulations and the regulator's prerogatives, including the Grid Code, Code of Good Conduct and tariff modalities. **Regulatory Framework Access:** Since its establishment, ANRE has adopted a participatory approach involving all stakeholders in various ongoing projects. Interactivity and anticipation with all stakeholders are the approaches ANRE is adopting. **Resources and Technical Capacity:** ANRE has legal authority granted by laws, internal expertise from its high-level staff and external technical resources through various national and international partnerships to ensure the effective functioning of the electricity market. **Policies and Procedures Updates:** Continuous communication with stakeholders, submission of conventions to ANRE, a dedicated department for ongoing monitoring of national and international events within ANRE, daily press reviews on the energy market and regular discussions with decision-makers, the parliament and ministries are established practices.
Montenegro	**Policies and Procedures:** Montenegro establishes conditions for independence through the Energy Law. **Regulatory Framework Access:** The regulatory framework is transparent and accessible through official channels.

Country	Regulatory Oversight and Capacity Building in the Energy Sector
	Monitoring Unbundling: The regulator monitors and analyses compliance with unbundling conditions. **Resources and Technical Capacity:** The regulator has 38 employees and provides training through international institutions. **Policies and Procedures Updates:** Professional training is provided through workshops and seminars.
Portugal	**Policies and Procedures:** ERSE regulates and supervises the energy sector. **Regulatory Framework Access:** Regulations undergo public consultation and are published in official journals. **Monitoring Unbundling:** Companies must report changes that impact certification, and annual reports on independence are required. **Resources and Technical Capacity:** ERSE has qualified staff and IT tools for oversight. **Policies and Procedures Updates:** Circulars are issued for data gathering and adaptation.
Spain	**Policies and Procedures:** CNMC regulates and supervises the electricity and gas sectors. **Regulatory Framework Access:** CNMC emphasises transparency and access to information. Regulations undergo public consultation and are published in CNMC's official journal. **Monitoring Unbundling:** CNMC ensures compliance with regulations and functional separation. **Resources and Technical Capacity:** CNMC has inspection duties, sanctioning power and access to market data. **Policies and Procedures Updates:** CNMC collaborates with stakeholders, issues circulars and participates in EU coordination.
Türkiye	**Policies and Procedures:** EMRA oversees activities and enforces compliance through warnings, fines or licence cancellation. **Regulatory Framework Access:** All laws and regulations are accessible through EMRA's website. **Monitoring Unbundling:** Unbundling requirements are checked during the licensing process, and ownership changes require permission. **Resources and Technical Capacity:** EMRA has around 800 employees and software tools for data collection. **Policies and Procedures Updates:** Data collection and interpretation are facilitated through software and international subscriptions.

Table 1. Regulatory oversight and capacity building in the energy sector

These countries have tailored policies and procedures to suit their specific regulatory environments, but they adhere to common principles of transparency, monitoring, cooperation with stakeholders and allocating adequate resources for effective oversight of the electricity and gas sectors.

2.2.3. Access and Competition

Access to the market and its competitiveness vary from one country to another in the Mediterranean region. However, in most countries, the rules for accessing the market, including energy codes, grid codes, and NRA regulations, are well-documented and available to all participants. Moreover, to ensure competitiveness in the market, most NRAs play a crucial role in ensuring that access to the market is non-discriminatory and fair to all market participants. The particularities by country are provided below.

Albania: Information is not available.

Algeria: Law and Executive Decree 07-293 guarantee access to electricity and gas transmission and distribution networks. CREG ensures the fair exercise of this right by all users. To do this, CREG validated the procedure for processing access requests from electricity producers to the transmission network. They also validated access contracts for producers and eligible customers to electricity transmission and distribution and access contracts for eligible customers to gas transmission and distribution networks.

Bosnia and Herzegovina: The regulatory authority (SERC) is authorised to resolve disputes related to the transmission network access.

Cyprus: The Laws Regulating the Electricity Market of 2021 and 2022, Transmission Rules (TR)/Distribution Rules (DR), govern the technical requirements and restrictions imposed on licence holders when connecting to or using the transmission/distribution system or for the transmission/distribution of electricity.

Egypt (EgyptERA): There is limited access to networks with network tariffs applied. Procedures and requirements for network access are outlined in the grid code.

Egypt (GasReg): GasReg has approved the network code, which is the regulatory tool that allows access to networks by enabling shippers to use the infrastructure.

France: The energy code allows access to infrastructure managed by operators, and access tariffs are regulated and monitored by the CRE .

Greece: Distribution and transmission networks are vertically unbundled and certified to comply with EU third-party access (TPA) rules.

Israel: An open access mechanism is established in the transmission lines for export as well as in the lines leading from the reservoirs to the coast.

Italy: TPA is universally ensured, with non-discrimination and access rules defined by ARERA. Disputes between market participants and network operators are managed by ARERA.

Jordan: Connection cost instructions are determined, and support is provided to rural areas through the Rural Fils Project.

Lebanon: Information is not applicable.

Malta: The distribution network is not open to TPA, as it has been granted a derogation from EU Directive 2019/944.

Morocco: The specifications are detailed in the Moroccan grid code and tariffication.

Montenegro: The operator of the electricity transmission system provides non-discriminatory access within capacity limits, but access may be refused under certain circumstances. Similar rules apply to the distribution system.

Portugal: Market participants benefit from transparent TPA rules and equal treatment compared to RAs.

Spain: Spain has established a legal framework to ensure TPA's right to transmission and distribution networks. Various laws and circulars define the criteria and procedures for access and connection.

Türkiye: Access to electricity transmission lines and natural gas transmission pipelines is regulated by TEİAŞ and BOTAŞ, respectively. EMRA grants licences and oversees access rules for transmission/distribution lines and storage/LNG terminals.

2.2.4. Market Concentration (Herfindahl-Hirschman Index [HHI]) in the Electricity and Gas Retail Market in 2021

The Herfindahl-Hirschman Index (HHI) is used to determine market competitiveness. A market with an HHI of less than 1,500 is considered a competitive marketplace, an HHI of 1,500 to 2,500 is moderately concentrated and an HHI of 2,500 or greater is highly concentrated.

However, countries such as Albania, Algeria, Egypt and Morocco do not use the HHI index as an indicator. In some cases, the market is not open to competition, as is the case in Malta, where there is no liquid wholesale market, and the retail market is not open to competition. In Lebanon, the market is currently monopolised by one entity, which is the national electricity utility.[6]

In the figure below, the country-wise HHI is represented. However, in some cases, the HHI index available is for a wholesale market, while in other cases, it is for a retail market, as follows.

The HHI for the wholesale market: Bosnia and Herzegovina, France, Jordan, Montenegro, Greece[7] and Türkiye.

The HHI for the retail market: Italy, Portugal and Spain.[8]

[6] It is to be noted that an informal sector has grown in the last few years to cover supply shortages, which are the neighbourhood generators.

[7] In this case, we will use the HHI for the retail market, which equals 4097. This means that Greece's colour on the map will change to light green.

[8] In 2021, in Spain, the HHI in the electricity retail market (for domestic consumers) was 2291, and the HHI in the gas retail market (for domestic consumers) was 2081.

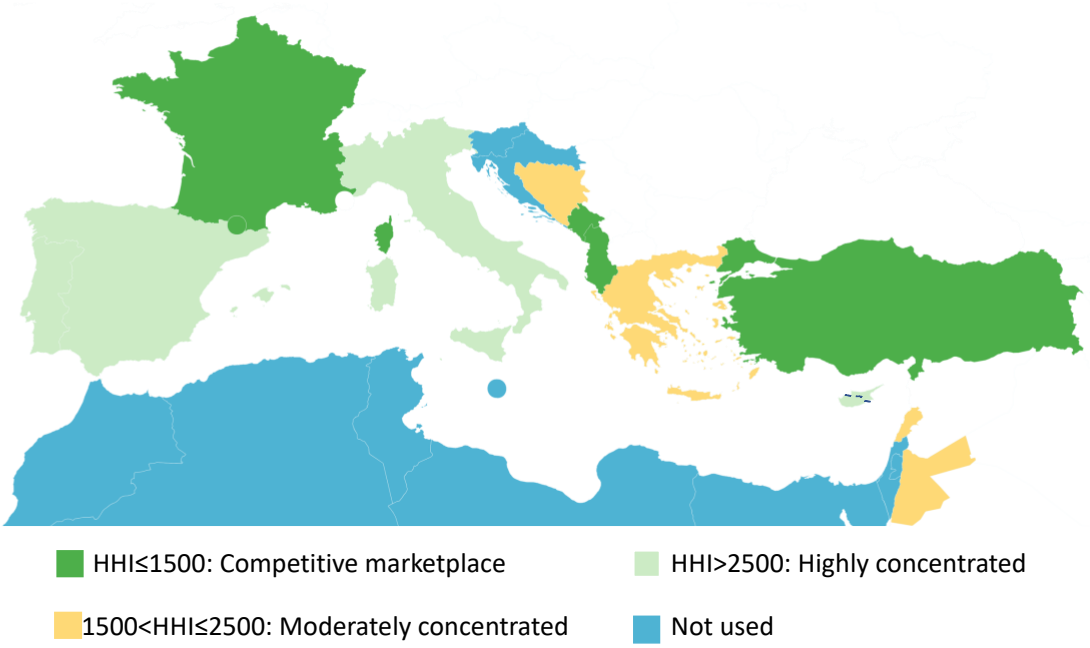

Figure 4. Market concentration (Herfindahl-Hirschman Index [HHI]) in the Mediterranean region

2.2.5. Dominant Market Players in Different Countries

In the Mediterranean region, the presence of a dominant market player is a prevalent phenomenon, often characterised by state ownership or a legacy as a former public entity. This dominance, while not unique to the region, poses certain challenges when it comes to opening up the market to competition. The most frequently encountered challenge lies in achieving full unbundling of the various activities within the sector, which is essential for fostering fair competition. Additionally, there's a growing recognition of the need to enhance effective market monitoring to mitigate the risk of market power abuse by these dominant players.

However, it's worth noting that the landscape varies across countries, and in some instances, there are no significant challenges associated with the presence of a dominant market player. This is evident in countries like France and Jordan, where the market structure does not present substantial hurdles to competition. Notably, in Jordan's electricity sector, no dominant market structure has been reported, indicating a unique market dynamic within the region. These diverse scenarios underscore the complexities of addressing dominance and competition in the Mediterranean energy markets. The country-wise details are provided in the table below.

Country (regulators)	Dominant Market Players	Challenges
Albania (ERE)	Public generation, KESH sha	The main challenges are related to deregulation.
Algeria (CREG)	Two producers of conventional and ENR electricity from the incumbent operator dominate the production of electricity.	As provided by law, the production of electricity is a competitive activity, and the current challenge is to allow a greater number of national and foreign private producers to produce electricity, particularly in RE, to allow the opening of a real competitive market.
Bosnia-Herzegovina (SERC)	Elektroprivreda BiH. Elektroprivreda Republike Srpske. Elektroprivreda HZHB.	The challenges may involve issues such as competition, market access and regulatory oversight. Legal unbundling has not been fully implemented for Elektroprivreda BiH and Elektroprivreda HZHB. The separate accounts and accounting unbundling are still not properly implemented.
Cyprus (CERA)	The EAC, as a producer and supplier, occupies, at this stage, a dominant position in the market and is thus regulated by CERA.	The main challenges include guaranteeing free price formation on the electricity market and making supervision of abuse of dominant market positions more transparent.

Country (regulators)	Dominant Market Players	Challenges
Egypt (EgyptERA)	Ministry of electricity and renewable energy. EgyptERA. Egyptian Electricity Holding Company (EEHC). Egyptian Electricity Transmission Company (EETC).	• **Subsidy:** Financial challenges in the sector impact its sustainability and financial viability. • **Total Unbundling:** Achieving the complete separation (unbundling) of electricity generation and distribution is an ongoing challenge. • **Activating the TSO Role:** The effective activation of the Transmission System Operator (TSO) role is crucial for efficient electricity transmission and distribution.
Egypt (GasReg)	EGAS: Single shipper and wholesale supplier Gasco: TSO Other public/private companies: Distribution System Operators (DSOs) and suppliers	Challenges and barriers are tackled and addressed in the new gas market design subject now to review and feasibility studies.
France (CRE)	**Electricity Market Overview:** EDF, historically a monopoly in generation, has faced competition, but its dominance persists due to its significant nuclear power plant assets. Supply in the electricity market: EDF still maintains a high market share. **Gas Market Overview:** Dominance is not a significant issue in the gas market, primarily due to low domestic gas production.	Notably, there are no specific challenges related to the dominance of players in the French electricity and gas sectors.
Greece (RAEWW)	**Electricity:** The former public utility entity, the Public Power Corporation (PPC), has retained a significant market share alongside other private players. **Gas:** The former public utility entity, the Public Gas Corporation (DEPA). Additionally, two companies dominate the gas market,	The energy crisis has caused uncertainty among customers, leading some to stay with dominant companies for security. Dominant players in the electricity market attract dissatisfied consumers with bundled products and competitive offerings.

Country (regulators)	Dominant Market Players	Challenges
	reflecting the unbundling of supply and distribution activities in the network.	Switching from dominant players to alternative suppliers is slow in established networks due to regulatory delays in processing change requests by the DSO.
Italy (ARERA)	**Electricity Sector:** State-owned company Enel has historically held a significant market share.[9] Additionally, there is a diverse range of medium and small players primarily engaged in production, retail and trading activities. **Gas Sector:** State-owned company Eni has historically held a significant market share. The gas sector also features a mix of medium and small players, contributing to market diversity.	In the electricity sector, there is a need for effective market monitoring to mitigate the risk of market power abuse. This risk can be associated with the dominant player's position or linked to local monopolies stemming from specific conditions.
Jordan (EMRC)	No dominant market structure has been reported in the Jordanian electricity sector.	There are no specific challenges related to dominant players.
Lebanon (LCEC)	Electricité du Liban (EDL)	**Ageing and Inefficient Power Plants:** EDL's power plants are ageing and inefficient, requiring constant, costly maintenance. Their output is also insufficient to meet the electricity demand effectively. **Fuel Supply Shortages:** The economic crisis and the devaluation of the Lebanese pound have led to shortages in the fuel supply needed to operate the power plants, resulting in further electricity supply shortages. **Technical and Non-Technical Losses:** The Lebanese grid experiences considerable technical and non-technical losses, which pose a significant challenge to the efficient distribution of electricity.

[9] For detailed data and statistics related to market structures and players in the Italian electricity and gas sectors, please refer to the provided sources: 'ARERA – Annual Report 2022' (Table 2.1 on page 99, Table 2.47 on page 165 and Table 3.3 on page 237).

Country (regulators)	Dominant Market Players	Challenges
Malta (REWS)	Enemalta plc	Limited competition in the retail market, the absence of a liquid wholesale market and the concentration of power generation among a few players, including IPPs and renewable energy producers.
Morocco (ANRE)	The National Office of Electricity and Drinking Water (ONEE) is neither dominant in production nor in the distribution value chain. It is also anticipated that it will soon undergo the unbundling of its transmission operations.	- Dedicated to fostering a competitive and innovative electricity market in Morocco. - Acknowledging the stability and expertise of dominant players while addressing challenges to ensure fair competition. - Despite being recently established, ANRE achieved milestones such as publishing the first grid code and tariff methodology, with an upcoming tariff setting for the transmission grid. - Success is attributed to a collaborative approach engaging all market stakeholders. - Visionary leadership and the objectives outlined by His Majesty the King contribute to conscientious stakeholder participation in the progress of the energy market.
Montenegro (REGAGEN)	EPCG continues to hold a dominant position as both a producer and a trader.	Despite the opening of the market, ongoing power sector reforms and efforts to align the legal framework with EU energy regulations, the electricity market in Montenegro is not yet sufficiently developed.
Portugal (ERSE)	Portugal has a dominant market player, EDP, especially in the household segment, with more than 60% of the market share. This dominant player has historical ties to the incumbent electricity provider.	The historical presence of EDP as a dominant player is slowly changing. Energy awareness, simulators and different retailers allow consumers to look for different offers that match their needs.
Spain (CNMC)	CNMC annually designates the dominant players in energy markets with over a 10% market share and publishes the decision on its website. **Electricity Sector – Dominant Players:** - Overall: ENDESA Group, Iberdrola Group and EDP Group. - Generation: Iberdrola Group, ENDESA Group, EDP Group and Naturgy Group.	From the perspective of the National Regulatory Authority (NRA), there are currently no new challenges. However, some dominant market players are diversifying their activities and investing in decarbonisation, renewables and hydrogen projects. In response, the certification process may need to be reviewed to ensure compliance with evolving market dynamics.

Country (regulators)	Dominant Market Players	Challenges
	- Supply: ENDESA Group, Iberdrola Group and EDP Group. **Natural Gas Sector – Dominant Players:** - Naturgy group. - ENDESA Group. - Repsol Group.	
Türkiye (EMRA)	**Electricity:** At the time when EMRA was established, state-owned EUAŞ and TETAŞ were the dominant players in generation and wholesale. State-owned TEDAŞ was the dominant player in distribution. Currently, there are only two dominant companies: state-owned transmission company TEİAŞ and electricity exchange EPİAŞ, which are partly owned by the state and partly owned by private companies. **Natural Gas:** BOTAŞ has been and still is the dominant company in the import/wholesale/transmission/storage of natural gas.	In terms of challenges in the electricity sector, having dominant players in the transmission and exchange of electricity currently does not cause complications. However, in the natural gas sector, BOTAŞ's dominant position in the import sector causes a lack of competition in the internal wholesale/retail market.

Table 2. Dominant presence and its challenges by country

3

WHOLESALE MARKET MODELS IN THE MEDITERRANEAN REGION

3.1. Wholesale Market Model

The wholesale market is where electricity is traded (bought and sold) to supply final customers, whether individuals or companies.

Similarly, a two-step sequence of 'trade' before 'supply' is present in the definition of a 'wholesale customer' as provided by the relevant European Directive on common rules for the internal market for electricity (Article 2 of the Directive No. 2019/944 of 5 June 2019. This states: 'wholesale customer' means a natural or legal person who purchases electricity for the purpose of resale.

As for the structure of the wholesale market, it involves a variety of products and several traditional trading modalities that can vary by region and country. These models and modalities are designed to facilitate the buying and selling of electricity in bulk, typically among generators, wholesalers and large consumers. Some of the common types of wholesale market models and trading modalities include energy-only markets (day-ahead and real-time or spot markets), bilateral contracts, over-the-counter (e.g. through long-term contracts) or 'intermediated over the counter', i.e. via a broker.

The trading modalities in the Mediterranean region can be distinguished into three categories:

- Use of only one trading model.
- Use of one or two trading models.
- Use of more than two trading models (refered as "mix" in the figure).

The figure below provides an overview of trading models used in Mediterranean countries.

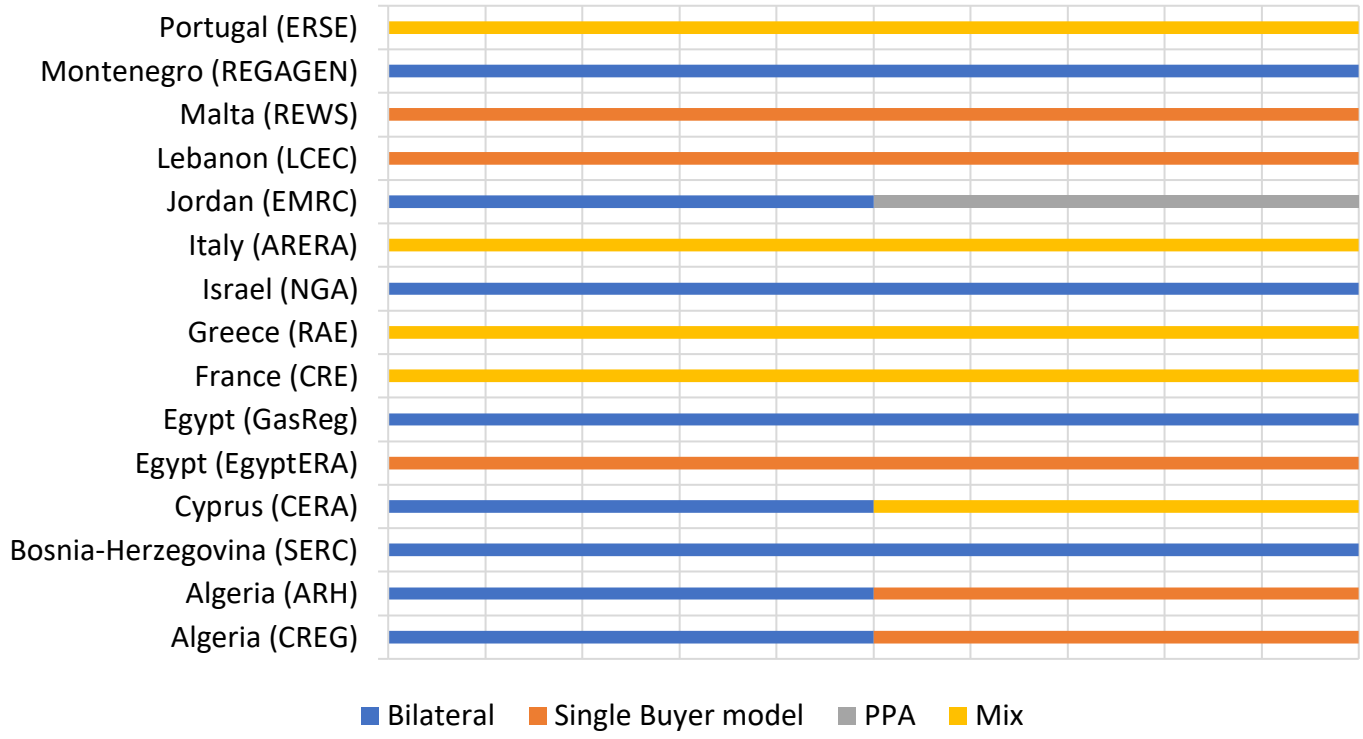

Figure 5. Models of trading used in Mediterranean countries

The choice of model in each country corresponds to their needs and priorities. For a better understanding, members were asked to provide the advantages and disadvantages of the model used in their respective countries. The table below summarises the results.

Country	Advantages	Disadvantages
Albania	Not available	
Algeria	Guaranteed supply-demand match	
Bosnia-Herzegovina	High market activity (numerous bilateral contracts). Facilitation of cross-border transactions.	Lack of transparency. Inefficient and uncertain pricing.
Cyprus	- Cyprus adopts a market model that integrates the net-pool approach with bilateral contracts. - This approach offers advantages, including a unified wholesale price and long-term contracts that mitigate risks from volatile pool prices for both producers and customers.	A drawback of the pool model is its reliance on marginal prices, which can be volatile, necessitating a balancing mechanism to prevent transmission congestion and ensure reliable matching of supply and demand.
Egypt (EgyptERA)	Rigid market structure.	Monopoly and competition are absent. Inefficient quality of the service and tariff.
France	Wide anticipation of eligible players. The fluidity of the market for all categories of participants and all types of products.	There is no inconvenience identified.
Greece	Market integration across EU member states. High competition. Improved market liquidity. Efficient allocation of resources. Facilitates cross-border trading. More diverse and cost-effective electricity supply options. Price convergence.[10] Increased renewable energy integration. Enhanced grid stability and security of supply.	Complex implementation. Regulatory and policy differences. Transmission capacity constraints. Market Power Concentration: If not adequately regulated, this concentration can lead to higher prices and reduce the benefits of market integration.
Italy	Flexibility and liquidity for market participants.	Markets are simplified, and margins must be procured by the TSO in the

[10] This convergence helps eliminate arbitrage opportunities and ensures that electricity prices more accurately reflect the underlying costs of generation.

Country	Advantages	Disadvantages
		ancillary service market (too close to real-time, possibly at higher costs).
Jordan	Transmission pricing Competition between DISCOs	Market concentration and the adequacy of provisions for competition policy to deal with that. Domination of the sector by PPAs inhibits the development of a wholesale market capable of delivering efficiency benefits. Long-term of PPAs
Lebanon		Due to the current structure of the market and the monopoly imposed by EDL, a non-competitive wholesale market exists, which leads to an informal sector, which is the neighbourhood generators.
Malta	Malta has no experience in liquid energy markets.	
Montenegro	There are adequate levels of transparency in the market.	EPCG continues to represent the dominant producer and trader. The market in Montenegro is not sufficiently developed.
Portugal	The model is more adaptable to market participants' sizes and preferences.	It is more complex to monitor and apprehend market participants.
Spain	Transparency as long as the energy is traded in an organised market. Allows and facilitates market supervision.	There is no inconvenience identified.
Türkiye	Flexibility for electricity consumers or producers to adapt to changes in the demand or availability of generation resources. Efficient allocation of resources. Optimal use of available electricity resources. Encouragement of competition among electricity suppliers and new entrants, resulting in competitive electricity prices. Enabling renewable energy plants to enter bids in the day-ahead market, which may contribute to keeping prices competitive in the market.	In the day-ahead market, electricity prices may fluctuate, especially in the event of sudden changes in supply or demand, unexpected events or weather conditions. This fluctuation can affect both producers and consumers.

Table 3. Country-wise advantages and disadvantages of trading models

Several countries have different plans for their electricity market structures in the near future. For example, Egypt is considering changes, while France currently has no plans to alter short-term market products. In Israel, NGA is planning a secondary trading platform that will change the natural gas market.

At the European level, there are plans to enhance market stability through better utilisation of long-term contracts while preserving the advantages of the spot market. In Greece, major market structure changes are not on the horizon, but they are set to abolish the temporary intraday and day-ahead electricity market caps by 2023.

Italy adheres to EU regulations for its market design and intends to abandon the single uniform price (PUN) on the demand side in the coming years. Jordan has plans for market structure changes, whereas Lebanon's transformation awaits the implementation of the ERA. Malta currently has no immediate plans for market structure changes, while Montenegro is aiming to benefit from market coupling. Lastly, Portugal is aiming to integrate EU legal frameworks for achieving carbon neutrality targets in future developments.

3.2. Types of Contracts

The Mediterranean region is characterised by a diverse array of contract types and pricing mechanisms, as shown in figure 6. Each nation has developed its own unique approach to facilitate the trading and supply of electricity and gas, often tailored to its specific energy needs and regulatory frameworks. From bilateral contracts to competitive tenders, from spot pricing to futures markets, the means of transacting energy and determining prices vary widely. In figure 6, we provide the contract types and pricing strategies employed by several countries, offering insights into the complexities and innovations influencing the global energy market.

	Type of contract	Contract pricing
Algeria	Bilateral contracts	Remuneration for the electricity production is established freely between the electricity producer.
Bosnia & Herzegovina:	Bilateral contracts	Prices agreed independently between suppliers and customers, but prices are not registered by the Independent System Operator.
Cyprus	Bilateral contracts	Freely negotiated PPAs between producers and suppliers. Suppliers can negotiate the contracts with their customers. However, EAC Generation and EAC Supply are regulated activities.
Egypt - EgyptERA -	FIT, BOO, BOOT, and PPA	FIT scheme, competitive bids, and bilateral agreements.
Egypt – GasReg-	Bilateral supply contracts (mid and long term)	Prime ministerial decrees or negotiated price or a quotation using certain price index
France	Spot products and forward products	Prices formed through the meeting of offers and demands, reflecting fundamental factors of the traded product.
Israel	Long-term bilateral contract	Agreements between the concerned parties.
Italy	Various long-term transactions and products	Day-ahead and Intraday contracts use marginal pricing. Balancing market contracts use marginal pricing (energy) and pay-as-bid (capacity). Forward contract pricing is a combination of factors.
Jordan	PPAs	Competitive tenders with the GoJ (Ministry of Energy and Minerals Resources).
Lebanon	Not applicable	Not applicable
Malta	PPAs	PPAs are bilateral contracts between IPPs and the DSO.
Montenegro	Bilateral contracts and open contracts	Bilateral contracts are privately negotiated between market participants. Open contracts do not contain an hourly plan and are calculated at the accounting period level.
Portugal	Spot trading for electricity, bilateral or OTC contracts for gas	Spot trading for electricity follows a single marginal price rule, while gas markets tend to follow bilateral price setting rules (bid-ask price rule).
Spain	Forward contracts, financial contracts, and bilateral contracts	Prices depend on the type of market; organized electricity futures market uses auction mechanisms, while bilateral contracts are negotiated privately.
Türkiye	Bids, hourly blocks, flexible contracts, bilateral contracts for electricity; spot and futures contracts for natural gas	In electricity market, prices are determined through auction mechanisms. Spot natural gas prices depend on supply and demand, while futures contracts are based on various indicators such as Henry Hub and Brent Petrol.

Figure 6. Wholesale market type of contract and its pricing mechanisms by country[11]

3.3. Contract Limitation on the Duration or Volume

France:

The European internal market has mainly developed short-term maturities. The futures market is a natural complement to the short-term market. Its primary role is to ensure the hedging of market players, such as producers, suppliers and large consumers.

Thus, CRE considers it necessary to quickly take measures to strengthen the futures market by:

- allocating long-term transmission rights on interconnectors over several years instead of one year in advance, as is done today, and developing a secondary market for these transmission rights to foster the development of an effective European long-term market; and

- strengthening the liquidity of futures markets, which is currently low beyond one-year maturities in most member states and non-existent beyond three years, by temporarily financing market makers for long maturities, i.e. players who systematically quote both a buy and a sell price; this will allow market participants to have an adequate counterparty at a reasonable cost in terms of transaction costs and risk premiums.

Greece:

Regarding derivatives, the duration of a contract may be:

1. Yearly, including a full calendar year

[11] In the Spanish case, this information relates to the electricity market.

2. Quarterly, including three full calendar months of the following options:

a) January-February-March,

b) April-May-June,

c) July-August-September or

d) October-November-December, or

3. Monthly, including a full calendar month.

Italy:

- **Electricity:**

No formal limitations are in place for long-term contracts, but their duration usually does not exceed two years.

- **Natural Gas:**

Volumes traded are limited by the available capacity and/or the amount of the bank guarantee delivered by the network user.

Jordan:

The contract limitation is about 20–25 years

Montenegro:

The open contract does not include an hourly purchase and sale plan; instead, calculations are performed at the accounting period level.

Spain:

Forward, or futures, markets allow traders to manage their risks. To this end, traders negotiate contracts for volumes of electricity with forward delivery periods of varying lengths (months, quarters or years) at an agreed price.

On 12 July 2022, OMIP and OMIClear launched Power Purchase Agreement (PPA) electricity contracts with maturities of five and 10 years, respectively. These contracts allow agents to negotiate 5- and 10-year maturities, respectively, for futures of baseload and solar profiles with underlying delivery in Spain. The launch of these new maturities and the publication of the respective reference prices contributed to increasing the liquidity and transparency of the electricity market. On the other hand, with these contracts, agents have access to additional risk coverage tools that they can use in their investments in renewable technologies.

Türkiye:

- **Electricity:**

Day-ahead market participants submit their day-ahead market bids for the next day to the market operator till 12:30 pm every day via the DAM Web Application system.

Market participants can submit their bilateral contracts through the DAM Web Application system between 00:00 am and 16:00 pm every day. Bilateral contracts are checked using the KOPİ method between 17:00 pm and 17:05 pm daily.

- **Natural Gas:**

In addition to transaction volumes, there are other limits, such as price offer limits.

3.4. Eligibility Criteria

Access to wholesale energy markets in various countries is subject to specific eligibility criteria and requirements. Market participants must fulfil these conditions to engage in trading activities and contribute to the energy market's functioning. These criteria are typically defined by regulatory bodies or market operators to ensure transparency, fairness and compliance with market rules.

Bosnia and Herzegovina:

Participants must possess a valid licence for domestic trade issued by the relevant regulatory body, register with the Independent System Operator and obtain an Energy Identification Coding (EIC) X code.

Cyprus:

In order to participate in the electricity market, the possession of a permit in accordance with Articles 34 and 35 of the Electricity Market Regulations and the associated licensing regulations is a prerequisite. Currently, the participants in the electricity market are

- manufacturers with thermal units,

- producers with RES stations and

- retailers.

During the Transitional Arrangements Period, the following additional requirements must be fulfilled:

Generation: Conventional/RES Producers ≥ 50 kW (excluding the incumbent operator)

Supply: Supplier's Portfolio must be ≥ 10 MW (excluding the incumbent operator)

Egypt (EgyptERA):

Currently, Egypt's ERA is providing consultancy services funded by EBRD to define the eligibility criteria for market participants.

Egypt (GasReg):

GasReg has issued regulations and procedures allowing ineligible consumers to switch to eligible status at their discretion.

Eligibility based on segments, quantities or access to the network will be determined through a feasibility study to identify the most suitable criteria for the market's maturity phase.

France:

Market participants must be registered before gaining access to wholesale contracts, and they are required to report data and transactions[12] to the European Union Agency for the Cooperation of Energy Regulators (ACER).

Greece:

The eligibility criteria for market participants to access the wholesale market vary based on their roles, such as suppliers, traders or conventional and renewable energy producers.

Italy:

They need to sign a contract with the Italian company Nemo GME and provide the necessary financial guarantees.

Jordan:

There are specific requirements for each participant based on the sector. The participant must fulfil the requirements.

Lebanon:

The criteria state that for Renewable Energy (RE) capacities exceeding 10 MW, a licence is needed. This licence shall be based on a tender proposed by the ministry. For RE capacities lower than 10 MW, the decentralised renewable energy law[13] would regulate peer-to-peer exchanges and all types of net metering, allowing private sector players to enter the market.

Malta:

No liquid wholesale market exists in Malta. IPPs enter into agreements with the DSO through a tendering procedure.

For RES generators with a capacity of 40 kW or more, allocation is done through a competitive bidding process administered by the regulator. The sale of electricity from PV installations rated below 40 kW connected to the grid is mainly governed by the Feed-in Tariffs Scheme administered by the Regulator for Energy and Water Services (REWS).

Montenegro:

Market access requires the submission of a request to the market operator, along with specific documentation and data. The market operator decides market admission within 30 days from the date of request submission. After receiving the decision, the participants are obliged to conclude the participation agreement with the market operator within 15 days.

Portugal:

There are no specific criteria. In the organised market, market participants have to apply for membership.

[12] The list of contracts is given in Article 3 of the Regulation on Wholesale Energy Market Integrity and Transparency (REMIT) Implementing Regulation.
[13] Waiting for voting at the General Assembly of the Lebanese parliament

Spain:

Producers, traders and direct consumers in the daily and intraday markets must comply with a series of requirements, among which the following are worth highlighting:

a. Be the owner of installations validly registered in the administrative register of electricity production installations.[14]
b. Acquire the status of an agent in the electricity system.
c. Expressly adhere to the rules and conditions of operation and settlement of the daily and intraday electricity production markets in the corresponding adhesion contract.
d. Declare a valid agent code to the market operator, which should be associated with a Tax Identification Number (TIN) that is not assigned to any other market participant. Each market participant should have a unique TIN.

With respect to energy traded on the forward market, where physical delivery settlement is requested by the holder, market agents who are also physical settlement agents of the forward market or have a contract with such agents are considered forward market agents eligible for physical delivery.

Türkiye:

In the electricity market, participants are required to meet specific eligibility criteria to participate in the day-ahead market. These criteria include technical capabilities, financial requirements and compliance with market rules and regulations. If the participants granted a licence by EMRA sign a participation agreement for the day-ahead market in addition to the market participation agreement, they may trade in the day-ahead market.

Market players who want to enter the organised natural gas exchange, which involves physical delivery, must hold an import, export or wholesale licence.

A certain amount of guarantee is required by the market operator from market participants who want to trade in the organised natural gas exchange. Additionally, potential market participants must enter into certain contracts, such as the market participation agreement, with the market operator and transmission company.

3.5. Barriers to Entry for New Participants

The new participants may encounter barriers to entering the market in some countries. Moreover, the barriers to entry may vary based on market regulations and specific circumstances in each country.

Greece: Companies outside specific agreements or regions[15] need to establish a branch in Greece.

Italy: Participants must manage physical assets or obtain long-term transmission capacity.

Lebanon: Technical barriers are based on law; other barriers may be legal in terms of eligibility.

[14] Or, in the case of marketers and direct consumers in the market, to have made the appropriate notification of the commencement of activity as appropriate, or to accredit the capacity of a representative of any of the parties.

[15] Outside the European Union, the European Economic Area, the Energy Community, or in third countries that do not have a relevant bilateral agreement with Greece.

Türkiye: Market players seeking to enter the organised natural gas exchange, which requires physical delivery, must hold an import, export or wholesale licence.

3.6. Participant Restrictions

Cyprus: According to the Regulatory Decision 'The Detailed Planning of Diversification of the Framework for Regulating the Operation of the Electricity Market of Cyprus', the components that will contribute to the new electricity market regulation are

- the Cyprus Transmission System Operator (CTSO);

- the Market Operator;

- the DSO;

- producers with

  - thermal units connected to the transmission system or the distribution system with a rated installed capacity of more than 5 MW,
  - RES stations operating outside of National Sponsoring Plans and
  - aggregators for RES stations operating outside National Grant Schemes (with a maximum limit of 20 MW in the total RES size they can serve);

- retailers;

- wholesalers and

- balance Responsible Parties.

In order to participate in the electricity market, a prerequisite is the possession of a permit in accordance with Articles 34 and 35 of the Electricity Market Regulations and the associated licensing regulations.

France: Only the following parties are active in the wholesale market: 1. electricity generators, who trade and sell the output from their power plants; 2. electricity suppliers, who trade and source electricity to sell it to end consumers; 3. traders, who purchase to sell (or vice versa) and 4. load reduction operators (on-demand side management).

While there are no restrictions on accessing power for the physical supply of electricity, market operators may need to comply with additional registration formalities under complementary regulations related to the integrity of financial markets. Moreover, as mentioned above, market players need to register.

How the restrictions are enforced: According to the European legal framework (Article 9(1) of REMIT

Regulation No. 1227/2011 'on wholesale energy market integrity and transparency'), market participants transacting on wholesale contracts must register with the NRA in the member state where they are established, reside or operate.

Greece:

Households are currently unable to participate in demand response schemes in the electricity market due to the limited adoption of nationwide smart metres.

Italy:

Electricity trading is limited only by the number of financial guarantees provided by each participant.

Lebanon:

The criteria are based on Law 462/2002, where for capacities higher than 10 MW, a licence is needed. The licence shall be obtained through a tender proposed by the ministry, as in the case of three wind licences and 11 solar licences where electricity generated is solely sold to EDL. For RE capacities lower than 10 MW, the decentralised renewable energy law (awaiting voting at the General Asssembly of the Lebanese parliament) would regulate peer-to-peer exchanges and all types of net metering, allowing private sector players to enter the market.

How the restrictions are enforced: They are to be enforced through guidelines once the law is approved.

Montenegro:

Participants in the electricity market include producers, suppliers, suppliers of last resort, vulnerable customers, traders, self-supplying customers, TSOs, DSOs, market operators, stock exchanges, operators of closed distribution systems, other entities and those temporarily connected to the transmission or distribution system for functional testing purposes.

How the restrictions are enforced: There are no restrictions. Traders do not have to have a trading licence to participate in the wholesale market. The market operator decides on the admission of participants to the electricity market, excluding the power exchange.

Portugal:

Wholesale market rules do not foresee major distinctions between different types of participants. The basic rule pertains to the membership contract with both market platforms and system operators, along with the corresponding guarantees.

How the restrictions are enforced: Electricity and gas codes set primary rules and platform market arrangements, which outline detailed rules for participating in the wholesale markets.

Spain: Market participants shall comply with the legal requirements established by the market rules (see Section 3.3).

Türkiye: Market players seeking to enter the organised natural gas exchange, which involves physical delivery, must hold an import, export or wholesale licence.

4

NRA'S ROLE IN THE WHOLESALE MARKET MONITORING

4.1. Market Manipulation Monitoring

Monitoring of wholesale energy markets can be categorised into two main groups. The first category is governed by the Regulation on the Integrity and Transparency of the Wholesale Electricity Market (REMIT), which aims to establish criteria prohibiting abusive practices and ensuring the proper functioning of these markets, considering their unique characteristics. REMIT also involves monitoring by the Energy Regulator Entity. This category includes EU countries like France, Italy, Greece, Spain and Portugal, along with Balkan countries incorporating EU regulations into their national frameworks, such as Albania, Bosnia and Herzegovina and Montenegro.

The second category comprises countries where national regulations and monitoring mechanisms are in place, typically overseen by the regulatory authority. This group includes countries like Algeria, Egypt, Lebanon and Jordan, which have established their own regulatory frameworks for market surveillance.

Monitoring and penalising market manipulation is crucial for maintaining fair and transparent wholesale energy markets. The figure below provides more details by country.

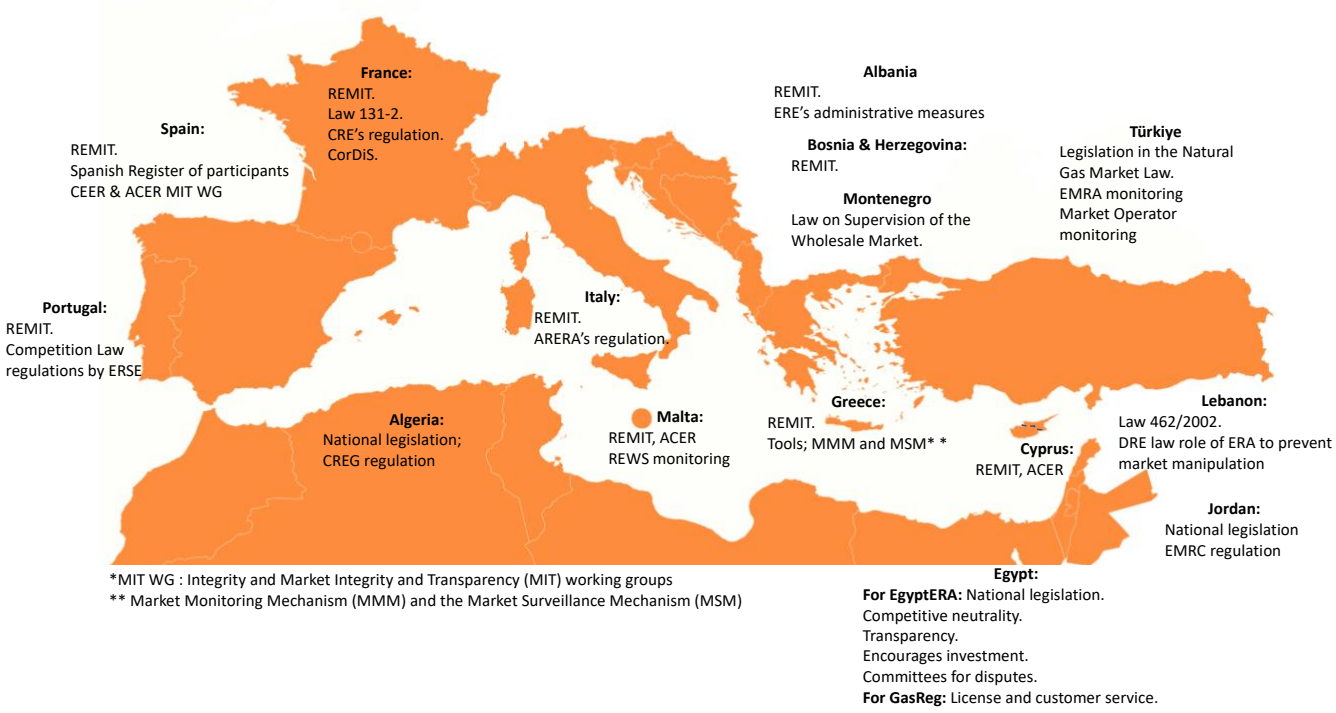

Figure 7. Wholesale market manipulation monitoring regulation

In cases of non-compliance with the market rules, penalties may be applied in all countries. If the REMIT rules are in force, as stipulated in one of the referral cases foreseen in the Energy Code (Articles L. 134-19 to L. 134-24 and R. 134-7 to R. 134-28). Penalties are provided for in Article L134-25 for non-compliance with Articles 3, 4, 5, 8, 9 and 15 of REMIT on the wholesale market and capacity auctions; the penalty rules are set out in Article L134-27. In that case, the regulators shall undertake administrative measures and penalties for violations of the regulation.

In other countries, such as Algeria, Egypt and Jordan, penalties are often specified in the energy laws and regulations issued by the energy regulators. For example, GasReg imposes penalties for non-compliance,

which can range from warnings to licence suspension or cancellation, as well as fines in specific breach cases.

In addition to the REMIT rules, some countries also have their own national regulations that penalise market players for non-compliance. For example, in France, the first decision of CoRDiS[16] was issued in 2018, imposing a €5 million fine for market manipulation at the gas exchange point (PEG). A more recent example of the application of the CoRDiS penalties [CoRDiS, 25 Avr. 2022, Sté Électricité de France, No. 02-40-18] is a €500,000 fine imposed on an operator for other breaches of the REMIT regulation.

In Cyprus, sanctions and penalties are defined in the licence terms and conditions on behalf of the licence holder and in the trade and settlement rules.

In Greece, RAEWW may impose fines for violations of primary and secondary energy legislation, as outlined in Law 4001/2011. These fines should not preclude the imposition of other administrative penalties under separate provisions, particularly under Law 3959/2011, for the same violation. In cases of systematic and repeated violations, the RAEWW has the authority to revoke the licence provided by the energy legislation.

In Italy, the penalties for non-compliance are decided on a case-by-case basis by the regulator.

In Spain, in addition to REMIT, CNMC applies sectoral regulations (Electricity and Hydrocarbons Acts) to establish sanctions in case of infringements of this regulation.

In Montenegro, financial penalties are prescribed by the Law on Supervision of the Wholesale Market of Electricity and Natural Gas, depending on the type of offence.

In contrast, in Bosnia and Herzegovina, SERC does not impose fines but cooperates with the Competition Council, which has the authority to impose fines.

4.2. Market Integration

The initiatives for integration are present in several countries, such as Albania, Algeria, Egypt, Cyprus, France, Greece, Italy, Jordan, Lebanon, Montenegro, Portugal, Spain and Türkiye. These countries are actively pursuing initiatives to integrate their wholesale energy markets with neighbouring countries. These efforts encompass various strategies, including the integration of day-ahead and intraday electricity markets, cross-border plans and participation in regional market initiatives. Integration activities may also extend to both electricity and natural gas markets, with each country having different levels of commitment to these initiatives.

From the benchmarking, the benefits of market integration have been identified for the Mediterranean region and are represented in the figure below.

[16] Decision of 5 October 2018, no 02-40-16, VITOL S.A.

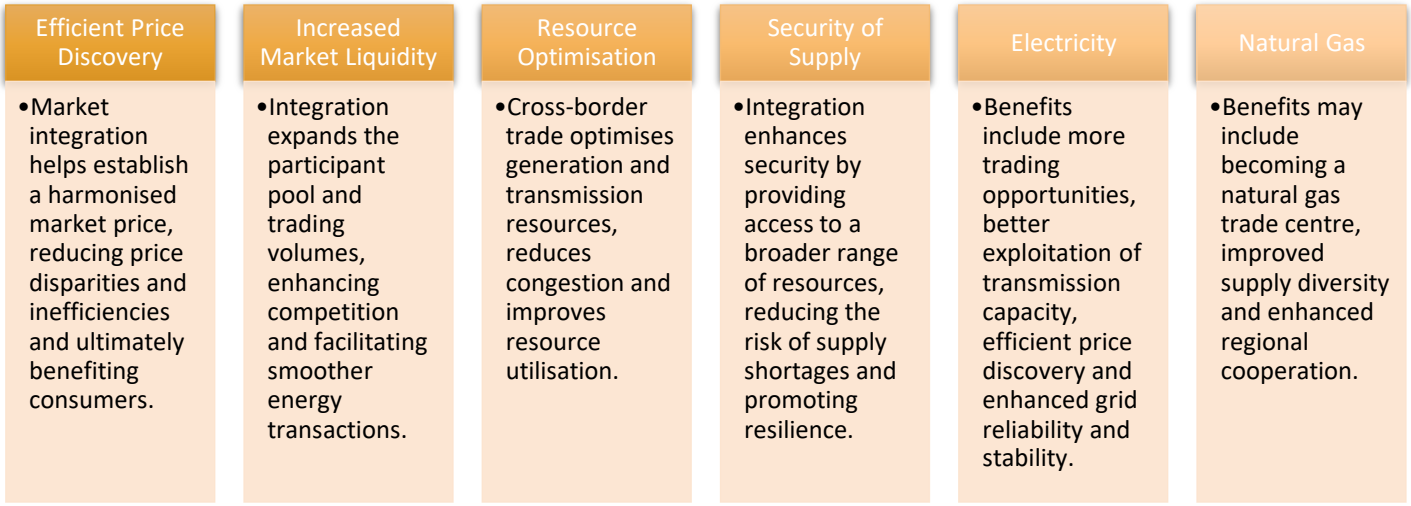

Figure 8. Benefits of market integration in the Mediterranean region

However, implementing market integration may encounter some challenges, as described by MEDREG members. The most important ones are as follows:

- **Regulatory Complexity**: Harmonising diverse national regulatory frameworks and market rules is complex and time-consuming.
- **Infrastructure Interoperability:** Ensuring the seamless integration of national energy grids and transmission systems can pose challenges.
- **Market Power Concentration:** Market integration may lead to market power concentration, necessitating regulatory measures to ensure fair competition.
- **Political and Socioeconomic Factors:** National interests, political considerations and socioeconomic disparities can complicate integration efforts.

Challenges may vary by country and market type but can include costs, regulatory complexity, political factors, infrastructure interoperability and the need for legislative changes.

Role of the Regulator by Country:

Albania:

- The regulator, ERE, cooperates with neighbouring regulatory authorities and the Energy Community Regulatory Board to harmonise the regulatory framework for regional electricity market development.

- Responsibilities include drafting operational agreements, coordinating network code development and managing limited capacities.

Algeria:

The law does not address this aspect, and since the market is not yet established, the role of the regulator in this aspect is undefined. However, studies on integrating the electricity markets of Maghreb countries into the EU electricity market and establishing a Pan-Arab electricity market have identified the regulatory

authorities' role in market integration with neighbouring countries. This includes harmonising regulatory frameworks, advising public authorities, monitoring the market, approving rules and procedures for the use of interconnections, ensuring compliance with rules and securing supply in the medium and long term.

Bosnia and Herzegovina:

- Currently, there are no initiatives for market integration, and the role of the regulator (SERC) is undefined due to the absence of a state-level law.

Cyprus:

The role of CERA is to verify the costs and feasibility of the project, as well as how electricity will be traded within the internal market and neighbouring electricity markets (Cross-Border Cost Sharing Agreement). Moreover, CERA shall establish methodologies to regulate:

- the method by which CERA will determine the allowed revenue for each RA;

- the method for determining regulated tariffs;

- the method for determining a Transparency Framework for establishing the Weighted Average Cost of Capital (for Projects of Common Interest - PCIs) and

- the allowed revenue of the Implementing Body or, subsequently, the Interconnection Line Operator, transparently.

Egypt:

- Egypt participates in committees to harmonise regulations and monitor prices as part of cross-border plans with Arab and African countries.

France:

- The French regulator, CRE, plays a key role in market integration with neighbouring countries.

- Responsibilities include approving network development plans, ensuring compatibility with EU plans and intervening with ex-ante and ex-post to facilitate infrastructure investments.

Greece:

- Greece plans to transition from regional to European-level platforms with intraday auctions, aiming to enhance market integration.

- The regulator's role includes developing regulatory frameworks, monitoring market performance, and collaborating with neighbouring countries to harmonise rules and standards.

Israel:

- According to Government Decision 4442, 3% should be allowed for export through resellers. It has not been achieved yet. The role of the NGA in market integration with neighbouring countries is to promote and facilitate trade for overseas marketers under our regulation.

Italy:

- Italy's electricity market has been integrated with neighbouring markets since 2015, and there is potential for further integration with Montenegro and the Balkans, which is currently under evaluation.

- The role of the regulator, ARERA, involves approving regional specificities and participating in pan-European decisions with ACER and BOR.

Jordan:

- Jordan primarily focuses on interconnection plans.

- The regulator, EMRC, does not have a direct role. Instead, roles are assigned to the National Electric Power Company (NEPCO) and the MEMR.

Lebanon:

- Lebanon's transmission network is part of regional interconnection, but it is not currently benefiting from electricity market integration due to political challenges and sanctions that affect interactions with neighbouring countries.

- The Ministry of Energy, acting as the NRA, advocates for greater integration but faces barriers related to sanctions and geographical constraints.

Malta:

- Malta does not have a liquid wholesale market, so there are no integration initiatives.

- The role of the National Regulatory Authority for Energy is not applicable in this context.

Montenegro:

- Montenegro is involved in the AIMS (Albania, Italy, Montenegro and Serbia) market coupling project.

- The regulator plays a role in approving bylaws and costs related to market coupling for TSO and NEMO.

Portugal:

- Portugal adheres to the European regulatory framework, including REMIT, to ensure market integrity and transparency.

- NRAs from neighbouring countries collaborate to establish harmonised rules and align regulations with the European legal framework.

Spain:

- Spain's electricity market is interconnected with neighbouring countries like Andorra, Morocco, France and Portugal.

- The role of the regulator (CNMC) includes establishing market rules for interconnections, ensuring efficient allocation of exchange capacity and participating in interconnection management mechanisms.

Türkiye:

- In the electricity market, Türkiye currently has no plans for market integration.

- In the natural gas market, Türkiye has an organised exchange and considers itself well-positioned as a natural gas trading centre.

- The role of the regulator (EMRA) is critical in ensuring transparent and regulatory-compliant market integration processes, especially when legislative changes are required.

In summary, these countries exhibit varying levels of commitment to market integration, with regulators playing crucial roles that differ based on specific initiatives and market types. Common aspects of market integration include initiatives for cross-border trade. The benefits encompass efficient price discovery, increased liquidity, resource optimisation and enhanced security of supply. Challenges, on the other hand, entail regulatory complexity, infrastructure interoperability, market power concentration and political factors. Regulators are instrumental in facilitating integration by undertaking responsibilities such as policy development, overseeing network development, monitoring market performance and cooperating with regulators from neighbouring countries. However, the extent of their involvement varies from country to country.

5

WAY FORWARD
RETAIL MARKET IN THE MEDITERRANEAN REGION

Way forward: Retail market in the Mediterranean region

After analysing the wholesale market in Mediterranean countries and the roles of NRAs in that context, MEDREG proceeded to examine the retail market and the roles of NRAs in this aspect. Member countries were surveyed about the functionality of their retail markets, and their responses provided valuable insights.

The results indicate a diverse landscape among MEDREG members, as shown in the figure below.

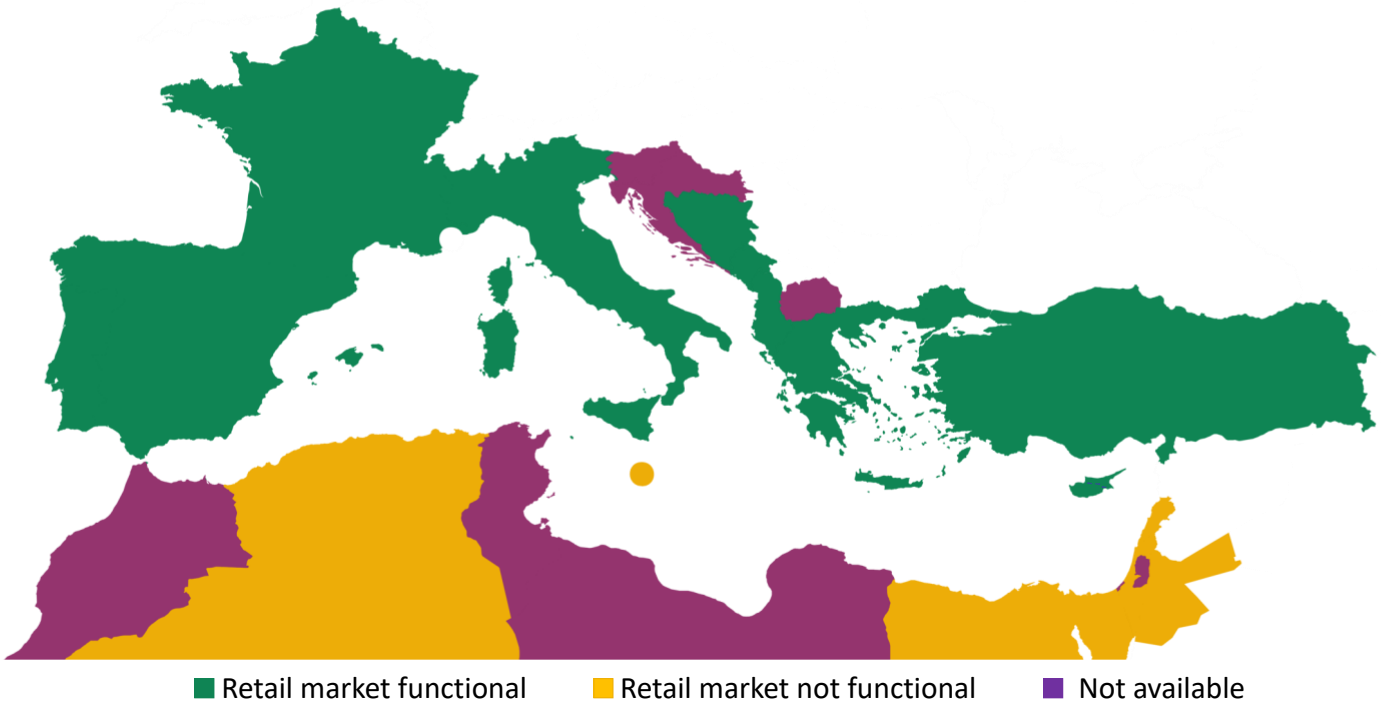

Figure 9. State of the retail market in the Mediterranean region

- Functional Retail Markets (in 10 countries)[17]: These countries have established policies that promote competition and consumer choice in the retail electricity and gas markets. NRAs play a pivotal role in ensuring fair competition, protecting consumers and monitoring market behaviour.
- Non-Functional Retail Markets (in six countries): The reasons for non-functionality, potentially related to regulatory barriers or infrastructure issues, require further investigation.
- No Replies (in seven countries): Seven MEDREG members did not provide responses, indicating potential variations in their level of engagement or transparency in the retail market.

In summary, the retail energy market landscape varies significantly within Mediterranean countries, with NRAs playing critical roles in ensuring competition and consumer protection in well-functioning markets. Addressing issues in non-functional markets should be a priority to promote market liberalisation and competition in the energy sector.

In terms of the role of NRAs in the retail market, several common aspects and specific country-wise details can be highlighted.

[17] Bosnia and Herzegovina: The retail market is formally open in this country, but incumbent electricity companies hold a dominant role, indicating potential market dominance challenges that need addressing.

- **Common Aspects:**

1. Monitoring and Oversight: Regulators in all the mentioned countries play a crucial role in monitoring and overseeing various aspects of the retail energy market, including customer protection, competition and market behaviour.

2. Consumer Protection: Regulators are responsible for ensuring the effective implementation of consumer protection measures. This includes addressing customer complaints, overseeing protection measures and collaborating with relevant entities to safeguard consumer interests.

3. Transparency: Many regulators emphasise transparency as a key aspect of their role. They may define rules, criteria and requirements for suppliers and contracts to ensure transparency for end consumers.

4. Market Liberalisation: Several countries have moved towards liberalising their retail energy markets, allowing consumers to choose their suppliers. Regulators oversee the transition to more competitive markets while considering the impact on consumers.

- **Role of the NRA by Country:**

Albania: The role of the NRA in Albania includes approving secondary legislation and standard contracts and monitoring the retail market.

Bosnia and Herzegovina: Tariff regulation has been abolished for most consumption categories, with households and some commercial customers being the only exceptions. Consumers have the option to choose their suppliers, although traditional suppliers (incumbents) still dominate the market.

Cyprus: The retail market is functional within the context of the implemented Transitional Arrangements Market. To this end, suppliers freely negotiate PPAs with producers and offer electricity tariffs to interested consumers. For the time being, industrial and commercial electricity customers are considered, while all domestic electricity customers fall under the portfolio of the incumbent supplier, the EAC.

France: The role of CRE in the retail market is specified in Article Art. L. 131-2 of the Energy Code, which mandates CRE to oversee transactions between various actors in the electricity and natural gas markets. CRE has developed indicators to measure competition. Moreover, it has also set up consultation bodies or 'working groups' that gather representatives of consumers, suppliers, network operators and public authorities. These bodies are responsible for defining the practical arrangements for the operation of the retail electricity and gas markets. CoRDiS recognises their quasi-normative status.[18]

Since the adoption of Law No. 2010-1488 on 7 December 2010 regarding the new organisation of the electricity market, the CRE has also been tasked with monitoring the transactions carried out on the organised markets (la bourse) and ensuring the coherence of the offers made, particularly to final consumers. These provisions give CRE the power to formulate opinions and proposals aimed at ensuring the better operation of the markets.

Greece: The Greek regulatory authority (RAEWW) supervises customer protection measures, examines consumer complaints related to regulatory issues and collaborates with other organisations to enforce

[18] CoRDiS, 26 September 2007, Sté Powéo: No. 07-38-03

protections. The detailed role of the RAEWW is provided in Article 24 of Law 4001/2011 and Article 138 of Law 4951/2022.

In addition to its supervisory role, RAEWW can work with TSOs, DSOs, consumer organisations, the Greek Ombudsman and other relevant entities to enforce customer protection measures and address consumer complaints. By imposing specific obligations on network operators and facilitating the provision of customer consumption data, RAEWW aims to promote transparency and accountability in the energy sector.

Israel: The retail market in Israel is bilateral. Moreover, the role of NGA is to ensure that they will not harm the balance of the system. Despite not having a stock exchange, NGA's role is to encourage trading options.

Italy: ARERA defines general criteria for transparency, but products and prices are fully liberalised without regulatory intervention. Universal service contracts are being phased out (abandoned in April 2023 for small enterprises, while for domestic consumers, it will cease in 2024).

Montenegro: The regulator in Montenegro determines general conditions for electricity and gas supply, which suppliers are required to follow.

Portugal: ERSE sets rules for supplier eligibility,[19] switching, contract requirements and conducts general monitoring activities.

Spain: CNMC monitors market opening, competition and consumer complaints. It also provides an energy offer comparator, supervises the change of supplier process, publishes guides and manages SIPS databases of supply points. Recently, CNMC has developed a new online tool to help consumers better understand their energy bills.

Türkiye: The EMRA oversees the energy sector, including the retail electricity market, with a focus on regulation, monitoring, consumer protection and promoting competition.

[19] Taking European legislation into consideration in this regard

6
CONCLUSION

Conclusion

International experience has now established the general requirements for moving from a vertically integrated or single buyer framework to a more competitive structure in which multiple buyers can buy in a competitive market from multiple generating companies or suppliers. In that respect, national regulatory authorities play a crucial role starting from the initial stages of liberalization to its progressive and complete implementation. Regardless of the degree of liberalization in place at national level, it appears that the existence of independent regulators is likely to stimulate competition at the level of energy production, enabling the energy systems concerned to gain in installed capacity and robustness. There are also significant benefits for consumers. When the retail market is also opened to competition, additional benefits are expected. In both cases, opening to competition require additional technical requirements, in terms of adequate legal and regulatory frameworks, and the nature of additional hardware and software that may be needed. It also requires a number of principles that need to be observed in the design and construction of market mechanisms, and in the consideration of the necessary conditions for fully or adequately competitive electricity markets. Experience suggests that unless these conditions can be met, the more open market will not deliver benefits and may bring with it some substantial costs and some significant risks. The recent and unprecedented energy crisis has also led to a new approach to opening the market to competition, as demonstrated by the recent reform of the electricity market adopted by the European Union.

ANNEX

Annex 1: Key Laws and Regulations Governing Wholesale Electricity and Gas Markets in the Mediterranean Region

Country (regulators)	Key Laws and Regulations
Albania (ERE)	- **Law No. 43/2015** 'On Power Sector', amended. **- Law No. 102/2015** 'On Natural Gas Sector', amended. According to Law No. 43/2015 'On Power Sector', amended, in July 2016, the Albanian Government adopted the Albanian Electricity Market Model, which defines the roles and responsibilities of the various stakeholders in an organised DAM and IDM market, while more specific rules on how the organised market shall function were approved by the Albanian Energy Regulatory Authority (ERE) in December 2017. According to the requirements of the Power Sector Law, in July 2020, the ERE approved the Rules of Balancing Market (decision no. 106, dated 2 July 2020), which provides the establishment of a competitive market for balancing services required by the Albanian TSO. **- Albanian Electricity Market Rules Package.** **- Grid Codes, etc.** **- Regulation on the Integrity and Transparency of the Wholesale Electricity Market (REMIT)/ERE's Board Decision No. 126, dated 17 May 2021.**
Algeria (CREG)	**Law 02-01** of 5 February, 2002, on electricity and gas distribution.
Algeria (ARH)	**- Law N° 19-13** governs hydrocarbon activities. **- Executive Decree N°21-64** fixes the methodology for determining the prices of crude oil and condensate 'refinery entry' and the price sales of natural gas to electricity producers and gas distributors.
Bosnia-Herzegovina (SERC)	Law on the transmission of electric power, regulator and system operator of Bosnia and Herzegovina (**Official Gazette BiH, numbers 7/02, 13/03, 76/09, 1/11**). Rules on wholesale electricity market integrity and transparency (**Official Gazette BiH, number 28/20**). Decisions on the register of participants in the wholesale electricity market (**Official Gazette BiH, number 58/20**).

Country (regulators)	Key Laws and Regulations
Cyprus (CERA)	- **The Law on the Regulation of the Electricity Market of 2021.** - **Trade & Settlement Rules.** - **The Law on the Regulation of the Natural Gas Market of 2004.**
Egypt (EgyptERA)	Egypt now follows a Single Buyer model. However, the **Electricity Law No. 87/2015** and its **Executive Regulations** pushed towards having a competitive electricity market.
Egypt (GasReg)	Law for gas market activities regulations and its executive regulations https://www.gasreg.org.eg/law-for-gas-market-activities-regulation/ https://www.gasreg.org.eg/executive-regulations/
France (CRE)	**3rd Energy Package Directives and Regulations:** These are European Union directives and regulations that govern various aspects of the electricity and gas markets, including the internal market, the establishment of energy regulators, network access and the integrity of the wholesale energy market. **Financial Regulations:** These encompass regulations related to energy derivatives classified as financial instruments, covering areas such as market abuses, markets in financial instruments and infrastructure regulation. **French Energy Regulator (CRE):** The regulator is responsible for overseeing wholesale energy markets and enforcing REMIT provisions. **REMIT (Regulation on Wholesale Energy Market Integrity and Transparency)**: REMIT is a European regulation that aims to ensure the integrity and transparency of wholesale energy markets under laws such as: • **2006-1537:** A specific French law that likely pertains to energy regulation or related matters. • **2013-312:** Another French law that likely contains provisions relevant to energy regulation. • **2016-461:** This law likely includes provisions related to energy regulation and market oversight. • **2015-206:** Another French law likely relevant to energy regulation or related enforcement.

Country (regulators)	Key Laws and Regulations
Greece (RAEWW)	Greek Energy Law (**Law 4001/2011, OGG Β' 179/22.08.2011**), as subsequently amended and currently in force. **Law 4425/2016** (OGG Β' 185/30.9.2016) as amended by Law 4512/2018, containing provisions aiming at the fulfilment of the 'Target Model', pursuant to which four markets were established: the wholesale market of forward electricity products (renamed energy financial market), the day-ahead market, the intraday market and the balancing market. Moreover, the law established the Hellenic Energy Exchange ('HEnEx').
Israel (NGA)	**The Natural Gas Market Law.**
Italy (ARERA)	**The Bersani Decree:** This decree opened Italy's electricity market to competition in 1999, liberalising production, import, export and sale of electricity. This was a pivotal step towards market liberalisation. **Law No. 239/2004:** This law played a role in separating state and regional energy roles in Italy to balance power. It established a clear division with the state setting energy policy, while regional authorities implemented these policies. **Italian Regulatory Authority ARERA:** The regulator is responsible for safeguarding the electricity sector's functioning. It plays a vital role in promoting consumer interests and competition within the energy market. **Third Energy Package (2011):** Italy implemented the Third Energy Package in 2011, which is a set of European Union directives aimed at expediting market liberalisation and enhancing competition in the energy sector. **EU Directive 2008/92:** This directive, adopted by Italy, is part of the EU's efforts to harmonise energy markets within member states and promote cross-border competition. **Letta Decree (Legislative Decree N° 164, 2000):** The Letta Decree, also known as Legislative Decree No. 164 of 2000, guided the liberalisation of the gas market in Italy. It included provisions for unbundling distribution and retail services to foster competitive markets in the gas sector.
Jordan (EMRC)	General Electricity **Law No. 64 2002** **Renewable Energy Law** Energy & Minerals Regulatory Commission **Law No. 8 2017** **Petroleum Derivatives Law Year 2018**

Country (regulators)	Key Laws and Regulations
Lebanon (LCEC)	**Law No. 462 (2002):** Regulation of the Electricity Sector: This law was ratified in 2002 but has not been fully implemented. The national Electricity Regulatory Authority (ERA) has not yet been created, although efforts have been made to create it. **Law No. 288 (2015):** Amendment of Article 7 of Law No. 462 of 2002 allowing, for a period of two years, the Council of Ministers to issue permits and licences for electricity generation upon the proposal of both the Ministers of Energy and Water and the Ministry of Finance until the ERA members are appointed. This law is for two years. It has been extended twice. **Law No. 132 (2010):** Offshore Petroleum Resources Law (OPRL)
Malta (REWS)	**Subsidiary legislation (545.34)** for the electricity market regulations: https://legislation.mt/eli/sl/545.34/eng **Subsidiary legislation (545.12)** for the Natural Gas market regulations: https://legislation.mt/eli/sl/545.12/eng/pdf
Montenegro (REGAGEN)	**Energy Law.** **Law on cross-border exchange of electricity and gas, Market Rules**. **Law on the Supervision of the Wholesale Market of Electricity and Natural Gas.**
Morocco (ANRE)	**Law 13-09:** Open production to competition, access to the MV network **Law 58-15:** Access to the LV network **Law 16-08:** Raise the self-production from 10 to 50 MW **Law 54-14:** Self-production with more than 300 MW of power **Law 48-15:** Electricity regulation and the creation of the ANRE **Law 40-19:** Amendment to Law 13-09 and 48-15 **Law 82-21:** On auto-generation
Portugal (ERSE)	**For electricity, Decree-Law No. 15/2022:** In this sector, there are some rules on the new Tariff Regulation (approved by **Regulation No. 828/2023**) passed in July.

Country (regulators)	Key Laws and Regulations
	For gas, Decree-Law No. 62/2020: In this sector, there are some rules on the new Tariff Regulation (approved by **Regulation No. 825/2023**). In both sectors, there are also rules on the Regulation on Commercial Relations (approved in July by **Regulation No. 827/2023**).
Spain (CNMC)	**Electricity market: Law 24/2013** of the Electricity market (https://www.boe.es/buscar/act.php?id=BOE-A-2013-13645) **Gas and oil markets: Law 34/1998** of the Hydrocarbons- market (https://www.boe.es/buscar/act.php?id=BOE-A-1998-23284)
Türkiye (EMRA)	**Electricity Market Law:** https://www.epdk.gov.tr/Detay/Icerik/1-1270/electricityelektricity-legislation **Natural Gas Market Law:** https://www.epdk.gov.tr/Detay/Icerik/1-2302/natural-gaslaw-on-natural-gas-market

Table 4. Key laws and regulations governing wholesale electricity and gas markets in the Mediterranean region

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