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MEDREG'S 4TH PRESIDENTS' WORKSHOP

Selinunte, Sicily, Italy

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Kindly hosted by ARERA

ARERA
Autorità di Regolazione per Energia Reti e Ambiente

Empowering Mediterranean regulators for a common energy future

ABOUT THE EVENT

Due to its strategic location at the crossroads of Europe, Africa, and Asia, the Mediterranean region holds great significance in shaping the global energy landscape, positioning it as a vital hub for energy trade and collaboration. The region boasts significant potential for a sustainable energy future by developing and deploying renewable energy sources, which could contribute to energy security and environmental well-being. Investment in this interconnected network of energy infrastructure, including undersea pipelines and LNG terminals transporting natural gas from North Africa to Europe and power grids facilitating electricity exchange, further strengthens the region's role as an energy hub.

Energy regulators play a pivotal role in guaranteeing a stable and coherent regulatory framework able to attract new investment in infrastructures. Given the energy complementarities between the northern and the southern shores, energy interconnections are crucial for developing an integrated energy system in the Euro-Mediterranean area.

Renewable energy infrastructure development across the Mediterranean could represent a valuable instrument for sustainable and inclusive economic growth, regional trade, and cooperation. The development of these infrastructures can provide a new opportunity for the ambition of the Mediterranean region as a leading energy supplier for the European market while strengthening energy security.

Despite these promising factors, the Mediterranean region also faces unique challenges in navigating its energy future. The need to balance energy security as well as coherent regulation with the transition to a more sustainable energy mix is the ultimate challenge. Moreover, isolated energy systems in some parts of the region complicate efforts to decarbonise and integrate renewable energy into the energy mix.

MEDREG's 4th Presidents Workshop aimed at addressing these challenges and unleash the potential of the Mediterranean region. By bringing together energy regulators, industry representatives, policymakers and energy stakeholders from

across the region, the workshop steered reflections and fostered collaboration. This collaborative environment will be crucial for identifying and implementing strategic infrastructure investments, paving the way for a more sustainable and secure energy future. The workshop consisted of two sessions:

- **Central Role of the Mediterranean and Energy Dynamics in the Euro-Mediterranean Region:** This session explored the connection between unique geopolitics and the energy dynamics of the Mediterranean region in terms of energy security and cooperation.
- **Cross-Border Energy Trade and Navigating Isolated Systems:** This session addressed the challenges and opportunities of cross-border energy trade in the Mediterranean region, given the presence of isolated systems and diverse energy networks and regulations. Furthermore, participants explored innovative business models, financing mechanisms, and strategies for renewable energy deployment in these isolated areas.

The workshop concluded with a roundtable discussion among MEDREG Presidents, who shared their insights and experiences on the topics discussed throughout the day.

INTRODUCTION

The 4th MEDREG Presidents' Workshop, held on June 12, 2024, in the Baglio Florio Museum located inside the historical Archaeological Site of Selinunte, brought together key stakeholders to address the evolving energy landscape of the Mediterranean region. Given its strategic location at the crossroads of Europe, Africa, and Asia, the Mediterranean is positioned as a vital hub for energy trade and cooperation, crucial for shaping a sustainable energy future.

President Abdellatif Bardach opened the workshop by highlighting the Mediterranean's historical significance and its pivotal role in global energy flows. He emphasized the rapid technological advancements transforming energy production and management, such as renewable energy sources, smart grids, electric mobility, and green hydrogen. President Bardach reiterated MEDREG's commitment to adapt regulatory measures to promote renewable energy

integration and energy trade within the region. He also stressed the importance of expanding the regulatory framework to include emerging sectors like green hydrogen, water, and waste management.

President Stefano Besseghini reflected on the cultural and strategic importance of the Mediterranean for Europe's energy sector, emphasizing the need for cooperation and mutual understanding to navigate current global challenges. He underscored MEDREG's role in fostering stable relationships and adapting regulations to address new challenges like decarbonization and carbon capture and storage (CCS).

HE Minister Walid Fayad discussed Lebanon's efforts to reform its energy sector amidst economic challenges, stressing the importance of flexible and robust regulations to support the country's renewable energy goals. HE Minister Gilberto Pichetto Fratin highlighted Italy's strategic role as an energy bridge in the Mediterranean, advocating for regional cooperation and coherent energy policies to foster regional integration.

Ambassador Sergio Piazzi conveyed the Parliamentary Assembly of the Mediterranean's (PAM) strong support for MEDREG's objectives. He emphasized PAM's role in fostering regional integration and resilience, highlighting the importance of an integrated energy system in the Mediterranean.

This Workshop provided a platform for energy regulators, industry representatives, policymakers, and stakeholders to collaborate on strategic infrastructure investments and regulatory frameworks. The discussions focused on ensuring energy security, fostering innovation, and achieving a sustainable energy future for the Mediterranean region.

4th MEDREG Presidents workshop

Navigating the Mediterranean Energy Landscape:

Fostering Cooperation, Ensuring Interoperability and Security, and Embracing Innovation

Abdellatif BARDACH President of the Moroccan Regulator - ANRE and President of MEDREG

> Our strategic location has historically positioned us as a cross-border hub for energy flows, making our role in securing and optimizing these flows positively vital.

> Take care of the precious jewel that we have in our hands with this association. It's a stable experiment that witnessed the opportunity to have a constant relationship.

Stefano BESSEGHINI
President of the Italian Regulator – ARERA and Permanent Vice President of MEDREG

Gilberto PICHETTO FRATIN
Italian Minister of the Environment and Energy Security

> Italy can consolidate itself as an energy bridge between north, south, east, and west of this great basin, enhancing regional cooperation and energy integration.

> There is no sustainability without peace and the application of international laws and decisions.

Walid FAYAD
Minister of Energy and Water of Lebanon

Sergio PIAZZI
Secretary General of the Parliamentary Assembly of the Mediterranean – PAM

> We aim to foster an integrated, comprehensive, 360-degree energy system in the Mediterranean region through parliamentary diplomacy and cooperation.

Session 1: Central Role of the Mediterranean and Energy Dynamics in the Euro-Mediterranean Region

The MEDREG President Workshop began with an introduction by the moderator, President Stefano Besseghini, who emphasized the dynamic energy issues in the Mediterranean region. Highlighting the region's evolving centrality in the energy topic and stressing the importance of recognizing the Mediterranean's heterogeneity. According to President Besseghini, understanding and exploiting these differences is crucial for fostering effective collaboration and cooperation within the region.

Along with the high-level speakers[1] from different institutions and key companies from the region, different topics were discussed to better understand the current situation and to give food for thought for future action within the MEDREG Association.

During the first session, a range of critical topics were discussed, including the role of Europe in the Mediterranean energy landscape, the strategic initiative of connecting Europe to Africa, and the importance of energy infrastructure. The discussions also covered interconnections and security, the complementarity between European and African energy resources, the energy trilemma, and the increasing digitalization of the energy sector. These discussions underscored the region's dynamic role in achieving energy security and sustainability through innovative projects and strategic cooperation.

The Shifting Sands of Energy Cooperation

The opening session of the Euro-Mediterranean Energy Workshop crackled with a palpable sense of urgency. The once-held notion of the Mediterranean as a homogenous energy entity is now undergoing a significant revision. **Mr. Stefano Grassi**, representing the European Commission, took centre stage, emphasizing the "strategic interest" in fostering closer cooperation throughout the region. His address painted a clear picture of Europe's driving forces. Ambitious

[1] The list of speakers is availablein the annex

decarbonization goals and a projected doubling of electricity consumption by 2050 necessitate a significant shift in energy production. However, a potential gap looms large - Europe's projected green energy production simply will not suffice. In this context, the Mediterranean emerges as a viable solution, boasting a solar and wind energy potential that dwarfs the anticipated shortfall.

But **Mr. Grassi** did not advocate for a simplistic, one-size-fits-all approach. He stressed the importance of acknowledging the "responsibility" Europe has towards the southern shore countries. These nations, many grappling with burgeoning populations and rising energy demands, are simultaneously facing the immense challenge of decarbonizing economies heavily reliant on fossil fuels. For **Mr. Grassi**, Europe can be a crucial partner in this transition. Technological advancements are not the only tools at Europe's disposal. He envisioned a future where "shared benefits" are fostered, with opportunities for green tech manufacturing flourishing in the South. This vision resonated with President Besseghini, who echoed the need to move beyond a piecemeal approach built on bilateral agreements. He advocated for "a more structured approach and regional coordination," highlighting the ELMED project as a prime example of such collaboration.

This groundbreaking project, a direct current connection between Italy and Tunisia, showcased the potential of this new paradigm. **Ms. Giuseppina Di Foggia**, CEO of TERNA, explained how a leading Italian energy company like TERNA brought its expertise to the table, while the European Commission provided crucial funding for the project.

ELMED is not just about creating an energy link; it is about cultivating long-term partnerships, a sentiment further underscored by the TERNA Innovation Zone. This planned initiative aims to develop essential skills in Tunisia, demonstrating a commitment to knowledge transfer and collaborative growth.

The conversation then delved deeper into the role of gas in this evolving energy landscape. **Mr. Stefano Venier**, representing SNAM, the leading Italian gas TSO, emphasized the continued importance of gas interconnections. Pipelines, in his view, are not just about enhancing the security of supply – they offer a pathway

for transporting "green molecules" like hydrogen, critical for long-term decarbonization efforts. He highlighted the role of SNAM in projects like the Trans Adriatic Pipeline (TAP) and the East Mediterranean Gas (EMG) pipeline, which connects Israel and Egypt. However, Venier did not simply advocate for more pipelines. He proposed moving beyond a "hub" mentality and instead focusing on creating a network of "gateways" that would facilitate the seamless exchange of energy resources across the region.

Mr. Lapo Pistelli, representing both ENI, a major energy player in the region, and the Mediterranean Organization for Energy and Climate (OMEC), provided a valuable historical perspective. He contrasted the pre-2020 environment, where Europe prioritized a rapid transition away from fossil fuels, with the current situation. The energy crisis and the war in Ukraine had forced a "realignment of agendas." Europe now recognized the vital role North Africa plays in its energy security, with countries like Algeria emerging as key suppliers of gas. This newfound interdependence has fostered a new dialogue, one that acknowledges regional differences but also seeks to leverage these differences for mutual benefit. Mr. Pistelli highlighted several promising areas of cooperation. The burgeoning hydrogen sector presents an opportunity for North African countries to replace domestic gas consumption with renewables, freeing up gas for export and contributing to Europe's decarbonization goals. Additionally, joint efforts are underway to reduce methane emissions, a potent greenhouse gas associated with natural gas production.

However, significant challenges remain. Differences in regulatory frameworks between Europe and the South could create hurdles for collaboration. Furthermore, sufficient funding is critical for infrastructure development and the transition to clean energy sources. Political stability throughout the region is also essential for ensuring long-term partnerships and fostering trust.

Despite these challenges, the discussion concluded on a note of cautious optimism. The speakers all acknowledged the unprecedented level of cooperation spurred by the recent energy crisis. The recognition of Europe's and the Mediterranean's intertwined energy destinies had opened the door for a

future of collaborative efforts. Upcoming events like the G7 summit and the discussions surrounding the new EU Commission present opportunities to solidify these commitments and chart a course towards a secure and sustainable energy future for the entire Mediterranean region. The sands may be shifting, but a sense of shared purpose seems to be solidifying beneath them.

Bridging the Gap: Building a Resilient Energy Future for the Mediterranean

In addition to the importance of cooperation among the countries in the Mediterranean region, the sustainability and security of future energy is a crucial element. **Mr. Stefano Grassi**, laid the groundwork by stressing the critical role of infrastructure development. He envisioned a future characterized by a "strong focus" on regional energy integration, with an emphasis on bolstering grids in the North Sea while simultaneously maintaining robust connections with the Mediterranean. **Ms. Giuseppina di Foggia**, offered a practical perspective. She outlined Terna's ambitious plan to add a staggering 70 gigawatts of renewable energy capacity by 2030. Achieving this target, however, necessitates a corresponding increase in grid capacity and infrastructure development. **Mr. Stefano Venier**, echoed the importance of infrastructure, but with a twist. He argued for infrastructure redundancy, stressing that it is not just about the security of supply but also about facilitating the smooth flow of energy resources. **Mr. Venier** emphasized the need for coordinated planning across the entire energy value chain, ensuring optimal infrastructure utilization.

The conversation then shifted to the challenges that need to be addressed. **President Besseghini** acknowledged the ongoing struggle to find the sweet spot between the costs and benefits of infrastructure development. He sees digitalization as a potential game-changer, highlighting its potential to optimize existing infrastructure and improve efficiency. **Mr. Venier** concurred, suggesting that cost-benefit analysis models need to be updated to account for the current energy landscape and its evolving dynamics.

Cybersecurity emerged as another pressing concern. **Mr. Venier** emphasized the heightened risk of cyberattacks on critical energy infrastructure. He advocated for a multi-faceted approach, including preventative measures, mitigation strategies, and collaboration among countries. This collaboration, he envisioned, would create a "connected shield" for infrastructure protection, a crucial defence mechanism in the face of potential cyber threats.

Policy stability was another key concern raised by **Mr. Pistelli**. He argued that long-term investment cycles in the energy sector demand clear and consistent policy frameworks from governments. Companies need this stability to make informed decisions. **Mr. Pistelli** provided the example of the volatility in LNG contracts, where short-term policy shifts created uncertainty for investors.

The path forward, as envisioned by the panellists, is paved with collaboration and partnership. **Mr. Pistelli** emphasized the need for a shift from a model of technology transfer to one of technology partnerships. He envisioned joint ventures and local manufacturing in the South, replicating the successful model established by ENI in Africa. Investing in human capital development in the South was another crucial aspect that **Mr. Pistelli** championed. Training programs and capacity-building initiatives are essential to equip local populations with the skills needed to be active participants in the energy transition.

Shared business ventures, particularly in technology development, emerged as another promising avenue for cooperation. **Mr. Pistelli** argued that "making business together" would not only accelerate technological advancements but also foster a stronger sense of shared ownership and responsibility for the region's energy future.

The Panellists acknowledged the challenges, but the focus remained on practical solutions. Infrastructure development, strengthened cybersecurity measures, and a shift towards technology partnerships and shared business ventures were all seen as critical pieces of the puzzle.

The call for greater policy stability from governments provides a crucial foundation for enabling these partnerships and ensuring a long-term, successful energy transition for the entire Mediterranean region.

The future may be uncertain, but through coordinated and collaborative efforts, a secure and sustainable energy future seemed to be within reach.

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4th MEDREG Presidents workshop:
Central Role of the Mediterranean and Energy Dynamics in the Euro-Mediterranean Region

Stefano GRASSI
Head of Cabinet of the European Commissioner for Energy – European Commission

"Our ambitious decarbonization goals and doubling electricity consumption by 2050 necessitate a significant shift in energy production, with the Mediterranean emerging as a crucial partner."

"The ELMED project and the TERNA Innovation Zone in Tunisia underscore our commitment to fostering innovation, developing essential skills, and cultivating long-term partnerships for a sustainable energy future."

Giuseppina DI FOGGIA
CEO – TERNA

Stefano VENIER
CEO – SNAM

"Infrastructure redundancy and robust cybersecurity measures are essential not only for ensuring the security of supply but also for protecting critical energy systems against potential threats. This multifaceted approach is crucial for a resilient and sustainable energy future."

"Collaborative efforts and shared business ventures in technology development and investing in human capital through training programs are key to accelerating our region's energy transition and equipping local populations for a sustainable future."

Lapo PISTELLI
Director Public Affairs - ENI

Session 2: Cross-Border Energy Trade and Navigating Isolated Systems: the role of a coherent regulation

The panel discussion on "Cross-Border Energy Trade and Navigating Isolated Systems: The Role of Coherent Regulation" was a significant highlight of the workshop, bringing together experts and regulators from various Mediterranean countries. The session focused on the multifaceted challenges and innovative solutions in managing isolated energy systems and enhancing cross-border energy trade. The discussion underscored the critical role of coherent regulatory frameworks in ensuring the efficient and sustainable operation of these systems. Representatives from Egypt, France, Greece, Italy, and Spain shared their unique perspectives and experiences, shedding light on the diverse approaches and common challenges faced in the region.

Infrastructure development and cross-border exchanges in the Mediterranean region

For over a decade, Med-TSO has served as a platform for multilateral cooperation to foster the integration of Mediterranean power systems and pave the way for a regional electricity market. Med-TSO's two main streams of activities involve promoting grid development and defining rules to ensure the interoperability of interconnected power systems.

The Master Plan of Interconnections, a flagship publication supported by the European Commission, has been a cornerstone of their efforts, with editions released in 2018, 2020, and 2022. It highlights the critical role of grids in the energy transition and decarbonization, especially in the Mediterranean where grid extension is limited, usage is inefficient, and the investment climate is unfavourable. The 2022 edition assessed 19 interconnection projects, involving over 10,000 kilometers of new HVDC lines and investments exceeding €19 billion. **Mr. Ferrante**, Secretary General of Med-TSO, underscored the need for a regional framework to align grid development with climate policies and to address regulatory and investment challenges. He also pointed out the necessity for

coordinated initiatives across the region and the importance of anticipated investments to manage long-term uncertainties.

French Perspective on interconnection and managing isolated systems

Ms. Emmanuelle Wargon, President of CRE, acknowledged the importance of cooperation in tackling the energy trilemma of sustainability, affordability, and sovereignty. She emphasized France's pivotal role in the European energy system, particularly due to its geographical position and nuclear capabilities. France has been an important player in gas transit, especially with the new LNG terminal in Le Havre, and electricity, despite recent challenges in its nuclear plants. **Ms. Wargon** highlighted the vital role of interconnections within Europe and with the Mediterranean, mentioning projects like the Gulf of Biscay interconnection and potential links from Tunisia and the Eastern Mediterranean to Central and Northern Europe. She discussed the financial challenges of investing in TSOs and DSOs, with French TSOs and DSOs seeking significant investments to connect decentralized renewables and reinforce networks. **Ms. Wargon** also described a new incentive regulation to ensure timely project completion and stressed the need for cooperation in emerging areas like hydrogen and CO2 capture.

Mr. Antoine Jourdain, responsible for EDF's operations in isolated systems, described the complexities of managing small, unconnected grids in regions like Corsica, Réunion, and the Caribbean. He explained the unique challenges these systems face, such as rapid fluctuations in PV power output and the lack of backup from other plants, making them vulnerable to blackouts. EDF manages the entire energy supply chain in these areas, including production, transmission, distribution, and efficiency, under a stable regulatory framework. **Mr. Jourdain** highlighted the importance of long-term planning and stable regulations for attracting investment and ensuring a reliable energy supply. He mentioned the significant subsidies needed to equalize electricity prices between these islands and mainland France due to higher production costs. **Mr. Jourdain** also referred to specific projects like the HVDC connection between Italy and Corsica, which required intricate negotiations and a long-term view.

In addition, Corsica, being an isolated energy system, has a unique energy management structure where one entity handles everything from production to supply. Although there is an interconnection with Italy, the capacity remains insufficient to foster true competition on the island.

The average cost of electricity (MW/hr) in Corsica is significantly higher than the market price, resulting in higher costs borne by taxpayers. To mitigate this, the regulatory authority ensures that every project is scrutinized for cost-effectiveness and efficiency, reducing the financial burden on taxpayers.

In Corsica, higher operational costs are inherent due to its isolated nature. The regulatory framework closely monitors and enhances operational efficiency, ensuring that costs are minimized through improved efficiency and safeguarding taxpayer interests.

Egyptian Electricity Market and its Remote Areas

Egypt is making significant strides in its energy transition, with the aim to achieve 42% renewable energy sources (RES) by 2030 and 60% by 2040. The country currently has over 6000 MW of RES capacity, with an additional 70 GW under construction. Strategic interconnection plans are in place with neighbouring countries such as Libya, Syria, Lebanon, Jordan, Saudi Arabia, the Gulf, Cyprus, Greece, Italy, and Sudan.

Egypt aims to improve energy efficiency by reducing consumption by 20% through the implementation of smart grids. Significant green hydrogen projects are underway, with plans to establish 100GW of RES capacity and allocate 44GW for electrolyzers. Collaboration with financial institutions aims to replace 5 GW of old power stations with 10GW of new RES capacity.

Substantial regulatory changes have been implemented over the past three years to encourage private sector involvement in RES projects. The self-consumption and net metering schemes have been expanded, and new regulations for electric vehicles (EVs) have been issued. Private sector entities have received numerous licenses for generation and distribution.

Egypt's near-universal electricity access is attributed to the population's concentration along the Nile. The country is developing regulations for smart mini-grids and exploring storage solutions, focusing on a 7GW storage capacity. There is a proposal for MEDREG to study the feasibility of exporting electricity versus hydrogen, highlighting the importance of strategic energy exports.

Greek Expereinces on Isolated Systems

Greece has made significant progress in managing its isolated energy systems on islands. Confidence was built on previous experiences despite initial challenges. The country has completed three phases of interconnection with the Ionian Islands and an AC interconnection with Crete, with four islands remaining. Major developments and investments totalling up to 5 billion euros have been approved by the National Regulatory Authority (NRA).

Planned connections with the North Aegean emphasize decarbonization and the integration of renewable energy sources (RES). Interconnections are integral to Greece's strategy, creating confidence and motivating the region. Collaboration with organizations such as Med-TSO, MEDREG, and ENTSO-E aims to lower prices and benefit consumers.

A balanced approach to supply and demand is necessary. While cleaner solutions can be implemented more quickly on the supply side, demand-side measures require careful planning and execution. Greece's focus on interconnections with neighbouring countries is pivotal in achieving a coherent pace of investment and integration.

Spanish Focus with its Islands

Spain's National Commission on Markets and Competition (CNMC) plays a crucial role in supporting isolated systems. Providing appropriate economic signals and incentives within a regulated framework is essential. CNMC publishes a remuneration framework to recognize investments included in the national electricity system planning. These investments are costly and regulated, with extra costs borne by all Spanish consumers, similar to the situation in France.

Planning for Spanish islands focuses on the security of supply and decarbonization. Each island's unique characteristics necessitate different solutions. For example, the Canary Islands consist of six isolated systems primarily powered by fossil fuels but have significant RES potential. Currently, 20% of demand is met by RES compared to 50% on the peninsula. The Canary Islands plan includes reducing the need for new fossil fuel plants, enhancing interconnections, and integrating storage solutions.

For the Balearic Islands, generation is mostly based on natural gas, with RES representing 9% of demand. Plans include increasing RES integration to reduce generation costs and CO2 emissions. Digitalization will maximize infrastructure use, and new RES will reduce reliance on fossil fuels.

The role of synchronous compensators and voltage control measures ensures the reliability and stability of the energy supply. Infrastructure development and interconnections are crucial for integrating higher capacities of RES and reducing overall costs.

CNMC's approach involves rigorous assessment of the economic and financial viability of investments, ensuring that the extra costs are justified and beneficial for all consumers. Continuous innovation and collaboration are necessary to achieve a cleaner and more robust energy system.

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4th MEDREG Presidents workshop:
Cross-Border Energy Trade and Navigating Isolated Systems: the role of a coherent regulation

Angelo FERRANTE
Secretary General – Med-TSO

"The Mediterranean region needs a strong regional framework to boost grid development and investment"

"Interconnections are vital within the current European market to organize exchanges with our Mediterranean partners"

Emmanuelle WARGON
President of the French Regulator – CRE

Antoine JOURDAIN
Director of Island Energy Systems – EDF

"Stable regulations and long-term planning are crucial for managing isolated energy systems and ensuring reliable supply"

"The Mediterranean region should be put on the same page from the perspective of the TSO and the DSO, if we want to have a functional interconnected regional market"

Mohamed M. OMRAN
President of the Egyptian Electricity Regulator –EgyptERA

Athanasios DAGOUMAS
President of the Greek Regulator – RAAEY

"The regulator in Greece does not only approve, but it also applies pressure on the Transmission System Operator (TSO) to complete projects on time, imposing fines for delays to avoid congestion and disruptions"

"Regarding the situation of the plans set for the islands in Spain, two items are given the highest priority equally; Security of Supply and Decarbonisation"

Maria Jesús MARTÍN MARTÍNEZ
Board Member of the Spanish Regulator – CNMC

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for a common energy future

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