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Policy Report

Mediterranean Connectivity: New Opportunities for Trans-Mediterranean Cooperation and the Role of Italy and Egypt

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Executive Summary

The Mediterranean has historically been a hub of trade, culture, and innovation. Today, recent crises and shifting global dynamics—including the COVID-19 pandemic, shocks to global supply chains, the Russia–Ukraine war, energy security concerns and intensifying U.S.–China competition—have renewed its strategic importance. At the same time, the twin transitions the energy and digital sectors, combined with value chains nearshoring trends, open opportunities for the Mediterranean to emerge as a global geo-economic and geopolitical hub.

Despite this potential, the region remains one of the least integrated worldwide, hindered by fragmented markets, infrastructure gaps, regulatory divergences, and enduring political mistrust. Advancing Mediterranean integration requires moving beyond past approaches focused narrowly on trade and security, and instead adopting a fresh perspective centred on connectivity—in energy, logistics, and digital sectors.

Italy and Egypt are geographically and politically well-positioned to champion this agenda. Italy, as an EU founding member with deep historical Mediterranean ties, is redesigning its Mediterranean policies and seeks to position itself as the Union's northern anchor for south–north flows of energy, goods, and data. This strategic posture is reinforced by initiatives such as the *Mattei Plan for Africa* and projects like the Southern Hydrogen Corridor. Egypt, at the crossroads of Arab and African dynamics, in its *Vision 2030* leverages assets including the Suez Canal, Zohr gas field, Special Economic Zones and *Digital Egypt* strategies to consolidate its role as a regional hub. Together, Rome and Cairo offer complementary strengths: Italy brings advanced infrastructure, technology, and EU access, while Egypt provides route diversity, renewable potential, and digital talent pool and assets.

The report analyses these dynamics in three parts:

1. Strategic opportunities in connectivity across transport, energy, and digital infrastructure.
2. National perspectives, highlighting Italy's ambition to become a stabilizing connector under the EU and transatlantic frameworks, and Egypt's use of connectivity as a tool for economic development and external influence.
3. Sectoral analysis, assessing both countries' policies and capabilities in energy, logistics, and digital sectors, and identifying areas of convergence.

The report concludes that Mediterranean connectivity should become a pillar of Italy's and Egypt's respective foreign policies as well as inform the forthcoming Euro-Mediterranean cooperation frameworks.

Properly developed, a Rome–Cairo axis could facilitate the alignment of standards, the mobilization of financing instruments, and the realisation of joint projects capable of attracting EU and global investment. This axis could also transform parallel strategies into powerful drivers of Euro-Mediterranean cohesion, anchoring the region's role in the evolving global order. A pragmatic approach—built on targeted investments, regulatory harmonization, and trust-building—could enhance resilience, foster integration, and help tackle cross-border and structural challenges such as migration, climate change, and youth unemployment.

Amid growing competition from Türkiye, Greece, Gulf states, China economic penetration and Russia's encroachment in the southern shore, Italy and Egypt's ability to consolidate their respective role will

depend on their capacity to present a convincing joint vision for a shared connectivity platform in the Mediterranean.

1. Introduction

For over 3,000 years, trade and exchange across the Mediterranean have driven economic prosperity. An ever-evolving network of maritime links has benefited the many peoples inhabiting its shores, feeding cultural interaction and scientific progress. While the historical relevance of the "Mare nostrum" has somewhat diminished in recent times, ongoing and future developments offer new opportunities.

The COVID-19 pandemic, the Russia-Ukraine conflict, the U.S.-China trade war, ongoing global tariff tensions, rising concerns over energy security, and the reconfiguration of global supply chains: all these recent crises have underscored the need for bolder European strategic autonomy and action. At the same time, the energy and digital transitions, the nearshoring of value chains, and the ongoing push for the development of international corridors to facilitate trade and investment provide new opportunities to reshape the Mediterranean region's strategic value.

Currently the Mediterranean remains one of the least integrated regions in the world, with persistent barriers to the free movement of goods, services, people, and capital. Fragmented markets, inadequate infrastructure, and regulatory divergences continue to hinder deeper cooperation. Furthermore, mutual mistrust, political differences and historical grievances make cooperation difficult.

Against this backdrop, advancing Mediterranean integration requires more than just economic and security alignment, as tried unsuccessfully in recent decades. What is needed is a fresh perspective. A new strategic focus based on the potential of Mediterranean connectivity in strategic fields like energy, port and logistics and digital transformation could be one of the pillars of this new perspective.

Certain countries are especially well-positioned to champion stronger cooperation in the Mediterranean. Italy and Egypt—by virtue of their central geographic locations, extensive diplomatic networks, shared interests, and pivotal regional roles - could emerge as key actors in promoting enhanced connectivity across the region. Italy, as a founding member of the European Union with deep historical ties to the Mediterranean, and Egypt, strategically located at the crossroads of Arab and African dynamics, are also uniquely placed to foster dialogue and lead initiatives in areas such as economic cooperation, energy, and logistics. Their strategic positioning presents a valuable opportunity to bridge divides and advance a more cohesive and forward-looking regional agenda.

This policy report analyses the state of play and prospects of Mediterranean connectivity, with a particular focus on Italy and Egypt as key actors of a renewed trans-Mediterranean cooperation. In its first section the report analyses the opportunities provided by connectivity in the Mediterranean. It then moves to analyse Italy's and Egypt's perspectives and relationship. Section three provides a sectoral analysis for the two countries, focusing on energy, transport and logistic and digital and exploring areas of convergence. The last section tries to draw some conclusion from the analysis and make recommendations for action.

Overall, this report seeks to provide a foundation for stakeholders to engage in meaningful dialogue on how to unlock the Mediterranean's potential as a hub of interconnection, resilience, and shared prosperity.

2. Connectivity as a Strategic Opportunity for the Mediterranean

Over the past decade, profound transformations have swept across the wider Mediterranean region, giving rise to new challenges and deepening longstanding crises. State fragility, conflicts, security threats, irregular migration flows and growing socio-economic inequalities have made the area one of the world's most volatile. Simultaneously, the region has become a key arena for power projection by both global powers and emerging regional players, heightening rivalries over energy resources, maritime trade routes, economic assets, and logistics corridors. These dynamics have further exacerbated fragmentation and instability[1].

At the same time, there are growing signs of the emergence of a "new centrality" for the Euro-Mediterranean area[2]. Current near-shoring and friend-shoring of global value chains might eventually result in the rerouting of some significant trade flows towards southern Mediterranean countries and the Western Balkans. This, in turn, will also reshape the region's transport and logistics needs. Countries such as Egypt, Tunisia, and Morocco already account for over 8% of European procurement, driven by nearshoring strategies and established trade links.[3] Mediterranean economies—alongside Eastern European ones— are at the forefront of global sourcing, nearshoring, and reshoring trends. Some analysts have called these trends a "generational shift in sourcing strategy."[4]

The Mediterranean is also a vital area for the EU Global Gateway (GG) connectivity program[5]. The GG has already allocated €24 billion of investments in projects that support interconnections and open markets for EU companies in the Southern Mediterranean region.[6] Dubravka Šuica, the first European Commissioner for the Mediterranean, confirmed in April 2025 that mobilisation of private sector investments, job creation and economic growth will be an essential part of the New Pact for the Mediterranean.[7] The basin is also being gradually integrated into the Trans-European Transport Networks (TEN-T), with the development of Mediterranean logistics platforms connecting ports, industrial areas and infrastructure. The new EU Commission considers the Mediterranean one of its priority.[8,]

Key international players such as China are also heavily involved in competition for infrastructure development in the Mediterranean. Since the inception of the Belt and Road Initiative (BRI) in 2014, China has invested approximately $50 billion in the southern shore (over $60 billion if Türkiye is included).[9]

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[1] Giuseppe Dentice and Valeria Talbot (eds.), *A Geopolitical Sea: The New Scramble for the Mediterranean*, ISPI, July 17, 2020.
[2] Jeongmin Seong et al., "Geopolitics and the Geometry of Global Trade," Report, McKinsey Global Institute, January 17, 2024.
[3] QIMA, "Nearshoring and Reshoring Trends: Recent Updates," *QIMA Blog* (blog), July 16, 2025.
[4] Maersk, "Nearshoring in Europe: Finding the Right Partners," *Maersk* (blog), September 20, 2023.
[5] See for example: Arturo Varvelli, "The Global Gateway Initiative as a New Cooperation Paradigm in Euro-Mediterranean Relations," in *Mediterranean Yearbook 2024*, ed. European Institute of the Mediterranean (Barcelona: IEMed, 2024), 276–279; and Alberto Rizzi, "The New vs the Old: The Emerging Infrastructure Players in the Mediterranean", in *Mediterranean Yearbook 2024*, ed. European Institute of the Mediterranean (Barcelona: IEMed, 2024), 64–71.
[6] European Commission, "Mr Olivér Várhelyi Addresses the Participants of the Global Gateway Seminar in Rome" (Rome, May 22, 2024), accessed June 15, 2025.
[7] European Commission (Directorate-General for Enlargement and Eastern Neighbourhood), "EU and IFC Announce €291 Million Guarantee Program to Finance Global Gateway Through Support for Private Sector Investments," April 28, 2025.
[8] European Parliament, "Answer Given by Ms Šuica on Behalf of the European Commission to Written Question E-003050/24," E-10-2024-003050-ASW_EN, 7 April 2025, accessed June 28, 2025.
[9] For details on such investments, see: Luigi Narbone and Abdelkarim Skouri, "A Sea of Opportunities. The EU, China and the Mediterranean Connectivity," Policy Paper No. 2024/08, Luiss Mediterranean Platform, December 2024.

2.1. Transport and Logistics in the Framework of Reconfiguring Supply and Value Chains

The transport and logistics sector sits at the heart of structural transformation in the Mediterranean. The region has more than 450 ports and terminals. About 220,000 ships, or one-third of global merchant shipping, and a growing number of Asian vessels cross it every year, carrying roughly 30% of world maritime trade by volume. As such, the Mediterranean serves as a critical maritime corridor for regional and global trade, facilitating substantial cargo flows between Europe and North Africa, as well as those connecting the Atlantic and the Indo-Pacific.

By lowering the costs of exports and imports, efficient logistics contribute to growth and enhance competitiveness across the region. In addition, well-functioning transport and logistics are critical for the regionalization of sectors that draw on geographic proximity and economic complementarity. These factors, together with the ongoing evolution of the transports and logistics sector towards multidirectional and multimodal systems, could provide new strategic opportunities and economic gains for Mediterranean countries, while supporting deeper regional connectivity.[10]

A good example is given by the Special Economic Zones (SEZs) - which have become a popular policy instrument to increase export capacity, facilitating imports and driving economic growth in their host economies. SEZs rely heavily on enhanced logistics performance, infrastructure investments and other targeted incentives to attract foreign direct investment (FDIs). Many southern Mediterranean countries are already leveraging these zones as catalysts for innovation, knowledge transfer. North Africa is the subregion with the highest number of SEZs on the continent, with Morocco and Egypt leading the way.

But SEZs play a role also in northern Mediterranean countries. In 2017 Italy established eight zones in its southern regions, while seven Simplified Logistics Zones (SLZs) were being developed in central and northern regions. While progress remained limited until 2024, a renewed push to this strategy has been provided by the consolidation of all southern SEZs into a unified Single Special Economic Zone (SSEZ). This reform is expected to substantially enhance foreign trade and logistics in the ***Mezzogiorno***.[11] Supported by €630 million PNRR funding for upgrades to logistics, road, and rail infrastructure, the SSEZ could increase annual exports by approximately 4% and container traffic by 8.4%.[12] Early signs of success are already emerging. By mid-2025, the Single SEZ had authorized around 750 enterprises, mobilizing investments of approximately €27.5 billion.[13] If the effectiveness of the top-performing SEZs—Campania and Calabria—is replicated across the entire zone, some estimates suggest that economic impact could reach €83 billion.[14]

Against this backdrop the Mediterranean region has strong potential to emerge as a dynamic hub for regional supply and value chains, leveraging geographic proximity, extensive port infrastructure, and expanding network of SEZs, Free Zones, and Industrial Parks. Targeted investments in logistics, infrastructure, and high value-added sectors are laying the groundwork for deeper regional and global integration of southern Mediterranean countries.

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[10] See for example: CETMO & IEMed, *Mediterranean Transport and Logistics in a Post-Covid-19 Era: Prospects and Opportunities*, Policy study, September 2021; and Julián Martínez-Moya et al., "Transhipment Port Competitiveness Assessment: The Importance of Port Location," *WMU Journal of Maritime Affairs* 24 (2025): 179–99.
[11] Presidency of the Council of Ministers (Italy), *Single SEZ Strategic Plan in a Nutshell* (March 2025), accessed July 2, 2025.
[12] IMI Intesa Sanpaolo, "Relaunch of the SEZs for the Competitiveness of Southern Italy," *IMI Intesa Sanpaolo Insights*, December 27, 2023.
[13] Il Sole 24 Ore, "ZES Unica, un anno: autorizzate 750 imprese nel Mezzogiorno," August 6, 2025.
[14] See for example: Fondazione Nazionale di Ricerca dei Commercialisti, "Le Zone Economiche Speciali - Quadro di sintesi degli adempimenti per investimenti 2023 e delle opportunità future," February 27, 2024.

2.2. Enhancing Cooperation in Energy Security and Sustainability

The energy trilemma of security, affordability, and transition poses both risks and opportunities for trans-Mediterranean cooperation.

In Europe, the phase-out of Russian gas has intensified the urge for diversified energy supply. At the same time, global market volatility continues to drive up costs for households and industries. These shocks have led to a substantive redirection of energy flows, particularly natural gas, with heightening the importance of both gas and LNG imports from North African and Middle Eastern countries. This trend has required important upgrading of infrastructure, such as LNG regasification terminals.

On the southern shore, rising domestic demand due to demographic growth, high subsidies, and exposure to price shocks strain public finance and affect social stability. For oil importing countries in MENA, addressing affordability while ensuring security of supply will require significant efforts in infrastructure investments, diversification of sources, and mechanisms to protect vulnerable populations.

Europe's accelerated drive toward a "net-zero" economy also opens new prospects. With vast renewable potential, the MENA region is well placed to become a key partner in Europe's clean energy transition. In parallel, green energy can drive growth in the southern Mediterranean, while also supporting these countries' decarbonization, economic diversification and integration into future global energy markets.

Several feasibility studies and ongoing initiatives on electricity grid interconnections and green hydrogen production reflect the growing interest of both businesses and governments.[15] If sustained, these efforts could reduce reliance on fossil fuels, help balance energy supply and demand in Europe and North Africa, and unlock significant economic opportunities. Yet, numerous challenges must be addressed to make cooperation in green energy sources viable. The high relative cost of renewables compared to natural gas remains a major barrier to their development. Green energy faces a strong competition from the traditional energy sectors, which continues to be subsidised and is also in need of major investment to meet growing demand.

On the supply-side, significant investment in electricity grids would be required both to boost export to Europe, permit bidirectional electricity flows or even to meet the domestic demand.[16] Stepping up integration between electricity transmission systems to fully harness the potential of renewable sources in the Mediterranean will be a major undertaking. Both North -South and South-South interconnection of electricity grids are currently extremely limited, and upscaling will require more structured efforts in terms of investment, convergence of regulatory frameworks, knowledge sharing activities and forward-looking agreements between the countries involved. A more strategic approach to electricity systems integration would also require moving beyond the current project-based approach, and an effort to overcome the existing market fragmentation and bilateralism in the relationships between partners.[17]

At the same time, reducing production costs for green electricity and green hydrogen and its derivatives, is critical to ensure competitiveness. But sharp cost reductions are unlikely to happen while

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[15] See for example: Michael Tanchum et al., "Renewable Energy and Electricity Interconnection Megaprojects in North Africa: Prospects for Euro-North Africa Cooperation," *EuroMeSCo Policy Study* No. 34, IEMed, June 2024; Gabriele Cassetti and Filomena Annunziata, "Setting the Scene for an Interconnected, Renewable Mediterranean Energy System," Research Paper, ECCO, October 2024; and Victor Guillot and Edi Assoumou, "Power and Green Hydrogen Trade Potential between North African and European Countries: Conditions, Challenges, and Sustainability Prospects," *Applied Energy* 382 (2025).

[16] Interview with a think tank analyst, July 9, 2025.

[17] Interview with a representative of an industry organization, July 17, 2025.

the future of European demand remains uncertain. The development of hydrogen value chains, for example, will need dedicated infrastructure—including transport options, expanded port capacity, bunkering and storage facilities, as well as new or repurposed pipelines. However, without subsidies or legislation mandating the use of green hydrogen in hard-to-abate sectors, demand is unlikely to rapidly reach the scale needed to justify multi-billion-euro investment.[18] Additional challenges include disparities in technological capacity and the geopolitical complexities of the Mediterranean.

All these factors limit the market for green energy and slow down the transition. Yet, even if it proceeds at a slower pace, the global energy transition will continue. As it accelerates, the Mediterranean region is well placed to serve as a testing ground for innovative solutions that advance both integration and sustainability.

2.3. Digital Connectivity and Infrastructure Development

The Mediterranean is gaining critical importance as a global digital transit point, offering strategic opportunities for enhanced digital interconnection. The region serves as a natural hub for international data flows between Europe, Africa, and Asia,

Italy, with its advanced digital infrastructure and data processing expertise, and Egypt, with its strategic location linking the Red Sea to the Mediterranean, are well-positioned to drive this transformation. As an example, the Medusa submarine cable—an ambitious €342 million project—aims to directly interconnect, for the first time, the northern and southern shores of the Mediterranean as well as southern countries among themselves through a high-capacity, optical fibre network. Such developments hold the promise of narrowing the digital divide across the Mediterranean, while fostering greater competitiveness and regional integration.

However, with the rise in geopolitical tensions digital infrastructure shows growing strategic vulnerability. An all-out attack on undersea cable infrastructure could result in massive disruption to civilian internet and secure military communications. A successful breach could act as a kill-switch for regional—or even inter-continental—connectivity.[19] States that host key landing stations can, in theory, coerce neighbours by threatening to disrupt transit; adversaries can signal intent by launching distributed denial-of-service (DDoS) storms against the management VPNs that knit repeaters into a single logical system.

To mitigate these risks while capitalizing on emerging opportunities, Mediterranean countries must prioritize the resilience, redundancy, and diversification of their digital networks. This involves investing in additional cable landing points, developing regional data centres, strengthening cybersecurity protocols, and advancing international agreements to protect undersea infrastructure. As the strategic importance of digital connectivity continues to grow, the Mediterranean will increasingly function not

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[18] See some critical assessments for example: Michael Barnard, "Hydrogen Hype Meets Hard Costs: Europe's Pipeline Plan in Trouble," *CleanTechnica*, February 21, 2025; Peggy Shu-Ling Chen, Hongjun Fan, and Nagi Abdussamie, "Evaluation of Hydrogen Shipping Cost for Potential Trade Routes," *WMU Journal of Maritime Affairs* 24 (2025): 315–38; Florian Egli et al., "Mapping the Cost Competitiveness of African Green Hydrogen Imports to Europe," *Nature Energy* 10 (2025): 750–61; Mapping the cost competitiveness of African green hydrogen imports to Europe | Nature Energy; and Nicolas Wolf, Michelle Antje Tanneberger & Michael Höck, "Levelized Cost of Hydrogen Production in Northern Africa and Europe in 2050," *International Journal of Hydrogen Energy* 69 (2024): 184-194.

[19] See, for example, the mid-2024 Houthi attack on Red Sea internet cables: David Hutt, "EU, Southeast Asia Aim to Boost Security for Undersea Cables," *Deutsche Welle*, June 9, 2025; and Olivia Solon and Mohammed Hatem, "Damaged Internet Cables Repaired in Red Sea as Houthis Attack Ships," *Bloomberg*, July 17, 2024.

only as a vital data bridge, but also as a critical front line in the evolving contest for digital and geopolitical dominance.

2.4. Governance and Risk Dimensions of Mediterranean Connectivity

As Mediterranean energy, transport, and digital interconnections expand, governance and regulatory convergence emerge as decisive enablers of integration and risk management. Connectivity is not only about cables, grids, and ports; it also depends on the quality of the rules, institutions, and cooperative mechanisms that make those infrastructures interoperable, transparent, and resilient. Yet, as the Union for the Mediterranean's (UfM) regional integration report emphasizes, "challenges to the development of the connectivity infrastructure persist, especially in the south," where regulatory fragmentation, poor coordination, and constrained capital mobilization hinder logistics performance and trade potential.[20] Moreover, the lack of progress in regional integration is due to the limited private sector participation, dominance of state actors, and slow deployment of broadband infrastructure in Southern Mediterranean countries. The region's institutional fragmentation is also a structural obstacle to deeper connectivity.

In energy, MEDREG the Association of Mediterranean Energy Regulators, highlights the need for more efforts to promote a consistent regulatory environment, increase transparency, and identify[21] limiting investor confidence and complicating cross-border cooperation.

To move beyond piecemeal coordination, the Mediterranean needs multi-level, cross-sector governance mechanisms. The *Med-TSO Action Plan 2025–2030, for instance, prioritises* the alignment of grid codes, enhancing data sharing, and strengthening of institutional roles to support an integrated Mediterranean power system.[22] MEDREG and Med-TSO have also intensified cooperation, exploring mechanisms to synchronize interconnection operation, data interoperability and regulatory convergence in the electricity sector.[23] Such technical alignment, if embedded in binding governance structures (e.g., common oversight bodies, dispute-resolution rules, joint planning mandates), can anchor predictability and reduce policy risk across the connectivity space.

Standards harmonization is equally critical in transport and logistics. Cross-border corridors require unified procedures for customs, safety, environmental compliance, and digital systems. The UfM report advocates the development of multimodal transport networks (road, rail, maritime) and alignment with sustainability norms—especially since UfM states currently account for 13.4 % of global transport emissions (a 40 % rise since 1990).[24] In digital infrastructure, projects like the Medusa submarine cable depend heavily on consistent national deployment of broadband and legal frameworks. A governance regime that stipulates interoperable certifications, infrastructure quality benchmarks, data-trust frameworks, and shared cybersecurity norms would reduce fragmentation and transaction costs across sectors.

Ideas are being floated to enhance cyber-security cooperation in the Mediterranean. One approach could be to establish a Euro-Mediterranean governance mechanism capable of harmonizing

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[20] Union for the Mediterranean, *Regional Integration in the Union for the Mediterranean 2025*, Progress Report, September 2025. Pp. 14-15.
[21] MEDREG, *Annual Report 2024*, June 2025.
[22] Med-TSO, *Charting the Course: Med-TSO Roadmap to 2030*, April 15, 2025.
[23] EU Neighbours South (European Commission), "MEDREG and Med-TSO Tighten Cooperation for an Interconnected Mediterranean Electricity Market," June 5, 2025.
[24] Union for the Mediterranean, *Regional Integration in the Union for the Mediterranean 2025.*

regulations, responsibilities, and operational capacities for the protection of cables. This model could envisage a multi-level technical authority, able to coordinate coastal states and private operators through a simplified system of concessions, digital interoperability tools, and a shared register of active and planned cables. Maritime regulation should also identify priority areas for the protection of submarine corridors, ensuring the exclusion of high-risk activities and the coordination of maritime spaces according to the principles of collective security and sustainable development.[25]

The vulnerabilities associated with weak governance translate directly into systemic risks. The Mediterranean's connectivity infrastructure is concentrated in narrow corridors and exposed to geopolitical volatility (e.g., Eastern Mediterranean tensions, Red Sea disruptions). In energy, regulatory uncertainty and lack of stable cross-border contracting frameworks impede long-term power-purchase agreements. In logistics, asymmetric safety and insurance standards increase exposure to maritime incidents, while cyberattacks targeting port or grid management systems are growing in sophistication. Digital routes are vulnerable. The International Marine Contractors Association (IMCA) has cautioned that undersea infrastructure requires cooperative regimes between states and operators.[26] Likewise, in the energy sector, the fragmented regulatory regimes have already been flagged by various studies as a factor that discourages cross-border investment.[27]

To mitigate these exposures, a 'Mediterranean Connectivity Risk Matrix' could be envisaged for mapping risks across sectors (cyber, maritime, regulatory, geopolitical, environmental) and weighting them against governance metrics (standard convergence, transparency, dispute mechanisms). The UfM Secretariat or a joint EU–UfM observatory could host this as a regional instrument, combining data from Med-TSO, MEDREG, infrastructure agencies and supply-chain analysts. The *Med-TSO Action Plan* already calls for enhanced data sharing, centralised Mediterranean databases, and scenario-based stress tests as resilience measures.

Advancing Mediterranean connectivity will depend on closer coordination between MENA and European actors, gradual convergence of technical and regulatory standards, and stronger shared mechanisms for risk management. These steps, far from limiting national sovereignty, can foster trust and coherence across sectors. Ultimately, infrastructure—from cables to ports—will deliver lasting value only if embedded in transparent rules and joint oversight, turning fragmented projects into a resilient and integrated Mediterranean network.

[25] Interview with a company representative, July 2025.
[26] IMCA, "Europe Must Work in Partnership with Marine Contractors to Safeguard Critical Undersea Infrastructure," September 10, 2025.
[27] See for example: Atlantic Council, "Great Sea Connections: Financing the Eastern Mediterranean's Energy Transition," June 17, 2025; and ECCO / IRES4Africa Foundation, "Securing the Energy Transition in the Mediterranean," June 2025.

3. Shifting Currents: The Geopolitics of Mediterranean Connectivity Seen from Rome and Cairo

As highlighted in the above sections, the Mediterranean is becoming a space where European, Middle Eastern, and African security concerns converge. Russia's war in Ukraine and Red Sea disruptions have amplified the Mediterranean's role as an artery for energy and trade, accelerating competition for infrastructure control and influence over digital and green-transition corridors.

Regional actors are pursuing overlapping but often competing strategies. Türkiye for instance, aims at projecting influence across the entire basin and beyond through its "Blue Homeland" doctrine, expanding its maritime footprint and energy claims. France, in turn, positions itself as a Mediterranean security guarantor, while Gulf powers—especially the UAE, Qatar, and Saudi Arabia—are investing heavily in ports, logistics, and renewable energy projects across Egypt, Morocco, and the Levant, embedding themselves as long-term stakeholders in Mediterranean connectivity. Russia hard power projection is mostly opportunistic and subject to the ebbs and flows of the security situation in the region. The United States maintains a naval security presence, but its broader security, political and economic engagement in the Mediterranean is dwindling – except for its steadfast support to Israel - and its focus is increasingly sectorial, like that on cyber and digital infrastructure resilience. China stands out as a major trade partner and financial and technological investor, notably through Belt and Road-linked port concessions, but Beijing has so far been reluctant to get involved in the complex political problems of the region.

Against this fast moving and uncertain backdrop, and because of their respective geography, both Italy and Egypt face increased geopolitical and geo-economic challenges. At the same time, this new context provides both countries with new important opportunities.

3.1. Perspectives from Rome

Known since Roman times as *Mare Nostrum*, for Italy the Mediterranean has long served as a hub for political, commercial, and cultural exchange. Today, Rome views the Mediterranean both as an historical anchor and a forward-looking frontier.

In this framework, geography is both a blessing and a curse: perched at the northern edge of the basin, Italy is a natural bridge between Europe, North Africa and sub-Saharan Africa. Proximity, control of maritime routes, and existing energy infrastructure represent important assets for the country, backing its quest to become the EU's hub for Mediterranean energy, data flows and more.

However, proximity also exposes the country to the instability and challenges arising from across its southern flank: Russia's military encroachment in North Africa and the Sahel, China's successful economic reach in the Mediterranean, irregular migration flows, Türkiye's and France's assertiveness, Greece's and Cyprus' as gateways for Europe. All these factors combined force Rome to revisit its Mediterranean policies.

The launch of the Mattei Plan for Africa in January 2024,[28] backed by an initial €5.5 billion fund, is one of the answers that the Meloni's government has given to this panoply of risks and opportunities. The Plan adds a new dimension, the "wider Mediterranean", to the traditional transatlantic and European pillars of Rome's foreign policy.[29]

Migration control remains the key driver of Italian engagement with key countries of origin and transit in the Sahel and sub-Saharan Africa. In this framework Italy has concluded bilateral arrangements designed to curb irregular flows and has pushed the EU to do the same with countries like Libya, Tunisia and Egypt. These agreements sit alongside Italy's initiatives under the Rome Process and the Mattei Plan's partnership projects intended to address some of the structural causes of migration.

> ***Italy is a natural geographical platform in the Mediterranean, a sea that unites Africa to Europe and connects the two great maritime spaces of the globe: the Atlantic on one side and the Indo-Pacific on the other. This makes Italy the natural bridge between the European continent and the African continent, in a scenario in which the Mediterranean has acquired a renewed centrality in global interconnections.***
>
> **– Excerpt from the Mattei Plan for Africa**

Energy security is the second major reason why Rome looks south.[30] Energy and infrastructure development constitute the sixth pillar of the Mattei Plan, indicating Italy's interest in positioning itself as the EU's northern anchor for south–north energy and data flows. This fits well with a long-standing Rome's ambition: since the Crimea crisis of 2014, Italy has sought to diversify away from dependence on east–west supply lines, envisioning a north–south energy axis anchored in the Mediterranean. Already in 2017, then–Foreign Minister Angelino Alfano stated that becoming "a Mediterranean energy hub is [Italy's] ambition."[31] This strategic objective has gained renewed urgency after Russia's invasion of Ukraine in 2022, as Rome accelerated investments and partnerships to secure gas supply from North Africa.

But energy security is not the only element driving Italy's action in the sector. Looking forward, hydrogen and renewable corridors also provide interesting potential for engagement with southern Mediterranean countries, as shown by the flagship projects such as the Southern Hydrogen Corridor.

Most recently, Italian geopolitical ambitions have stretched even further, embracing the vision of a "Global Mediterranean." Recently, Rome has deepened its engagement across the Indo-Mediterranean space, joining the India–Middle East–Europe Economic Corridor (IMEC) and appointing a special

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[28] See for example: Allan Kaval, "L'Italie se rêve en "hub énergétique" méditerranéen", *Le Monde*, May 2, 2024.
[29] RANE, "Italy Syncs Its Mattei Plan for Africa with EU Initiatives," Assessment, *RANE Worldview*, June 19, 2025.
[30] Giovanni Carbone and Lucia Ragazzi, "Rebooting Italy's Africa Policy: Making the Mattei Plan Work," Policy Paper, ISPI, February 25, 2025.
[31] Ministry of Foreign Affairs (Italy), "Speech by Hon. Minister Alfano – "What Italy Can Do to Unlock the Full Potential of the Mediterranean?"" Ernst & Young's Mediterranean Strategic Growth Forum, Rome, February 9, 2017.

envoy for the project in 2025. In this framework, Italy has deepened its ties with the UAE, Saudi Arabia, and India and concluded new strategic partnerships that expand energy and defence cooperation. This multidimensional engagement reflects Rome's interests in emerging global corridors, linking the Mediterranean to the Indo-Pacific and beyond.

Italy also sees port development, especially through digitalization and intermodality, as conducive to enhancing Mediterranean connectivity. As an example, since mid-2000s the country has engaged in the "Motorways of the Sea," an EU initiative aimed at promoting regular, frequent, and profitable shipping services to enhance the competitiveness of maritime logistics. Run by RAM, a public company owned by the Ministry of Sustainable Transport and Mobility, the project has given a significant boost to sea connectivity. Since 2004, the number of trips along the "Motorways of the Sea" routes have increased by about 40%, while weekly international connections have grown from 46 in 2004 to 121 in 2024.[32.]

The Mattei Plan signal Italy's strong desire to translate geography into strategy and building platforms to project influence beyond its weight. On this purpose, Rome has also tried to push private sector actors to get involved in the initiative. However, several structural issues constrain Italy's action. First, the limited funding available to underpin its ambitious Mediterranean and African policies. The Plan has sometimes been criticised for its overstretched geographic and sectoral priorities which limit the strategic coherence. Given the persisting fiscal constraints, Italy's success will critically depend on its capacity to mobilise the GG and other EU instruments, as well as to leverage the bloc's regulatory weight. Second, Italy struggles to match the diplomatic and military visibility of France, Germany, and Spain in the Mediterranean. Finally, the current right-wing government's ambiguities in its relationship with Brussels and key European countries, together with a certain degree of subservience to President Trump's foreign policy choices, further reduce Italy's autonomy and margin of manoeuvre. Italy's influence in key Euro-Mediterranean connectivity projects risks dilution unless it secures a seat at the European table. and a leading role in shaping the future of the Mediterranean space.

3.2. Perspectives from Egypt

Turbulence in the Mediterranean and its wider neighbourhood is both a challenge and a question of survival for Egypt. Egypt is the most populous country and has the largest standing army in the region. Geography allows Cairo to control key chokepoints – the Suez Canal, Red Sea access, and Nile Basin – making the North African country a key strategic player in the Mediterranean and beyond. Yet these assets are closely interlinked with the domestic order. The Egyptian Armed Forces (EAF) and the military-security establishment dominate the country's political and economic scene and act as both guarantors of stability and central actors in economic development. This role has further deepened under President Abdel Fattah al-Sisi, and the EAF now oversees key sectors such as infrastructure, ports, logistics, energy, agriculture, and manufacturing. This concentration of power has permitted Egypt to rapidly implement large-scale infrastructure and energy projects while maintaining domestic stability in the face of regional crises. At the same time, it gives rise to recurrent international criticism and raises fundamental questions about the structural solidity of the Egyptian economy and its long-term socio-economic viability.

Furthermore, this securitized model also locks Egypt into several structural dependencies. For example, Egypt's foreign policy uses multi-alignments to navigate multi-level dependencies. The United States is Cairo's indispensable military partner, but Russia plays a key role in Cairo's as an alternative arm

[32] Interview with a company representative, July 2025.

supplier. China's Belt and Road Initiative is essential to finance its rapidly developing infrastructure programs, but Gulf patrons also remain crucial, with Saudi Arabia and the UAE providing a financial lifeline, though in an increasingly transactional way and tied to Egypt's alignment with their political and regional agendas. These multi-alignments highlight the importance of Egypt for many regional and international players, but also heavily constrain Cairo's capacity to act.

More broadly, Egypt's foreign policy is deeply informed by security considerations in the face of considerable instability and threats arising in its immediate neighbourhood. In Libya, Sudan, Yemen, and the Horn of Africa, Cairo uses a combination of military support for aligned factions, border security measures, and naval deployments in the Red Sea and Eastern Mediterranean. For example, in Libya Cairo backs General Haftar against Tripoli's government, Islamist factions and Turkish influence; in Sudan, it supports the national army against the UAE-backed RSF. The Gaza conflict forces Egypt into a delicate dual role: mediator between Israel and Hamas and gatekeeper to prevent mass Palestinian displacement into Sinai, a scenario seen as posing existential threats. Similarly, the Nile dispute, with Ethiopia's Grand Renaissance Dam, is perceived as a direct threat to national survival.

Economic fragility deepens the challenge. Debt servicing absorbs over half of state revenues while poverty afflicts nearly a third of the population. Various bailouts from the IMF and Gulf have prevented economic collapse but they have also entrenched dependency. Inflation has been easing in 2025, but the military's dominance in the economy stifles private investment and limits growth. All these factors are clear manifestation of a perduring Egypt's paradox: geographic leverage and military strength make the country pivotal, but internal vulnerabilities keep it reliant on external lifelines.

The Mediterranean has historically positioned Egypt as a vital conduit for trade and cross-cultural exchange. Today, this geography continues to underpin Cairo's geopolitical and geo-economic posture. In this framework, Egypt leverages its strategic assets, particularly energy and trade infrastructure.

The discovery of the Zohr gas field and the establishment of liquefaction facilities at Idku and Damietta have positioned Egypt as a regional energy hub, with exports serving as both a source of revenue and a lever of influence in the Eastern Mediterranean. The country's energy policy, particularly through the East Mediterranean Gas Forum, foster economic interdependence with regional partners while counterbalancing Türkiye's maritime claims.

The Suez Canal, accounting for a substantial share of global maritime trade and container traffic, remains a central asset. Disruptions in Suez Canal traffic since late 2023 have cut billions in revenue. Egypt also capitalizes on its geographic position as a bridge between Europe, Africa, and Asia, a vision which shape much of Egypt's MEGA programme the large-scale development initiatives designed to transform Egypt's economy, urban landscape, and infrastructure. They include a new administrative capital city, large-scale land reclamation and agricultural projects in the New Delta, and the expansion of power generation capacity. Egypt's MEGA strategy embodies a comprehensive vision that integrates military power, economic development, infrastructure expansion, and regional diplomacy, reinforcing its centrality in the Mediterranean and its role as a mediator and stabilizer.

Despite the challenges, Egypt remains a pivotal actor in the Euro-Mediterranean area, and its stability directly affects regional security, trade, migration, and the strategic calculations of global powers.

3.3. The Italy-Egypt relationship

Political relations between Italy and Egypt balance a mix of strategic alignment and periodic tension. The sharpest rupture came with the 2016 killing of Italian researcher Giulio Regeni in Cairo, which froze high-level political relations and placed human rights at the centre of bilateral frictions. Yet by 2020,

energy interdependence, Mediterranean stability, and migration management pushed Rome to re-engage. Since then, the bilateral relationship has been rebuilt, and both sides compartmentalize disagreements to sustain cooperation in areas of mutual interest.

Security and defence ties have become a central pillar of this pragmatic rapprochement. Italy is one of Egypt's principal arms suppliers, reflecting Cairo's effort to diversify suppliers beyond the United States and Russia. The relationship was marked by the €10–11 billion defence package agreed in 2020 – the largest in Egyptian history with a European state. The deal underscores shared interests in Mediterranean stability but was heavily criticised due to the Egyptian regime's human rights track-record, revealing the complexities of the delicate balance between economic interests and ethical considerations.

Italian and Egyptian strategic and security interests converge most clearly in North Africa, on the Libya file and on control of irregular migration. Italy views Egypt as a frontline partner in protecting Southern European shores, while Cairo leverages Rome as both a NATO interlocutor and a political advocate within the EU. Cooperation has also intensified in maritime security, with joint naval exercises in the Mediterranean and the Red Sea aimed at ensuring freedom of navigation, countering smuggling, and securing critical trade routes through the Suez Canal.

This convergence is reinforced by shared energy security concerns. Italy's reliance on Eastern Mediterranean gas – much of it processed and exported from Egyptian LNG terminals – also creates a joint interest in protecting offshore platforms and subsea infrastructure. Cybersecurity has emerged as a new area of dialogue, given both countries' roles in hosting and securing Europe–Asia digital cable routes. The Rome–Cairo axis on defence and security is likely to deepen, but it will continue to operate under a pragmatic, transactional logic and will be shaped by external shocks such as migration surges, Libyan instability, and great-power competition in the Mediterranean.

In economic terms, bilateral trade has been growing, reaching $5.145 billion in 2023, with more than $3 billion in Italian investment, while ministerial meetings emphasized strengthening cooperation in oil and gas. At the same time, renewables have emerged as a core pillar of the partnership. In early 2024, Egyptian and Italian officials agreed to expand collaboration on clean energy, with a flagship interconnection project designed to deliver 6,000 MW within 4–6 years, and longer-term ambitions to raise this to 8,000 MW.[33] Moreover, the Mattei Plan for Africa, includes joint ventures in solar and wind manufacturing.

Italy has become a key partner in advancing Egypt's MEGA objectives. In transport, for instance, the two nations are negotiating a high-speed rail project led by Italy's Ferrovie dello Stato, aiming to enhance Egypt's infrastructure. The Egypt-Italy Roll-on/Roll-off service line, connecting Damietta to Trieste, further bolsters trade and reinforces Egypt's role as a Mediterranean transit hub. Energy and industrial cooperation also offer opportunities, with Italian firms like MERMEC modernizing Egypt's rail systems and establishing local production facilities, aligning with Cairo's goal of reducing import dependency. However, Italy's competitive advantage in this sector is at present reasonably small, as it faces competition from global players, such as Siemens, Thalys, and increasingly the Chinese operators.

When looking at inter-regional connectivity, especially ports and shipping lines, there is ample opportunity for Italian based operators, investors, shipyards, and manufacturers, to increase current low-value trade flows. A more pro-active port and shipping strategy, targeting cooperation or mutual investments with Egyptian ports and SEZ/FTZ, are still a major opportunity.

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[33] EUNews, "Egypt Accelerates: Soon Project to Export Green Energy to Italy via Cable," *Cairo Sustainable Energy Week*, October 1, 2024.

4. A Sectoral Analysis: Energy, Logistics, and Digital Infrastructure

4.1. The Case of Italy

Italy is strategically positioned to become a pivotal player in Mediterranean connectivity and integration. This ambition is supported by the country's geographic location, but also its by broader economic interests and robust infrastructure in energy, transport, and digital sectors[34].

This section analyses Italy's strengths and weakness regarding these sectors.

4.1.1. Energy

Italy is among the most energy-dependent countries in Europe. In 2023, imports accounted for 74.8% of its energy needs, compared to an EU average of 58%. However, this dependency is gradually easing, down nearly three percentage points from the pre-COVID level of 77.5%.[35]

Italy's energy strategy has undergone a major shift in response to geopolitical disruptions—notably the sharp reduction in Russian gas imports following the 2022 invasion of Ukraine. Over the past three years, Italy has pursued an active diversification strategy, securing additional supplies from Algeria and Azerbaijan, expanding LNG infrastructure, and accelerating investment in renewables. Together, these efforts aim to reinforce energy security while advancing the transition to a more sustainable energy system. They are anchored in Italy's Integrated National Plan for Energy and Climate (PNIEC), the national roadmap to 2030, aligned with the EU target of cutting net emissions by 55% compared to 1990 levels.

In general, Italy is pushing forward a vision based on a pragmatic, technology-neutral approach, including nuclear, to solve the energy transition.

Fossil fuels

Fossil fuels account for almost 80% of Italy's total energy supply. As of 2023, natural gas accounted for approximately 38% of the country's total energy supply, making it the largest single energy source in its energy mix, followed by oil at 37%, coal at 4%, biofuels and waste at 10.5%, and wind, solar, and other renewables at 7.5%.

Oil imports have decreased by 44% over the past two decades**,** reflecting both structural shifts in demand and energy transition efforts. The Italian government anticipates a continued decline in oil consumption in the medium and long term**,** primarily driven by the gradual phasing out of internal combustion engine (ICE) vehicles.

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[34] This positioning is stated in several policy documents and initiatives, the most important of which is the Italian MFA's policy document The Italian Strategy in the Mediterranean: Stabilizing the Crises and Building a Positive Agenda for the Region (2017), as well as the Prime Minister's Mattei Plan for Africa (2024). Italy also hosts the annual high-level conference on Mediterranean geopolitics "Rome MED - Mediterranean Dialogues" since 2015, which ranks it amongst the top three think tank conferences globally.

[35] Intesa Sanpaolo, "Enemed25: Sintesi per la stampa (6° "Med & Italian Energy Report")," Press release, January 28, 2025.

Natural gas

Natural gas remains Italy's most important energy source, particularly for electricity generation and residential heating. Italy is the second-largest importer of natural gas and the largest importer of LNG in Europe. Gas is also perceived has a key energy source in the transition to net zero.[36]

Before 2022, Russia accounted for around 40% of Italy's natural gas imports, making it the country's largest supplier. The remaining 60% came from different partners, including Algeria, via the Trans-Mediterranean Pipeline (TransMed) and Azerbaijan through the Trans Adriatic Pipeline (TAP), while Libya supplied smaller quantities through the Greenstream Pipeline. Additional volumes were sourced as Liquefied Natural Gas (LNG)

After the Russia's invasion of Ukraine, Rome significantly ramped up LNG imports. By mid-2024, Italy's LNG imports have reached approximately 10.54 million metric tons (MT), sourced mainly from Qatar (4.84 million MT), the United States (3.72 million MT), and Algeria (1.45 million MT). Italy also strengthened agreements with Algeria, Libya, and Azerbaijan to secure larger and more stable flows.

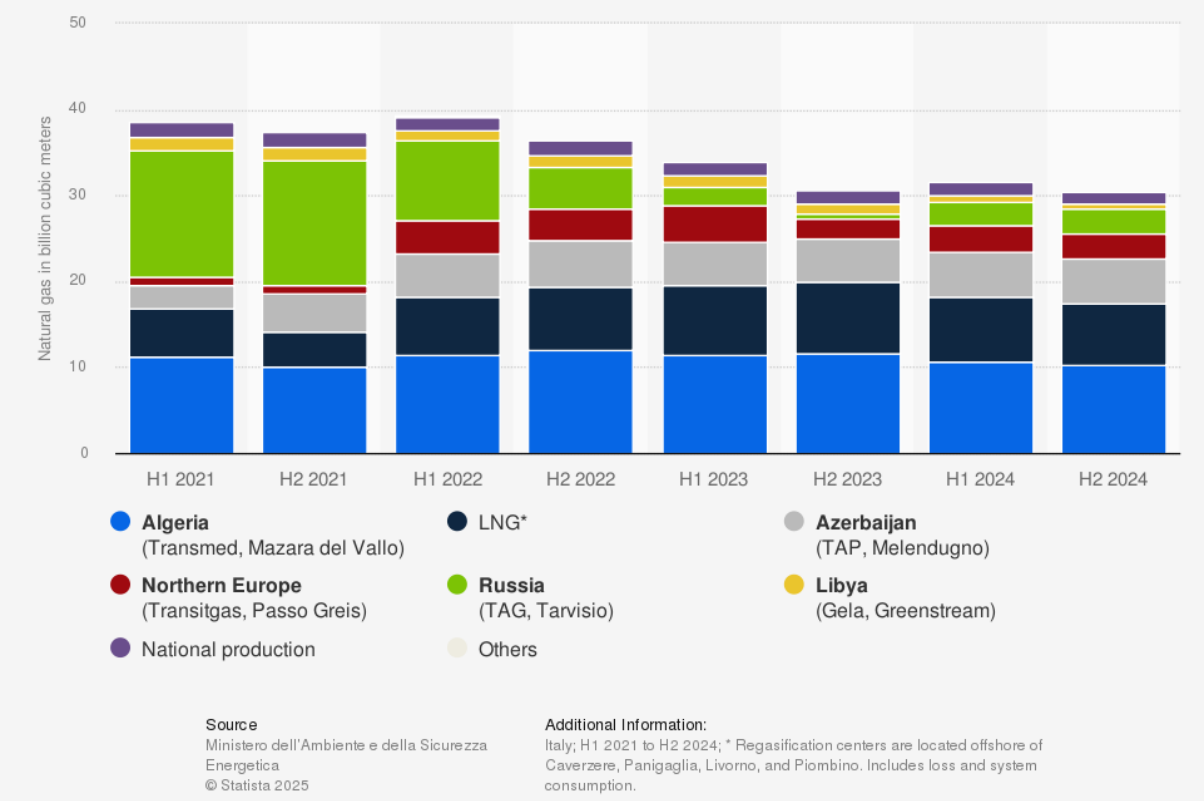

Figure 1. Imports and production of natural gas in Italy from 2021 to 2024, by country of origin, pipeline, and entry point (in billion cubic meters (bcm)). Source: Statista, 2025.

In December 2023, Snam—Italy's main gas infrastructure operator—acquired the Floating Storage and Regasification Unit (FSRU) *BW Singapore* for approximately €367 million. The vessel, with a regasification capacity of 5 bcm per year, once operational will raise Italy's total capacity to 28 bcm annually, restoring pre-crisis import levels[37]. Snam is also developing the €2.5 billion Adriatic Line

[36] Interview with a company representative, 18 July 2025
[37] FSRU Italia, "Ravenna Floating Storage and Regasification Unit," accessed May 26, 2025.

pipeline, designed to transport 10 bcm of gas per year from south to north. Scheduled for completion by end-2027, the project will address domestic transmission bottlenecks.

While primarily focused on domestic supply security, Italy's regasification expansion also positions the country as a potential re-export hub. With interconnection capacity of 9 bcm/year to Austria and 14.5 bcm/year via Switzerland, Italy is structurally well placed to channel southern-sourced gas into central Europe. Reflecting this trend, in 2024 Czech utility ČEZ signed a supply agreement with Algeria's Sonatrach, while Germany's VNG concluded a medium-term deal—both signalling Algeria's growing interest in Italy as a transit corridor.

However, Italy's growing regasification capacity does not automatically guarantee increased LNG capacity. As one market analysis notes, without long-term contracts in place "any additional Italian LNG terminal needs to compete with other European terminals based on pure net-back logic against [Asian LNG benchmark] JKM."[38] In short, global price dynamics and demand, particularly from Asia, will continue to shape the extent to which Italy's expanded infrastructure is utilized.

In this framework, Eni is significantly expanding its LNG footprint. Over the next five years, the company plans to double its LNG carrier fleet and grow its portfolio to 18 million tonnes per year by 2027[39]. This strategy combines diversification of supply with global market positioning, particularly in Asia. Eni is also deepening its role in Africa: in February 2024 it facilitated the Republic of the Congo's first-ever LNG export, with the inaugural cargo delivered to Italy's Piombino terminal.[40]

Together, these developments signal a strategic transformation. Italy is evolving into a central node in the Mediterranean energy landscape—a transit and redistribution hub linking African, Middle Eastern, and Caspian producers to European markets. Cross-border infrastructure is already in place, while ongoing projects will further strengthen Italy's potential.

Renewables

Italy has emerged as a frontrunner in renewable electricity production. In 2023, renewables supplied 75.2% of electricity output—far above the EU average of 45.9% and ahead of both large economies and traditional clean-energy leaders. Hydropower contributed 19%, while solar and wind together reached 22%, surpassing the global average for these technologies. In 2024, renewable production rose by 13%, driving total national output to 264 Terawatt-hour (TWh) and covering 84% of domestic demand. This expansion was powered by strong growth in hydropower (+30%) and solar (+19%), while coal generation dropped sharply by 71%.[41]

Despite these gains, Italy's energy consumption remains structurally dependent on fossil fuels, with natural gas and residual coal still meeting 51% of demand in 2024. The widening gap between production strength and consumption patterns points to the need for demand-side reforms. Electrification of heating and transport, enhanced storage, and grid modernization will be critical to consolidate progress and ensure that Italy's exceptional renewable output translates into a durable reduction in fossil fuel reliance.

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[38] MET Group, "Italy Builds Up Role as Gas Exporter," December 10, 2024.
[39] Eni, "LNG: Strategy and Innovation in Energy Transport," accessed May 26, 2025.
[40] Congo Energy & Investment Forum, "Congo Energy & Investment Forum (CEIF) 2025 Technical Workshop to Support Congo's Ambitious Liquefied Natural Gas (LNG) Targets," Press release, February 26, 2025.
[41] Terna S.p.A., "Electricity Consumption Increases by 2.2% in 2024," Press release, January 16, 2025.

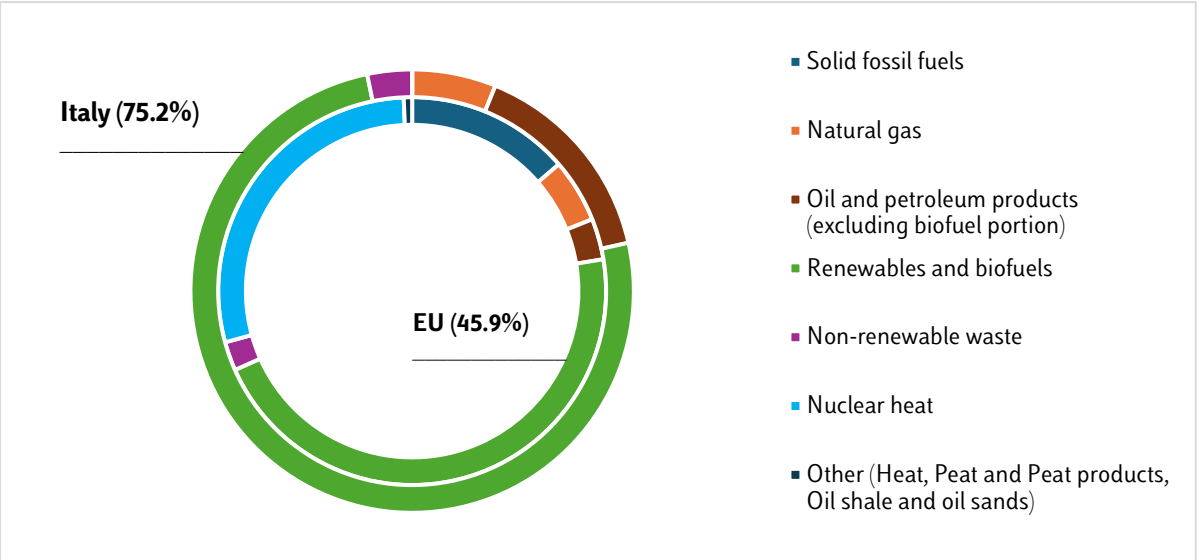

Figure 2. Share of energy production by source in Italy (outside) and the EU (inside), 2023
Source: ***Eurostat***, 2025, with calculations of the authors.

Under the updated National Energy and Climate Plan (PNIEC, 2024), Italy has set a target of 131 GW of renewable capacity by 2030, led by solar (79 GW) and wind (28 GW), while seeking to address persistent bottlenecks such as permitting delays and grid modernization. The PNIEC also reopens the nuclear debate, with the government projecting up to 8 GW of capacity by 2050, potentially covering 10% of electricity demand. With advanced technologies such as Small Modular Reactors and Generation IV systems, nuclear could supply more than 20%, though these ambitions remain long-term and uncertain.

The revised PNIEC reflects a more cautious stance considering geopolitical volatility, rising energy poverty, and implementation gaps. Italy has lowered its 2030 projection for renewable energy in final consumption to 26%, compared with 30% in 2019. This softer trajectory contrasts with EU momentum under the REPowerEU plan and has drawn criticism from observers who argue that Italy risks undershooting both climate targets and green industrial opportunities.[42]

The most pressing misalignment concerns EU climate law. The Fit-for-55 package requires Italy to cut emissions in Effort Sharing sectors by 43.7% from 2005 levels by 2030. The PNIEC sets a lower 40 % target and provides no clear path to bridge the gap, leaving an estimated shortfall of 100 $MtCO_2eq$. At current carbon prices, this could translate into €15 billion in compliance costs. At the same time, infrastructure planning remains conservative: despite a 20% drop in gas use since 2021, projected demand is fixed at 61.5 bcm annually, raising doubts about coherence between supply strategy and long-term decarbonization goals.[43]

Sectoral performance is uneven. The power sector has been the most dynamic, with strong growth in solar and wind and Enel advancing its fossil gas phase-out to 2040, a decade earlier than planned. By contrast, transport emissions rose by 6.7% in 2022, erasing earlier progress, while reductions in buildings and industry have been modest. Emissions under the EU Emissions Trading System also increased, driven by a temporary rebound in coal generation amid energy price volatility. [44]

[42] ECCO, "NECP: A Plan for Action - Key Findings," December 3, 2023.
[43] ECCO, "National Energy and Climate Plan: Progress Report," October 25, 2024.
[44] The EU ETS covers mainly energy-intensive companies and hard-to-abate sectors.

Closing the gap between ambition and implementation requires a comprehensive policy recalibration. Governance mechanisms under the PNIEC must be fully activated, permitting streamlined, and grid digitalization accelerated. Fossil fuel infrastructure should be gradually phased out to prevent lock-in. Stronger measures in lagging sectors—especially transport and buildings—are critical, while financial leverage, including the €10.98 billion in European Investment Bank operations signed in 2024, should be directed toward renewables, grid upgrades, and green hydrogen deployment to restore credibility to Italy's climate trajectory.

At the company level, innovative initiatives are increasingly shaping the trajectory of Italy's energy transition. In 2024, Snam, in partnership with a consortium of European firms and Algeria's Sonatrach, signed a Memorandum of Understanding to conduct feasibility studies along the hydrogen value chain. The project focuses on producing green hydrogen in Algeria and transporting it to Europe through the planned "SoutH2 Corridor" [45] reinforcing Algeria's ambition to meet 10 % of Europe's hydrogen demand by 2040 and positioning Italy as a strategic gateway for cross-Mediterranean energy flows.

Italy's transmission system operator, Terna, has committed to a €17.7 billion industrial plan for 2024–2028, launched in March 2025, which targets the integration of 107 GW renewable capacity by 2030 and prioritizes grid modernization and resilience. Enel Green Power has announced a €12 billion investment program for 2025–2027, adding around 12 GW of new capacity, with over 70% directed toward onshore wind and dispatchable renewable technologies3[46] Other private actors are also accelerating their strategies: ERG and Sonnedix continue to expand their wind and solar portfolios, with Sonnedix aiming for 1 GW of operational capacity in Italy by the end of 2025. The energy storage segment is also advancing, with Enel and Masdar exploring joint ventures to stabilize the grid and accommodate higher shares of intermittent generation[47].

Hydropower

Hydropower is Italy's oldest renewable energy source, developed in the late nineteenth century and serving for decades as the backbone of national electricity supply. While solar and wind have become the drivers of the energy transition, hydropower remains a key pillar. In 2021 it provided more than 39% of renewable electricity and about 14 % of total national demand.

Recent growth has been shaped by the proliferation of small-scale plants. Between 2009 and 2023 the number of facilities nearly doubled, yet electricity generation has not kept pace. This reflects the sector's structural limits: the most favourable sites for large-scale plants have already been exploited, and new developments face strict environmental and regulatory constraints.[48]

Future expansion is expected to rely mainly on micro-hydro projects under 100 kilowatts. These installations require relatively low investment and generate limited ecological disruption, but their contribution to national supply is modest. As such, hydropower's role in Italy is shifting from a driver of new capacity to a stabilizing force within the renewable system.

[45] Snam, "Snam and Other Partners Sign MoU on Green Hydrogen," Press release, May 2024.
[46] Enel Group, "Executive Summary: Enel's 2025-2027 Strategic Plan," accessed July 2, 2025.
[47] Reuters, "Enel, Masdar in preliminary talks over energy storage in Italy," May 16, 2025.
[48] In 2019, the European Commission sent Italy a third formal notice concerning the irregular renewal of large hydropower concessions, underscoring that nearly 95% of the country's hydroelectric potential has already been exploited.

Solar and wind

In 2023 solar power accounted for 12.3% of total generation, with a total installed capacity of 36.01 GW expected to rise to 79 GW by 2030.

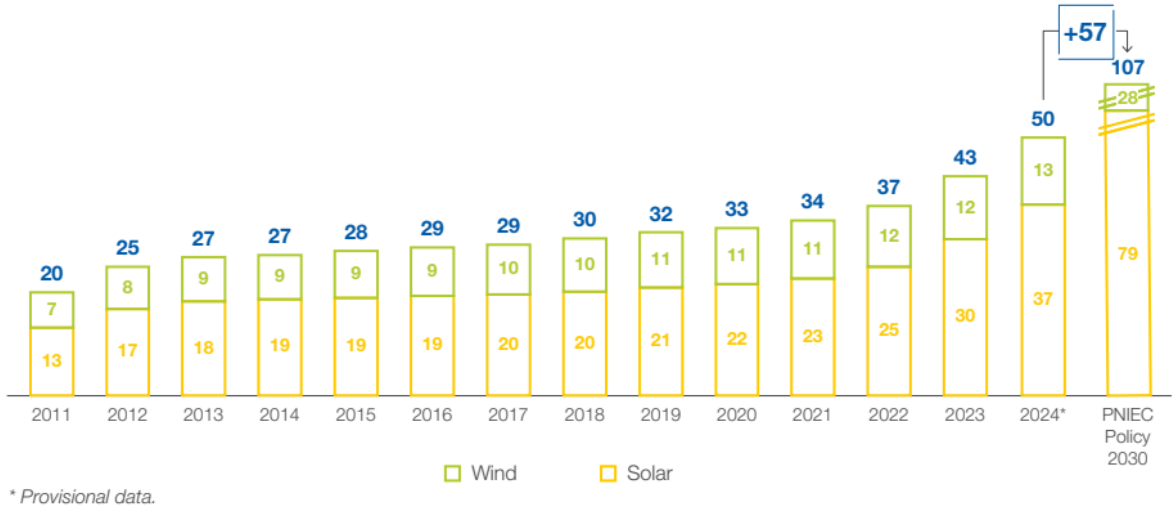

Figure 3. Development of installed capacity in 2011-2024 and target for 2030 (GW).
Source: Terna, 2025.

The rapid scaling up of renewable energy capacity is driven by major utilities, independent power producers, and infrastructure investors. Leading the charge is Enel Green Power, which is investing €43 billion through 2027 in solar, wind, battery storage, and grid modernization. A key milestone includes the launch of Northern Italy's largest solar plant in Trino (87 MW with integrated battery storage).

Independent producers such as ERG, EF Solare Italia, and RTR Energy are also expanding aggressively. ERG alone operates approximately 1.4 GW of wind and 150 MW of solar assets. Infrastructure investors like F2i are partnering with EF Solare and Sorgenia to develop hundreds of megawatts of new capacity.

The market is supported by favourable policies and industrial initiatives. Italy added 6.8 GW of large-scale photovoltaic (PV) capacity in 2024, backed by incentive schemes such as FER X and domestic manufacturing at 3Sun, a gigawatt-scale solar panel factory in Sicily.

Wind energy also plays a growing role in Italy's electricity mix, contributing 8.8% in 2023, up from 6.6% in 2020. As of the end of 2023, the country had 13 GW of installed wind capacity. Under Italy's 2030 strategy, wind capacity is expected to reach 28 GW, including 26 GW onshore and 2.1 GW offshore, generating more than 40 TWh annually. Wind power is predominantly located in the south—particularly in Apulia, Campania, Basilicata, Calabria, Sicily, and Sardinia.

Italy as an energy hub

According to a 2024 study, Italy has significant potential to become one of the Mediterranean's principal energy hubs.[49] Traditional and non-traditional energy sources can play a role in harnessing Italy's potential. Current efforts aim to foster a technological approach to the energy transition, ensuring stability of supply while enhancing competitivity and boosting new value chains.[50]

Central to Italy's energy strategy is Eni, the country's leading energy company, which anchors Italy's footprint in Africa. More than half of Eni's hydrocarbon production and nearly half of its reserves are located on the continent. Eni plans to invest $26 billion across Algeria, Libya, and Egypt, responding to rising local energy demand—estimated at 7 to 8 % annually—while securing stable gas supplies for Italy. These investments are aligned with the Mattei Plan emphasis on energy cooperation as a foundation for Italy's regional influence.

Egypt is central in Eni's strategy in North Africa. Eni is the first operator in the country with a presence of over 70 years. Egypt also occupies a pivotal place in Italy's vision of becoming a Mediterranean energy hub. Once seen as a rising gas exporter following Eni's discovery of the Zohr offshore field in 2015, Egypt has since faced declining production, which in 2024 fell to a six-year low. Balancing growing domestic demand with export commitments—including to Italy—remains a challenge. However, Eni continues to regard Egypt as a strategic partner as signalled by a recent agreement between Egypt and Cyprus to process gas from Cypriot fields- discovered by Eni, in Egyptian liquefaction plants. These agreements have been described as a milestone in establishing a gas hub in the Eastern Mediterranean.[51]

In parallel, a debate on the viability of an Eastmed pipeline is still ongoing. Classified as a Project of Common European Interest (PCI) to connect gas from Eastern Mediterranean fields to Europe, the project sees Italy's energy giant Edison as a key proponent. Engineering is complete, and market testing showed strong interest. Edison has also recently been working on major pipeline interconnection projects, particularly in the central and eastern Mediterranean, like the Poseidon project, linking Turkey and Greece directly to Italy. For Edison, these initiatives are part of a larger vision: positioning Italy as the energy gateway to Europe from the Mediterranean, under the assumption that in medium term, gas will continue to be a key component of the mix, even as hydrogen capabilities are expanded. The company is already developing hydrogen-ready infrastructure and partnerships with certified companies for transport and blending.[52]

Following this vision, Italy is investing in Egypt's renewable potential. Egypt is emerging as a key partner for green hydrogen. In 2024 its government signed seven Memoranda of Understanding (MoUs) worth $40 billion for hydrogen projects in the Suez Canal Economic Zone. Italian companies, including Eni and Edison, are engaged in feasibility studies and pilot projects on green hydrogen and renewable ammonia, as well as on blue hydrogen through carbon storage in depleted gas fields.[53] Italy's strategy also extends to regional infrastructure. The planned SouthH2 Corridor, a 3,300-kilometer pipeline linking North African producers to Italy and onward to central Europe, is expected to transport up to 4 million tons of green hydrogen annually by 2030.[54] Politically endorsed and backed by industry, the project would provide a reliable supply of low-carbon hydrogen to hard-to-decarbonize sectors such as

[49] Michalis Mathioulakis, "State Competition for Regional Energy Hub Status in the Mediterranean," KAS-REMENA Policy Paper Series No. 2 / 2024, KAS-REMENA, March 2024.
[50] Interview with a company representative, July 16, 2025.
[51] Interview with a business manager, July 18, 2025.
[52] Interview with a company representative, July 16, 2025.
[53] Reuters, "Egypt Signs 7 Green Hydrogen MoUs Worth a Potential $40 Billion," February 28, 2024.
[54] "South2 Corridor," accessed June 29, 2025.

heavy industry and transport, while strengthening Italy's energy security and advancing its climate goals.

Early-stage discussions are also underway on high-voltage direct current (HVDC) subsea interconnections, which could enable Italy to import renewable electricity generated through Egypt's planned "Green Corridor," an ambitious network designed to integrate up to 70 GW of solar and wind capacity. Italian firms such as Prysmian Group, alongside international partners including Siemens Energy and Copelouzos Group, are exploring participation in this project.[55]

Another key Italian player is Cassa Depositi e Prestiti (CDP), Italy's leading development bank. CDP manages the €4.4 billion Italian Climate Fund and the development cooperation funds, which underpin the Mattei Plan with €3 billion.[56] Based on assessments of its Analysis and Scenarios' unit, the bank has highlighted the opportunities this presents for non-EU Mediterranean countries, enabling Italian and European firms to regionalise supply chains and production networks. Nearshoring is projected to increase in intra-Mediterranean maritime flows, further reinforcing Italy's strategic position as a logistics hub linking North Africa with continental Europe.[57] Adaptations to handle LNG and dual-fuel ships, along with facilities for alternative fuels such as ammonia, methanol, and hydrogen, are also set to drive major investment in port infrastructure. Strategic initiatives such as Medlink, a €7–8 billion investment plan, exemplify this approach. According to CDP, projects of this scale could consolidate Italy's role as a vital energy bridge, providing the infrastructure needed to channel energy flows from the Mediterranean into central Europe.[58]

4.1.2. Transport and logistics

The logistics and transport sector stands at the heart of Italy's strategy to position itself as a Mediterranean connectivity hub. The Mediterranean is increasingly central to global shipping both as a transit route, (especially Europe-Asia via Suez) and for regional trade (short sea for intra-Mediterranean trade). Italy combines geographic location at the intersection of major North–South and East–West trade routes in the Mediterranean, with highly developed ports connected to a dense European rail and road network. The government's efforts aim to modernize critical infrastructure, enhance intermodality and sustainability, and increase the country's competitiveness in the face of shifting global supply chains.

Between 2021 and 2024, Italy mobilized around €105 billion PNRR funds to advance strategic priorities in transport, digitalization, and the green transition. Significant resources were directed toward rail infrastructure, public transportation, and digital transformation, with a particular geographic focus in southern Italy, where public investment increased by more than 50% in 2023, aiming at upgrading.[59]

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[55] CESI S.p.A., "The Green Vein: Electricity Corridor Connecting Egypt and Italy," Press release, December 5, 2023.
[56] The Italian Climate Fund represents the main public instrument to pursue Italy's commitment, together with other OECD countries, to collectively mobilize at least 100 billion euros per year in climate finance towards emerging and developing countries. Established in 2022, the instrument has a revolving nature and a total budget of. 4.4 billion euros in addition to 40 million euros per year from 2027 for non-repayable contributions and management expenses. The Fund is instrumental for the Mattei Plan of Africa led by the Italian premier Giorgia Meloni; it has been confirmed that of the 5.5 billion allocated to the Plan, 3 billion will come from the Fund, while the remaining 2.5 billion will be drawn from the cooperation budget currently managed by the Ministry of Foreign Affairs and the Ministry of Economy and Finance, to be transferred directly under the presidency of the Council of Ministers. See for example: Emanuele Bompan, "Piano Mattei: the three-card trick at the expense of climate, Africa and Italy," *Renewable Matter*, August 1, 2024.
[57] See for example: CDP, "Deglobalizzazione e Mar Mediterraneo: quale ruolo per l'Italia?" *Analisi e Scenari*, April 14, 2023.
[58] Enrico Bartolini, "Nel ruolo centrale del Mediterraneo, Italia hub forte in sinergia con l'Ue," *Il Sole 24 Ore,* July 9, 2025.
[59] Presidency of the Council of Ministers (Italy), "PNRR: trasmessa alla Commissione Europea la richiesta di pagamento della settima rata," Press release, December 30, 2024.

Italy is also actively engaged in the development of the EU's Trans-European Transport Network (TEN-T) corridors, and major infrastructure upgrades are underway such as the enhancement of port-rail connections in strategic hubs such as Genoa and La Spezia. However, as international competition intensifies and investment shifts toward emerging logistics hubs across the broader Mediterranean, Italy faces structural challenges and strategic opportunities. Growing foreign involvement in port operations, uneven progress in digital innovation, and the underutilization of rail freight continue to constrain the country's logistics potential.

The following sections explore the performance, priorities, and outlook of Italy's ports, rail corridors, and digital infrastructure within this fast-evolving regional context.

Ports and Maritime Infrastructure

Italy 62 commercial ports handle over 11 million TEUs annually as of 2023, contributing approximately €8.1 billion to the national economy[60]. While the capacity is way below that of mega-ports of northern Europe, ports like Gioia Tauro, Genoa, Trieste play a role as gateways for goods entering Europe. Gioia Tauro, for instance, is Italy's largest port for container throughput, capable of handling over 3 million TEUs annually, and is strategically positioned along the East–West route from the Strait of Gibraltar to the Suez Canal[61]. Genoa, designated as the Western Mediterranean gateway, is undergoing a €950 million expansion under the PNRR, which includes the New Foranea Dam to accommodate ultra-large vessels and improve seismic resilience.[62] Key ports are developing specialized roles—Trieste in crude oil, Naples in gas, and Porto Levante and Piombino in LNG. Several Italian ports rank among the top ten energy ports in the region.[63]

Furthermore, about a third of the ports analysed will allocate space to renewable energy production, while 13% will expand existing energy production plants.

Italy's port upgrade and 'greening' strategy is therefore embedded within a broader vision of Mediterranean connectivity. It is along these lines that one must read the agreements between Italian authorities with Tunisia and Egypt to harmonize customs procedures and promote inter-port cooperation, especially around green corridors, and LNG bunkering.

However, Italian ports have lost market shares, also towards other Mediterranean ports. Italy's container shipping's market share fell by 2% in the decade of 2008-2018. Italian harbours face challenges due to congestion, especially in the Tirreno, insufficient "beyond the port" railway and road infrastructure, poor port dredging, slow custom clearing and fragmented governance.[64] The perception among the big shipping companies (including Italian) is that Italian ports do not offer a reliable logistic system, which leads them to prefer other ports, even if located further away.[65] The higher travel costs to

[60] TRADLINX, "Italy Port List: Genoa, Gioia Tauro, Livorno, Naples, Trieste," *TRADLINX Blogs*, April 8, 2025.
[61] TrasportoEuropa, "Gioia Tauro Port Exceeds 3.5 Million TEUs," January 4, 2024.
[62] Webuild Group, "New Genoa Breakwater: laying of sixth caisson now completed," Press release, January 18, 2025.
[63] Intesa Sanpaolo, "Enemed25: Sintesi per la stampa (6° "Med & Italian Energy Report")."
[64] Interview with an industry operator, July 17, 2025.
[65] This was first highlighted in the early 2010s (see, for example, this CDP analysis note : CDP, "Porti e logistica – Il sistema portuale e logistico italiano nel contesto competitivo euro-mediterraneo: potenzialità e presupposti per il rilancio," *Studio di settore* No. 1, May 2012). As described in the SRM's 6th Italian Maritime Economy Annual Report, the Mediterranean has gained significant container shipping market share over the past decade, going from 36% in 2008 to 41% in 2018. The performance achieved in the container segment by the Italian port system suggests instead that Italy has not been able to take advantage of its privileged and strategic position in the Mediterranean to attract the growing flows of goods and

these ports are compensated by the lower costs and handling times, as well as by better railway connections to the production/consumption centres.

These structural weaknesses represent strategic challenges for Italian ports as they evolve into multi-functional hubs for energy production and logistics. One of the most urgent priorities is upgrading port infrastructure to support the energy transition, and more specifically, the storage and distribution of LNG, biofuels, and hydrogen. For several years, LNG supply in Italian ports primarily relied on small tankers and barges from Spain. With recent additional supply from Qatar, Algeria, and West Africa the system is expected to handle up to 50 bcm of LNG, which coupled with 90 bcm of natural gas will bring annual capacity to a total of 140 bcm.

As highlighted by SRM's 10-year maritime competitiveness report, Italian ports are grappling with rising global competition, especially from highly integrated ports in Northern Europe and state-backed investments in Mediterranean rivals.[66] Moreover, many Italian ports still lag in sustainability certifications and digitalization, further complicating their adaptation to evolving EU environmental policies such as the ETS and the "Fit for 55" package.

Despite these obstacles, Italian ports—especially in the South—hold a strategic advantage. They already handle 48% of Italy's maritime oil trade and serve as key terminals for pipelines from North Africa. To fully take advantage of this, they require an accelerated transformation into green energy platforms, leveraging coordinated public-private investment, cross-border energy agreements, and a clear national strategy aligned with European decarbonization goals.

Ports foreign ownership and influence remain a geopolitical concern. Chinese firms such as COSCO have shown interest in Trieste and other northern ports, prompting the Italian government to invoke its Golden Power Law in several instances since 2020 to block or review foreign takeovers in critical infrastructure.[67]

Railways, TEN-T Corridors, and Intermodal Connectivity

Italy's rail network spans over 16,800 km., of which approximately 7,000 kilometres are electrified. Despite this extensive infrastructure, rail accounts for only 11% of total inland freight transport—significantly below the EU average of 17–19%.[68]

To address this gap, major infrastructure upgrades are underway. The Third Giovi Pass (Terzo Valico dei Giovi)—a €6.9 billion high-speed rail link between Genoa and Milan—is set for completion in 2026. This project will reduce travel times by 30% and significantly increase freight capacity between Ligurian ports, northern Italy, and Central Europe. Additionally, the Verona–Brenner axis, a key segment of the Scandinavia–Mediterranean TEN-T Corridor, is being expanded through the €8 billion Brenner Base Tunnel project—the largest cross-border rail tunnel in Europe.

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strengthen its market share. Indeed, Italy's market share fell by 2% in the decade of 2008-2018. See: Contship Italia Group, "Competitiveness of Italian Ports in Europe and the Mediterranean," accessed April 29, 2025. However, Italy keeps its undisputed leadership in Short Sea Shipping: it is the first country in Europe by volume of goods handled, amounting to 305 million tonnes, with a market share of more than 17% of the total, ahead of the Netherlands (16%), Spain (13%) and Germany (9%). See for further details: Intesa Sanpaolo, "SRM Presents the 11th 'Italian Maritime Economy' Report: New Challenges of Maritime Transport," Press release, July 29, 2024.

[66] SRM, *Port Competitiveness in the Mediterranean and Northern Europe: Comparison among Regional Systems*, 2014.

[67] Nicola Casarini, "The Future of the Belt and Road in Europe," *IAI Papers* No. 24, Istituto Affari Internazionali (IAI), February 2, 2024.

[68] UIC, "The Modal Share of Rail in Inland Transport and Infrastructure Investment," Report, November 21, 2023.

Italy is central to four of the nine TEN-T Core Network Corridors: the Baltic–Adriatic, the Mediterranean, the Rhine–Alpine, and the Scandinavia–Mediterranean. These corridors intersect in Italy, connecting to 121 industrial districts, 24 intermodal freight terminals, and 39 airports. The Mediterranean Corridor alone includes 160 projects in Italy,[69] with over €4.3 billion in investments tracked in the past five years. Rome advocates for the extension of TEN-T corridors across the southern shore—especially toward Tunisia and Egypt.[70]

In southern Italy, these projects are also linked to the newly established "Zona Economica Speciale Unica" (Single SEZ) for all southern regions, providing simplified customs regimes and infrastructure support for logistics and export-oriented industries. This reform could raise annual exports by approximately 4% and container traffic by 8.4%[71]. Considering the current reconfiguration of global value chains, in 2022, 171 cases of reshoring were recorded in Italy, the second highest value in Europe after France.

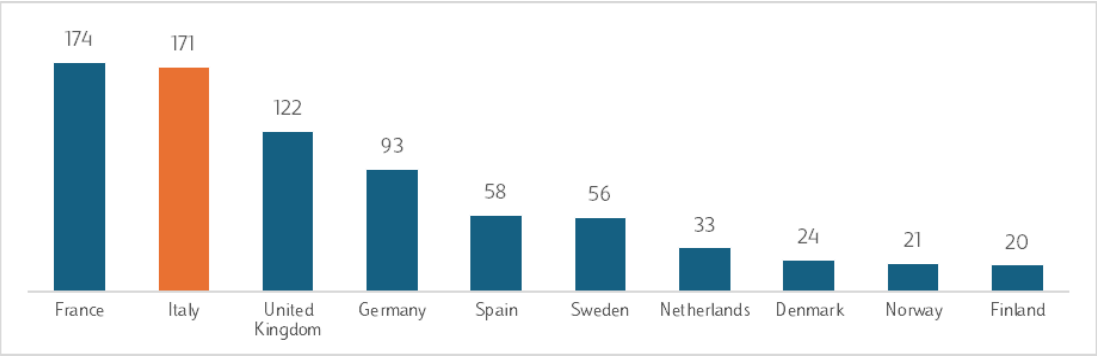

Figure 4. Reshoring cases in Europe (absolute value), 2022.
Source: The European House – Ambrosetti, based on European Commission data, 2024.

4.1.3. Digital Infrastructure

Italy is steadily consolidating its position as the Mediterranean's carrier-neutral digital hub. As 98 % of data travels vis submarine cables, Italy for its geographical position plays an irreplaceable role in the securing high intensity traffic between Europe and Asia. Today Milan is a reference hub for the Mediterranean, Africa, and Asia. Furthermore, as redundancy and protection are becoming key principles to reduce vulnerability of submarine cables, Italy is set to enhance its multi-level role as a bridge for alternative routes, a host of data centres, and a provider of cyber-security solutions and capacity-building[72]. Furthermore, as existing submarine cables age, more investment will be required to substitute and upgrade the current capacity.

The country now hosts more than twenty submarine-cable landing sites, the densest cluster being in Sicily, where Palermo, Catania, Mazara del Vallo, Pozzallo and Trapani together accommodate nineteen active systems[73]. Palermo's "Sicily Hub", managed by Sparkle, acts as the central node of the BlueMed

[69] RFI, "TEN-T Corridors: The Backbone of the Trans-European Transport Network," accessed May 13, 2025.
[70] With the idea of supporting a comprehensive network that will define a trans-Mediterranean network for transport (TMN-T), which process of establishment is negotiated by the UfM's Euro-Mediterranean Transport Partnership, to be connected with the TEN-T. See: Union for the Mediterranean, "Ministerial Declaration – Ministerial Conference on Transport, 9 February 2023," accessed May 13, 2025; and European Commission, "Communication from the Commission to the European Parliament and the Council on the extension of the trans-European transport network (TEN-T) to neighbouring third countries," COM(2021) 820 final, *Official Journal of the European Union*, December 14, 2021.
[71] IMI - Intesa Sanpaolo, "Relaunch of the SEZs for the Competitiveness of Southern Italy," *Focus*, December 27, 2023.
[72] Interview with an industry representative, July 29, 2025
[73] Submarine Networks, "Cable Landing Stations in Sicily," 2025, accessed July 7, 2025.

network, that interconnects Italy with France, Greece, Israel and, through future branches, North Africa[74]. Other strategic landings at Genoa and Bari extend this gateway north-west and east-ward, ensuring that global traffic entering the Mediterranean reaches European backbones on multiple, resilient paths[75]. Four next-generation systems are in the making:

Cable	Status (July 2025)	Design capacity	Strategic relevance	RFS window
BlueMed / Blue-Raman	Genoa–Tel Aviv trunk in service; terrestrial extension to Aqaba and Amman under way.	> 25 Tbps	Southern bypass of Suez; Global Connectivity Project of the Year 2024	2024-25
2Africa	First Italian landing (Genoa) completed; Sicilian spur authorised.	≈ 180 Tbps (system)	Connects forty-six EMEA sites; delivers West-Med redundancy	2025
Medusa	Construction financed by a €156 m CEF grant; branch headings fixed.	24 Tbps	Pan-Mediterranean ring with seventeen landings, including Cagliari and Mazara del Vallo; closes the "western loop" round Africa	Early 2026
Unitirreno	Civil works started Q1-2025; first cable to land at Fiumicino.	> 20 Tbps (480 Tbps trunk)	Anchors Rome's data-centre cluster and creates a Rome-centred north–south path	2026

Table 1. Key submarine cable systems landing in Italy (July 2025) - Tbps: terabits per second.
Source: Author based on data from ISTAT and ACN.

To make that opportunity concrete, Italy must couple generous tax credits for data-centre clusters with regulatory harmonisation, fast-track R&D visas and public-private innovation zones—particularly in the ***Mezzogiorno***—to ensure that growth does not concentrate exclusively in northern hubs.

4.2. The Case of Egypt

Egypt is consolidating its position as the leading power in North Africa and a central actor in the Arab world and Africa. Its engagement in diverse multilateral frameworks—from China's Belt and Road Initiative (BRI/OBOR) to BRICS, Russia, and the EU—reflects a multipolar orientation. The trajectory of Egypt's role in coming years will be shaped by global power realignments and Europe's - and particularly Italy, France, and Greece - response to Mediterranean and Middle Eastern dynamics.

4.2.1. Energy

Egypt has consolidated its position as a key hydrocarbon producer in Africa. According to the U.S. Energy Information Administration (EIA), in 2023 it ranked as the continent's second-largest non-OPEC producer of total liquid fuels, after Angola, and the second-largest natural gas producer in 2022, after *Algeria*[76]. This standing is underpinned by substantial reserves and recent discoveries, most notably the Zohr offshore gas field, which transformed the country's gas profile in the mid-2010s.

[74] DataCenterDynamics, "Sparkle confirms BlueMed landing in Palermo," 17 May 2023; and Submarine Networks, "BlueMed system overview," accessed 07/07/2025
[75] Submarine Networks, "Genoa Landing Platform," 9 Jan 2024; and Submarine Networks, "Italy", 2025 update.
[76] Chinedu Okafor, "Top 10 African Countries That Produce the Most Natural Gas in 2025," *Business Insider Africa*, April 21, 2025.0

Egypt's geographic role is amplified by its control over strategic energy transit corridors. The Suez Canal and the Suez-Mediterranean (SUMED) Pipeline remain indispensable for global energy flows, enabling shipments from the Persian Gulf to Europe and North America, and from North Africa and the Mediterranean toward Asia. These same routes are expected to become increasingly relevant for future renewable energy exports, including green hydrogen and green ammonia. Transit fees represent a major source of government revenue, underscoring the economic significance of this infrastructure.

In parallel, Egypt has positioned itself as the only Eastern Mediterranean state with operational LNG export terminals, giving it a unique role as a processing and re-export hub for both domestic and imported gas. This ambition, however, faces significant challenges. Technical constraints have prevented Zohr from reaching its projected peak output, while production from mature fields is declining. Recent years have also seen delays in bringing new discoveries online. Egypt's upstream sector is further burdened by aging infrastructure and outstanding arrears to international companies, estimated at around $6 billion, which have dampened investor confidence. Some of this debt has recently been addressed, helping to revive upstream interest, but investment gaps remain acute.

Geopolitics adds further complexity. Regional instability has disrupted supply and transit flows, as seen in the temporary shutdown of Israel's Tamar field in late 2023 and Houthi attacks on Red Sea shipping, which reduced LNG transit through the Suez Canal. The ongoing Gaza conflict and Israeli operations in Lebanon and Syria are also putting pressure on offshore gas cooperation between Israel and Egypt, while creating uncertainty around Cypriot gas development and export plans.

Despite these headwinds, over the past two years Cairo has redefined its upstream strategy. State-owned companies EGAS and EGPC have led a wave of new exploration and production agreements with international partners, including Eni, Shell, BP, and Zarubezhneft. Recent deals signal renewed global interest, with commitments exceeding $350 million for offshore drilling in the Mediterranean and Nile Delta.

The government has turned to flexible LNG imports to bridge domestic supply gaps and secure electricity generation. In 2025, Cairo contracted up to 160 LNG cargoes through 2026, backed by floating regasification capacity. This two-track approach—ramping up domestic exploration while relying on imports for immediate needs—reflects the urgency of stabilizing the energy system amid rising demand.

Structural challenges remain. Many Egyptian onshore fields are mature and nearing decline, while domestic energy demand is projected to continue to rise due to population growth and electrification. Fiscal constraints limit Cairo's ability to underwrite major upstream investment, requiring continued reliance on foreign capital and partnerships. Political and regulatory risk also weigh on investor sentiment.

At the same time, and despite the ongoing Middle Eastern conflict, Egypt continues to pursue its strategy aimed at deepening cross-border energy ties with Israel, Cyprus, and Gulf partners.[77]

[77] Peter Stevenson, "Chevron Begins Aphrodite Seabed Survey," *MEES*, June 6, 2025.

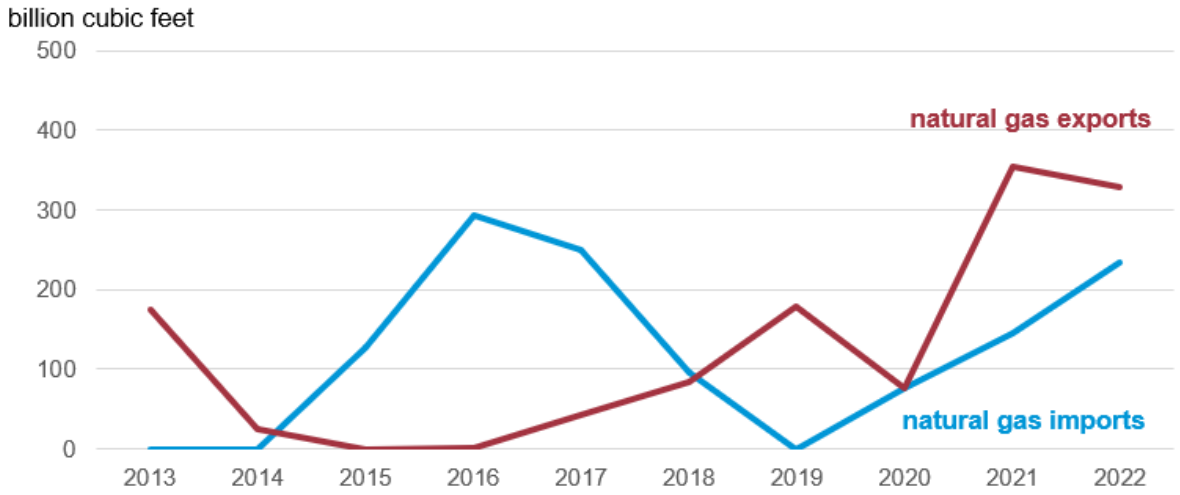

Figure 5. Egypt's annual natural gas exports and imports, 2013–2022.
Source: US Energy Information Administration, 2025.

Renewables

Egypt is pursuing an ambitious energy diversification strategy to balance hydrocarbons with renewables and nuclear power. Renewable energy has become the centrepiece of this transition, yet progress remains uneven. At present, renewables account for only 11.5% of electricity generation. This falls short of the government's earlier 58% target, with revised goals now set at 42% by 2030 and 40% by 2040.[78]

Hydropower remains the dominant renewable source, providing 2,851 MW annually, primarily through the High Dam and Aswan stations. Solar and wind projects highlight the potential as a "Sun Belt" country, with the Benban Solar Park (1,465 MW), Karimat Solar Thermal Plant (140 MW), and the Gulf of Suez and Zaafarana wind farms (750 MW) as early success cases. In parallel, biogas and biofuel initiatives are beginning to support rural communities, while the Dabaa Nuclear Plant is intended to further diversify the energy mix.

Green Hydrogen Initiatives

Egypt seeks to position itself as a leading hub for green hydrogen and green ammonia. The strategy leverages abundant solar and wind resources, a strategic location near European and Asian markets, and the Suez Canal's infrastructure. Green hydrogen, produced through electrolysis powered by renewables, and green ammonia, synthesized from hydrogen and nitrogen, are central to Egypt's ambition to capture 5–8% of the global market by 2040. Fertilizers, shipping, and hard-to-abate industries such as steel and aluminium are the key target sectors.

The government has launched supportive licensing frameworks, public-private partnerships, and investment incentives, particularly in the Suez Canal Economic Zone and along the Red Sea. Several major projects are underway, including EDF Renewables' €7.6 billion Ras Shokeir complex, targeting one million tonnes of green ammonia annually by 2029, AMEA Power's Ain Sokhna plant aiming for

[78] Oleg N. Misko and Alaa Sh. Darwish, "Improving the Energy Sector and Renewable Energy Resources in Egypt (Challenges, Achievements, and Most Important Projects)," *Administrative Consulting*, 2023, no. 11: 132-139.

390,000 tonnes by the end of 2025,[79] and joint ventures between Hynfra, MOPCO, Scatec, and Fertiglobe that will scale production capacity to over one million tonnes by 2030.[80] European offtake agreements, including Germany's H2Global initiative, have already secured long-term supply pathways, with deliveries of renewable ammonia to the EU expected to begin in 2027.

Despite strong investor interest, Egypt faces significant structural challenges. Supply chain constraints, grid integration, water availability, regulatory uncertainty, and financing gaps threaten project delivery and cost competitiveness. Moreover, regional competition is intense: the UAE, Saudi Arabia, and Morocco are advancing green hydrogen projects more rapidly, raising the risk of Egypt losing market share.

Nevertheless, Europe's tightening climate policies and demand for low-carbon fuels create opportunities for Cairo to lock in long-term partnerships. Agreements worth $33 billion, signed at the 2024 Egypt-EU Investment Conference, underline this momentum. Success will depend on Egypt's ability to coordinate infrastructure development, secure financing, and maintain regulatory clarity, while ensuring cost-competitive production for export markets.

4.2.2. Transport and logistics

Egypt's transportation sector is undergoing a profound transformation, driven by large-scale investment initiatives. Leveraging its vast territory and strategic control of the Suez Canal—through which around 12% of global trade and 30% of container traffic worth over $1 trillion annually passes—Egypt is positioning itself as a global logistics and transportation hub. With 18 commercial ports and 37 specialized ports serving mining, tourism, petroleum, and fishing, the country's maritime infrastructure now handles more than 90% of its international trade. Egypt 2030 Vision aims at raising annual port throughput to 400 million tons of cargo, 40 million containers, and 30,000 large vessels.

The Mediterranean coastline is the core of Egypt's expansion strategy. Five major ports—Alexandria, El Dekheila, Damietta, Port Said, and East Port Said—are being developed to rival Greece's Piraeus as the Eastern Mediterranean's leading trans-shipment hub.[81] Alexandria and El Dekheila, jointly offering a capacity of 1.5 million TEUs, account for more than 60% of Egypt's trade and have significantly improved their global competitiveness, with Alexandria Port climbing nearly 100 places in the World Bank's CPPI ranking between 2022 and 2023.[82] Recent agreements with Abu Dhabi Ports Group to expand logistics capacity underline growing Gulf engagement in Egypt's infrastructure.

Damietta Port is consolidating its role as an industrial and trade hub. It hosts major players such as SEGAS LNG and MOPCO and is set to expand capacity through the Damietta Alliance Container Terminal, a joint venture with European shipping leaders. Once operational in 2025, the terminal will add 3.3 million TEUs of capacity, though rail and logistics connectivity remain critical bottlenecks.

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[79] AMEA Power, "Agreement Signed with the Government of Egypt to Deploy 1,000 MW Green Hydrogen Project," Press release, February 13, 2023.
[80] Hydrogen Europe, "Hynfra to Produce 400,000 Tonnes of Green Ammonia in Egypt for European Export," November 26, 2024.
[81] Michaël Tanchum, "Greece's Rise as a Trans-Mediterranean Power: Greece's Eastern Mediterranean Strategic Shift to Europe-to-Africa and Europe-to-Middle East Connectivity," Policy Paper No. 56/2021, ELIAMEP, February 2021.
[82] Maritime Review, "African Ports Continue to Show a Decline in Container Handling Efficiencies," June 5, 2024.

The Suez Canal and adjacent ports on the Red Sea and Gulf of Suez reinforce Egypt's global trade role. East Port Said, with a 5.4 million TEU capacity, is expanding through new long-term agreements for container and multipurpose terminals.[83] Sokhna Port, at the southern end of the Suez Canal Economic Zone, anchors Egypt's Red Sea ambitions. Operated by DP World and developed with Hutchison Global, COSCO, and CMA CGM, Sokhna is being transformed into a major logistics hub linking the Red Sea with the Mediterranean.[84]

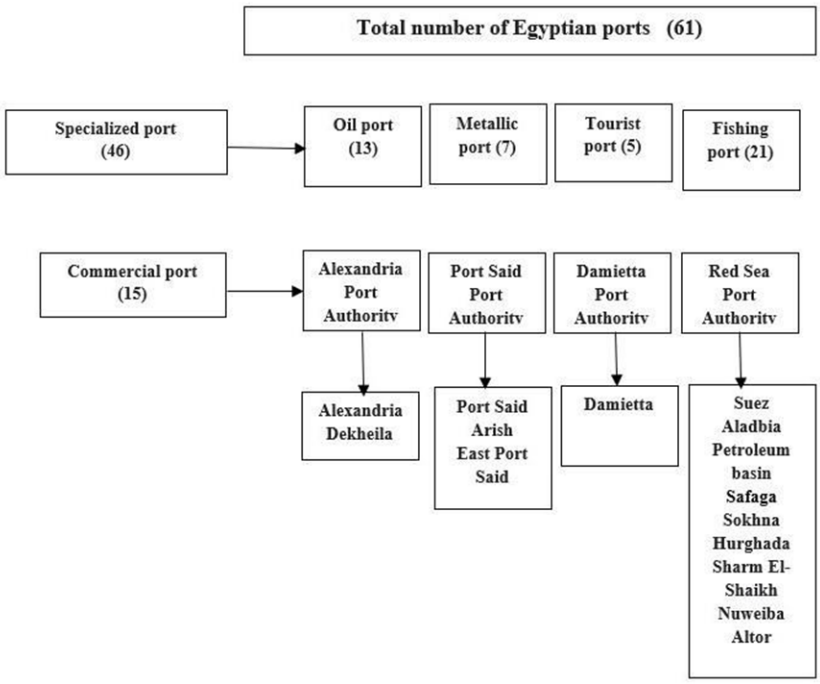

Figure 6. Egyptian Maritime Transport in Numbers until the end of 2021.
Source: Maritime Transport Sector - Ministry of Transportation (Egypt), 2021.

Port developments are closely tied to Egypt's wider economic diversification drive. MEGA large-scale projects, including a logistics and industrial zone around the Suez Canal, the new administrative capital, and extensive land reclamation, are attracting substantial foreign investment. Egypt is also increasingly integrated into global supply chain reconfiguration. Studies show that more than one-third of Egypt-based executives are adopting "friend shoring" or dual sourcing strategies, benefiting from Egypt's geographic proximity to Europe, competitive input costs, and more than 100 bilateral agreements.[85] These dynamics make Egypt a favourable destination for FDI, particularly in transport and logistics.

Foreign partners, especially Gulf sovereign wealth funds and Chinese investors, are playing a pivotal role.[86] China, with the Belt and Road Initiative, has significantly deepened its footprint, with investment in Egypt growing by over 300% between 2013 and 2022.[87]

[83] See: SCZone, "East Port Said Port," SCZone website, accessed June 1, 2025.
[84] Xinhua News, "An Egyptian Executive Announces that a New LNG Port, Long-Term Project of Suez Canal Economic Zone, Will Start Operations by 2025," May 31, 2024.
[85] The Economist Impact, "Egypt's Trade Landscape in 2024: Balancing Optimism and Challenges in Global Trade, FDI and Supply-Chain Dynamics," *Trade in Transition – Country Highlights*, 2024.
[86] Ernst and Young Global Limited, "How MENA Sovereign Wealth Funds (SWFs) are using investment strategies to futureproof their economies," May 2025.
[87] John Calabrese, "China-Egypt Relations: Fast Lane for Now," *Think China*, 16 July 2024.

Egypt Railways Infrastructure

Egypt is undertaking one of the most ambitious transportation programs in Africa and the Middle East. Railways development is at its core. Rising domestic consumption, expanding import-export volumes, and inflows of multibillion-dollar foreign investments have accelerated the need for enhanced connectivity. While roads and airports remain critical, railways are viewed as the backbone of Egypt's integrated transport system and a vital pillar of national development[88]. With investments of around EGP 2 trillion the government aims to position the country as a global multimodal logistics hub, linking ports, industrial zones, and urban centres.[89]

The modernization drive covers both conventional and high-speed networks. Egypt is building a new high-speed electric rail network, connecting Sokhna on the Red Sea with Alexandria and Marsa Matrouh on the Mediterranean, with further extensions planned to Upper Egypt. Together, these projects will reshape national passenger and freight flows while reducing congestion and emissions.

The government has prioritized port-rail linkages to enable smoother trade and logistics flows, with the expansion of Arish Port in Sinai serving as a critical case.[90] Eight logistics zones are planned in Sinai alone, anchored by the Al-Ferdan railway and Arish Port, linking land crossings at Taba and Al-Awja with key rail and maritime nodes.[91]

Achieving Egypt's Vision 2030 targets will depend on the success of these interconnections, particularly along the Suez Canal corridor. To maximize efficiency, Egypt is developing seven multimodal logistics corridors integrating diesel and electric railways with highways and dry ports, connecting the Red Sea with the Mediterranean while serving new industrial, agricultural, and mining zones. This integrated expansion of rail, road, and maritime infrastructure is positioning Egypt as a central player in global transportation and supply chains. If successful, Egypt's railway modernization will not only ease domestic logistics bottlenecks but also anchor the country's ambition to become a competitive hub for global trade.[92]

4.2.3. Digital Infrastructure

Egypt's Vision 2030 places digital transformation on the same strategic tier as energy and transport through the *Digital Egypt* program and the ICT 2030 Strategy. These initiatives are structured around three pillars: advanced connectivity, sovereign compute, and export-oriented digital services.[93]

Connectivity has advanced most rapidly. Four mobile networks now hold 5G licenses, with a phased rollout prioritizing major transport corridors, economic zones, and urban centres. Fixed broadband infrastructure is also expanding in parallel: 12.7 million households, including rural areas, are connected, and the government aims for 50% of subscribers to be on fibre by 2030.[94]

Egypt's digital transformation is being reinforced by international partnerships. The EU–Egypt Strategic and Comprehensive Partnership signed in March 2024 earmarks €7.4 billion for 2024–27, including concessional loans and €600 million in grants. In parallel, the Ministry of Communications

[88] General Authority For Investments (Egypt), "Egypt Transportation and Logistics," accessed June 22, 2025.
[89] Middle East News Agency, "Massive Program to Help Egypt Move Forward as Modern State," January 10, 2025.
[90] Karim Tolba, "Egypt to establish eight logistics zones in Sinai," *Logistics Middle East*, October 16, 2023.
[91] Ibid.
[92] Middle East News Agency, "Massive Program to Help Egypt Move Forward as Modern State."
[93] Middle East News Agency, "Deputy ICT Min. to MENA: Building Digital Egypt 'Strategic Goal'," February 26, 2025.
[94] Tech Africa News, "Egypt Charts 5G Future with $2.7B Investment and Global Partnerships," May 21, 2025.

and Information Technology's (MCIT) *Strategy for Offshoring* (2022–26) targets USD 9 billion in annual digital-service exports and the creation of 215,000 new ICT jobs. The EU's EFSD+ Digital Leap Fund is supporting this initiative through guarantees for pilot projects pairing Egyptian AI startups with European clients.

MCIT has also placed cybersecurity at the centre of its digital strategy. The national framework mandates dual-path routing for critical services and requires all new landing stations to integrate with the National Telecom Regulatory Authority's Security Operations Centre. These measures reflect Egypt's ambition to expand its role as a digital hub, ensuring resilience and sovereignty in the face of rising geopolitical and cyber risks.

For Italy, Egypt offers complementary strengths. 10 out of 11 submarine cables linking Europe to Asia pass through the North African country, which levies a 30% transit fee on this traffic. Egypt is also a candidate to become a data-centre hub for Africa as the continent seeks to build its own capacity. StartupBlink's Global Startup Ecosystem Index 2023 ranks Cairo 124th worldwide, up thirty-six places year-on-year and fifth in the Middle East and North Africa, reflecting a surge of venture funding.[95]

In June 2025 Egypt's communications minister Amr Talaat and Italy's industry minister Adolfo Urso agreed to align Egypt's second-generation AI strategy with the G7-endorsed "AI Hub for Sustainable Development." One of the outcomes of the visit was also an agreement on training between Sparkle Academies and Egypt's WE Applied Technology Schools, linking offshoring talent to Italian connectivity assets.

The India–Europe-Xpress system, with dual Egyptian landings completed in June 2024, will deliver Mumbai-to-Milan traffic over two diverse terrestrial corridors, while a memorandum between Sparkle, Telecom Egypt and partners set the framework for the AAE-2 cable, which embeds extra route diversity and reserves "AI-ready" capacity. Under the Mattei Plan, the Italian development bank CDP is co-financing a feasibility study for a 3 GW HVDC subsea interconnector from Upper Egypt to the Dolo substation near Venice, aligning renewable-power trade with digital corridors. However, to solidify its position Egypt will need to liberalise its digital sector, eliminating existing barriers and aligning entry and exit costs to the international market, while also moving to ensure its sustainability.[96]

[95] Cairo climbed 36 places to rank 124th in the *Global Startup Ecosystem Index 2023*, reflecting its growing role in the regional innovation landscape. See: StartupBlink, *Global Startup Ecosystem Index 2023*, 378–81.
[96] Interview with industry representative, 29 July 2025.

5. Conclusions and Recommendations

As this study has tried to demonstrate, the Mediterranean centrality in on the rise. Ongoing transformations - from demography to nearshoring of global value chains and energy and digital transitions – are rapidly reshaping this vast macro-region. As a connector between Europe, the MENA region and Africa, with reach toward Asia, the Indo-Pacific and the Atlantic, its role is likely to increase in importance in the next decades. This scenario provides both challenges and opportunities.

Amid shifting global power dynamics, rising geopolitical competition, and mounting domestic pressures on both the EU and its southern neighbours, a more ambitious vision to harness the potential of connectivity across the Mediterranean could help to make it a geo-economic and geopolitical hub of global importance. A pragmatic approach to connectivity could be used to fully exploit the potential provided by energy, logistic and digital transformations. It could enhance resilience and bolster the prospects for economic integration between the two shores of the Mediterranean and beyond. It could also help to tackle critical cross-border issues including migration, climate change, and youth unemployment.

Mediterranean connectivity initiative should become one of the pillars of the New Pact for the Mediterranean. What is needed is a bold European strategy and a shared vision with southern partners, accompanied by targeted investments in areas of mutual interest and pragmatic dialogue to build trust and remove key policy hindrances.

Italy and Egypt could play a central role in this process. Italy is positioning itself as the EU's northern anchor for south–north flows of energy, data, and goods, while also positioning itself on renewable energy. For Rome, the Mediterranean is also an area for foreign policy reinvention. Since the launching the *Mattei Plan for Africa*, the concept of the "Wider Mediterranean" has been central in the attempt to re-centring Italian engagement on a belt stretching from the Sahel to the Levant. Physical and digital infrastructure, energy and data corridors are key priorities.

Cairo, by contrast, frames Mediterranean connectivity as an area for economic development, to ensure domestic stability and enhance its capacity to project power externally. Under *Vision 2030* and the *Digital Egypt/ICT 2030 Strategy,* maritime infrastructure, Special Economic Zones, logistics platforms, hydrocarbon and green-energy corridors are treated as strategic assets. These projects anchor Egypt's regional centrality, hedge supply-chain risks, and monetize geography.

Italian and Egyptian strategies converge, and potential complementarities emerge. Italy brings a strong and technologically advanced economy, access to the EU market, including in traditional and green energy fields, established port network and ship-repair yards, and a growing cluster of carrier-neutral data centres. Egypt offers its route diversity, abundant solar and wind resources, and an expanding pool of venture-financed digital talent. Combined, these advantages have the potential to elevate the Rome–Cairo axis from a set of parallel national strategies to a shared platform for Euro-Mediterranean integration. With EU financing, African demand, and private capital reinforcing each other, the axis – if properly developed and managed - could redefine regional connectivity.

Rome and Cairo are not be alone in their quest for centrality in the Mediterranean. The Italy-Egypt axis will operate in an increasingly competitive environment. Türkiye is advancing its own "Middle Corridor" strategy, positioning itself as a Eurasian energy and data bridge. Greece leverages EU funds to expand Piraeus and Thessaloniki into rival connectivity hubs. Whether Italy and Egypt succeed in proposing a joint vision will therefore depend on how quickly they manage to consolidate their partnership, align standards, co-finance projects, and present a unified bid for European and global capital—before

alternative routes capture the flows of the future. Italy's and Egypt challenge is to turn middle-power ambition into tangible leadership. Success will depend on their capacity, to promote the centrality of the Mediterranean in Europe, in the MENA region and with and African countries.

Policy Recommendations

1. Rome needs to seize the chance to shape the Mediterranean's evolving order, by working on a l**ong-term vision** and consolidating its **strategic capacity to foster connectivity** with countries in the southern shore. Rome needs to capitalise on existing complementarities and potential by forging of durable partnerships with Egypt, while at the same time mobilizing EU political support and funding. It needs to ensure that its role as connector and stabilizer is recognized within both European and transatlantic frameworks.

2. **Deepen investment in Egypt's transformation.** Italy should encourage broader participation of its companies in Egypt's strategic sectors. Beyond hydrocarbons and renewables, opportunities lie in transport infrastructure, agriculture, and emerging fields such as IT and artificial intelligence. Such engagement would not only bolster Egypt's development but also reinforce Italy's long-term presence in a highly competitive environment. Mobilising concessional finance from development banks and EU instruments will be key to lowering capital costs, ensuring affordability, and unlocking consumer benefits.

3. **Leverage the maritime sector as a driver of connectivity.** Maritime infrastructure and technology represent an underexploited area for collaboration. Italian shipyards, port developers, and maritime-tech firms possess competitive advantages that could be matched with Egypt's MEGA-projects and Suez-based ambitions. Joint ventures in shipbuilding, port management, and naval cooperation would yield benefits for both economic resilience and regional security.

4. **Consolidate energy interconnection across the Mediterranean**. Italy and Egypt can serve as pivotal anchors in the emerging Euro-Mediterranean energy network. Joint investments in renewable generation, electricity interconnectors, and green hydrogen corridors would accelerate the decarbonisation of both shores.

5. **Promote the establishment of a Mediterranean connectivity financing facility,** building on and better coordinating existing instruments – such as the EU's Global Gateway, Italy's Mattei Plan for Africa, and other regional initiatives – to mobilize blended resources and encourage public–private investment in cross-border, digital, and green connectivity projects. Such a facility would be vital in encouraging the gradual development of integrated connectivity corridors, combining energy, data, and transport networks, prioritizing interoperability and environmental sustainability, and linking southern Mediterranean SEZs with European industrial and logistics hubs.

6. **Enable projects through regulatory convergence and financial support**. Ambitious connectivity projects cannot succeed without supportive frameworks. Regulatory harmonisation, transparent rules, and predictable tariffs are essential to attract investment. Sectoral dialogues—bringing together regulators, utilities, and private actors—should be institutionalised to coordinate standards and best practices.

7. **Support the creation of a shared monitoring tool on connectivity risks**, coordinated through existing regional mechanisms, such as the UfM, in cooperation with associations such as MEDREG and Med-TSO. Such tool would help compile data on infrastructure vulnerabilities, track disruptions, and improve early-warning capacity across sectors.

Annex: List of Research Interviews

To complement their desk research, the research team has carried out a series of interviews with representative of leading companies as well as industry organisations and think tanks analysts from Italy and Egypt. These contributions have been helpful in shaping and orientating the findings of the study. Some of the interviewees are quoted anonymously in footnotes.

List of interviewees:

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