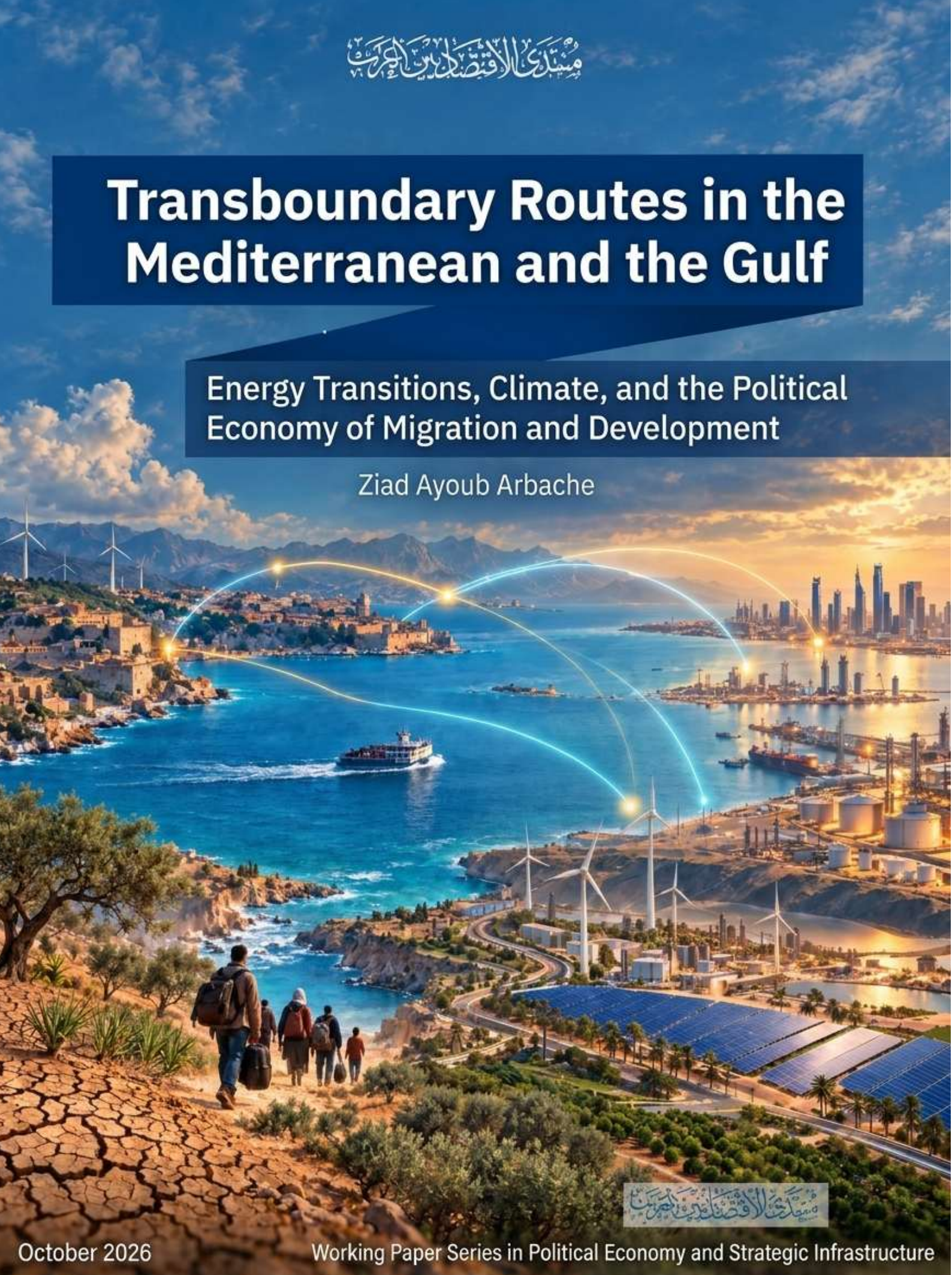
مُنتدى الاقتصاديين العرب

Transboundary Routes in the Mediterranean and the Gulf

Energy Transitions, Climate, and the Political Economy of Migration and Development

Ziad Ayoub Arbache



October 2026

Working Paper Series in Political Economy and Strategic Infrastructure

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Transboundary Routes in the Mediterranean and the Gulf:
Energy Transitions, Climate, and the Political Economy of Migration and Development

Ziad Ayoub Arbache[1]

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Annex 28

Executive Summary

Central thesis: In the Mediterranean basin and the Gulf, the climate crisis, energy transitions, migration, and economic security intersect within a single integrated system that links the fates of the Global North and the Global South and is in turn connected to the dynamics of the Arabian Gulf through energy, trade, and migration corridors. The paper argues that the future of the region depends on moving beyond the rentier model toward productive development based on regional integration.

First– Energy transitions: A structural asymmetry prevails between the two shores of the Mediterranean: the North is moving toward carbon neutrality (42% of Europe's electricity from renewables in 2025), while the South relies on fossil fuels at a rate exceeding 90% despite its enormous solar and wind potential. This gap opens the way for electricity interconnection projects (ELMED, MedRing) and green hydrogen corridors targeting Europe, with the aim of importing 10 million tons annually by 2030, though these require cumulative investments of a trillion dollars, while warning that such projects may reproduce exploitative patterns and justify authoritarianism under the banner of a "shared green future."

Second– Climate change: The Mediterranean is classified as a climate "hotspot," warming 20% faster than the global average. Drought, desertification, and water scarcity (180 million people affected today, projected to reach 250 million by 2050) threaten food and agricultural security and constitute a major driver of displacement and migration, with internal displacement of 13 million people projected in the Middle East by 2050. By contrast, carbon pricing in the Arab region (around $2/ton) is far lower than in Europe ($68), exposing its exports to the European CBAM mechanism.

Third– From rent to productivity: The rentier model in the region extends beyond oil and gas to tourism, the Suez Canal, and remittances, through the "Dutch disease" mechanism that weakens productivity and institutions. Technology and artificial intelligence are proposed as tools to "buy time" by improving energy efficiency, driving innovation, accelerating structural transformation, improving governance, and curbing corruption.

Fourth– Comparative lessons: A comparison is drawn between four Mediterranean countries (Turkey, Morocco, Tunisia, Egypt) and two Asian models (Vietnam, Indonesia), showing that economic growth alone (4–5%) did not translate into sufficient job opportunities due to the absence of genuine structural transformation; whereas Asia succeeded in building globally competitive industrial bases through active industrial policies and investment in education.

Fifth– Population and migration: Weak labor force participation and chronic unemployment (especially among youth) fuel irregular migration. The IOM report (2026) documents a tragic paradox: a decline in arrivals to Europe (46%) alongside a doubling of deaths (821 dead or missing on the central migration route). The Gulf represents a major parallel destination, with remittances exceeding $15 billion annually from more than 10 million workers.

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Sixth– Toward a new development model: The paper proposes five pillars: a knowledge and innovation economy, equitable green development, effective regional integration, institutional reform and anti-corruption, and active labor market policies, while affirming the interconnectedness of the Mediterranean and Gulf through energy, migration, investment, and security corridors.

Conclusion:
What next? The paper calls for placing youth and migration at the heart of development policies as actors rather than burdens, and warns of a "vicious circle" in sending countries (brain drain → greater reliance on remittances → weakened investment incentives). It also notes that the recent war involving Iran (February 2026) exposed the fragility of Arab economies and presents two options: a reactive response that reproduces rentier dependence, or a transformative response that builds indigenous capacities. Only the latter is capable of turning challenges into opportunities.

Macro Context

The Mediterranean basin constitutes an exceptional space in which transboundary challenges are embodied, as the climate crisis, energy transitions, migration, and economic security intertwine in a complex fabric that is reshaping notions of sovereignty and regional cooperation. The Mediterranean is not merely a geographical space separating its two shores; it is an integrated politico-economic system in which the fates of the countries of the North and the South are increasingly intertwined, and in which the dynamics of the Arabian Gulf connect to the transformations of the region through energy and trade corridors.
The Mediterranean basin is one of the regions of the world most exposed to the impacts of climate change, with temperatures rising 20% faster than the global average, making it a climate "hotspot". The region faces interconnected challenges, including water stress, more than 180 million people live in countries suffering from water scarcity, and this figure is expected to rise to 250 million by 2050; food security, more than 50% of grain consumption in the countries of the southern Mediterranean depends on imports; and unemployment and social vulnerability, youth unemployment rates in some countries exceed 30%, fueling irregular migration and political tensions.
The relationship between energy transitions and climate change in the Mediterranean goes beyond a narrow technical framework, linking directly to development models and demographic and social stakes. While the countries of the northern shore seek to achieve carbon neutrality by mid-century and enjoy a renewable energy mix accounting for 42% of their electricity in 2025, the countries of the southern shore face the dilemma of development under a dependence exceeding 90% on fossil fuels, despite their enormous solar and wind potential. This asymmetry creates transboundary opportunities and challenges, from interconnection projects such as an integrated Mediterranean electricity grid to green hydrogen corridors through which Europe plans to import 10 million tons annually from its southern and eastern neighborhood by 2030.
The region has witnessed profound geopolitical transformations that have affected energy security and regional stability—from the war in Ukraine (2022–2026), which restructured European gas corridors, to Israel's war on Gaza (2023–2026), which threatened Eastern Mediterranean gas projects, to tensions with Iran (since February

2026) and the intermittent war on Lebanon, all of which have collectively redefined regional security equations. In this context, the Arabian Gulf stands out as a strategic partner for importing countries and goes beyond traditional energy corridors, covering more than 30% of Europe's oil imports and 20% of its liquefied gas and its various derivatives. Its sovereign funds hold assets exceeding $3 trillion, increasingly invested in the Mediterranean, while more than 10 million workers from the countries of the southern Mediterranean live in the Gulf, remitting more than $15 billion annually to their countries of origin. This comes at a time when the European Union has restructured its institutions toward the southern neighborhood, having established in February 2025 the Directorate-General for the Middle East, North Africa, and the Gulf, to handle relations with the countries of the southern neighborhood (Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Palestine, Syria, Tunisia) and with all the countries of the Gulf Cooperation Council as Engage Partners, a step reflecting a growing European awareness of the fundamental difference between the priorities of the southern and eastern neighborhoods and the importance of a tailor-made approach for each region (see annex). In the face of these intertwined challenges, artificial intelligence and technology emerge as decisive factors for buying time and reducing costs, and thus as a strategic alternative to the rentier model in its various forms (oil, gas, tourism, the Suez Canal, remittances). By improving energy and resource efficiency, driving innovation and the circular economy, accelerating structural transformation, and improving governance, technology can contribute to building a new development model based on knowledge, productivity, and sustainability.

Accordingly, this paper addresses the energy and climate axes, not only in the sense of geopolitics, but also within the economic space and the population question through the lens of regional convergence, highlighting transboundary pathways in the Mediterranean, the region's relationship with the Arabian Gulf, and offering a comparative reading of the leading development experiences of selected countries. The future of the Mediterranean depends on the ability of its countries to transcend the narrow logic of national interests and move toward adopting a shared regional vision of integration and cooperation, one grounded in recognizing a common destiny in the face of environmental and economic challenges, investing in innovation and knowledge as a pillar of sustainable development, and turning transboundary challenges into opportunities for solidarity and shared progress.

I. Energy Transitions in the Mediterranean: Between Conventional Resources and the Green Transition

1.1 The Mediterranean Energy Structure: A Fundamental Asymmetry

The energy landscape in the Mediterranean reflects a deep structural divide between the two shores. While the countries of the southern and eastern Mediterranean (MENA) rely heavily on fossil fuels, whether as producing exporters (such as the Arab Gulf states, Egypt, Libya, and Algeria) or as consumers subsidizing growing domestic demand, the countries of the northern shore (the EU) are witnessing accelerated growth in renewable energy sources, albeit accompanied by persistent levels of vulnerability in energy

security. This was clearly evident in the repercussions of the conflict in Ukraine and Gaza, and most recently after 108 days of confrontations following the outbreak of war between the US and Israel on the one hand and Iran on the other (28 February 2026), where, despite the signing of a fragile ceasefire agreement (on 17 June 2026), everyone realizes that we are at a historic turning point for all the countries of the region and their standing in the region as a whole. This asymmetry creates transboundary opportunities and challenges. From energy supply transit corridors (such as the export of Saudi oil in increasing quantities via the Red Sea, or the revival of the Tapline and Pipeline lines)[2], to Iraq's recovery of a maritime outlet on the Mediterranean (which has been blockaded since the 1950s by the narrow port of Basra), through the construction of a new line for Iraqi oil (or Saudi oil, or Qatari gas via the Arab Gas Pipeline and then to Europe via Turkey), and the exploitation of the enormous solar potential and profitability in the southern Mediterranean, which remains only limitedly exploited to date, these can constitute an axis for ambitious Euro-Mediterranean partnerships in the fields of solar energy, wind energy, and hydrogen. These ambitions are embodied in electricity interconnection projects across the Mediterranean, such as the ELMED TUNITA project linking Tunisia and Italy, and the MedRing project aimed at integrating the electricity grids of the northern and southern Mediterranean into an interconnected electrical system. The 2025 report of the International Renewable Energy Agency (IRENA), entitled "Energy Transition in the Mediterranean: Enhancing Interregional Energy Flows," showed that the countries of North Africa (Algeria, Egypt, Libya, Morocco, Tunisia) possess enormous solar and wind potential far exceeding domestic demand, opening the way for exporting green electricity and green hydrogen to Europe[3], though this requires cumulative investments reaching one trillion US dollars.

1.2 Regional Convergence through Transboundary Energy Projects

Transboundary energy projects in the Mediterranean represent a laboratory for embodying the concept of regional convergence, yet they carry within them deep contradictions. On the one hand, these projects enable regional integration in the energy

[2]) By virtue of its geographical location, Syria (along with Jordan and Lebanon) was a transit country for Iraqi oil (1934–1982: the IPC subsidiary, the Pipeline Company, until 1972, then for nationalized Iraqi oil from 1973–1982) and Saudi oil (Aramco's subsidiary Tapline, 1951–1970). We note that 70% of Iraqi oil and 35% of Saudi oil passed through Syria at that time.

[3]) There was a massive project (the Desertec project), led by the Germans, to exploit the enormous solar energy in the deserts of North Africa and the Middle East: six hours of sunshine in the deserts are enough to meet the world's electricity needs for an entire year. The project relies on Concentrated Solar Power (CSP) technology, which uses mirrors to produce intense heat and store it in molten salt to generate electricity at night and on cloudy days. The original goal was to meet 15% of Europe's electricity needs by 2050, while first covering the needs of the producing countries. The project relied on a network of submarine cables (HVDC) to transmit electricity over long distances from the southern Mediterranean to Europe with minimal loss. The Desertec Foundation was established in 2009 to promote the idea, followed by an industrial initiative that included major companies such as Siemens and Munich Re. The project faced major obstacles, including the absence of a European legal framework, political instability in the region, and the high estimated cost (400 billion euros). This led to the withdrawal of investors and the dissolution of the initiative in 2014, though the non-profit foundation carrying the project continued its work. The vision later evolved to focus on actual, implementable projects and added green hydrogen as an exportable energy carrier. Among its most prominent recent achievements is its support for the ELMED electricity interconnection project between Tunisia and Italy, which received European Union support. Despite its setbacks, it remains alive as a strategic vision for cross-Mediterranean cooperation in clean energy, with its focus shifting toward green hydrogen and realistic projects.

sector, support the shift toward renewable sources, and create interconnection networks that may contribute to regional stability, but only on condition that they take into account balanced interests for all participating countries and are not an exploitation of some countries at the expense of others under the banner of a "shared green future".

These energy projects form part of a European vision for green growth (the European Green Deal) linked to transboundary energy infrastructure. Electricity interconnection between Europe and the southern Mediterranean opens new paths for the flow of "green electricity" toward the North and reveals a deep geopolitical dimension to energy transitions, whereby energy infrastructure may become a tool for reproducing regional inequalities and managing borders in new ways that transcend traditional national sovereignty. In this context, the 2025 report of the OECD, issued on the occasion of the thirtieth anniversary of the Barcelona Process, provides a comprehensive assessment of the progress of regional integration in the Union for the Mediterranean area and measures progress across fundamental dimensions including trade, finance, mobility of persons, research and education, and transport and energy infrastructure. The report documents the growth of intra-regional trade within the Union with a shift toward higher value-added trade, and notes that the Union area accounts for 31% of global exports, with a value exceeding $7 trillion in 2023. The report also expands its geographical scope to include the Gulf Cooperation Council countries as major contributors to foreign direct investment in the region, and reveals divergent development paths, with some economies advancing in high-tech sectors (such as Morocco in the aircraft components sector) while others remain specialized in traditional industries.

This report comes at a time when Europe is strengthening its financial and institutional framework toward the southern neighborhood. The Neighbourhood, Development and International Cooperation Instrument constitutes the financial backbone with a budget of €79.5 billion for the period 2021–2027, while the Mediterranean Pact proposes doubling the EU's budget for the region to €42 billion for the period 2028–2034. The Economic and Investment Plan for the Southern Neighbourhood, launched in 2021 with a European financial package reaching €7 billion, also achieved its goal of mobilizing €30 billion in public and private investments by 2027, having reached €26.7 billion (89% of the target) by November 2024. As for the Global Gateway[4], it surpassed its initial target (€300 billion over five years) in only four years and raised its new target to €400 billion by 2027, targeting the sectors of digitalization, energy and climate, transport, health, and education and research.

1.3 Green Hydrogen and Gas: Intersecting Pathways

[4]) The Global Gateway is a global investment strategy launched by the European Union in 2021 to mobilize public and private investment during 2021–2027 to finance smart, clean, and secure infrastructure projects in the sectors of digitalization, energy, climate, transport, health, education, and research. The strategy initially set a target of mobilizing €300 billion by 2027, but it surpassed this target two years ahead of schedule, as the European Commission (EC) announced in 2025 that it had mobilized €306 billion, raising its new ceiling to €400 billion by 2027. The Global Gateway operates according to the Team Europe approach, which integrates the efforts of the EC, member states, development finance institutions, and the private sector, and is based on six core principles: democratic values and high standards, good governance and transparency, equal partnerships, a green and clean economy, a focus on security, and stimulating the private sector. In 2025, the Council of the EU approved the list of flagship projects for 2026, comprising 256 projects covering the fields of digitalization, climate, energy, transport, health, education, and research. In essence, the Global Gateway represents Europe's response to China's Belt and Road Initiative.

Natural gas, as a transitional fuel, constitutes an additional axis for regional convergence, especially in light of Europe's pursuit of diversifying its supply sources after the years of war in Ukraine, which continues. Here, the countries of the southern Mediterranean and the Middle East (including the Arabian Gulf) stand out as potential supply sources, reviving historical energy corridors but in a new context that takes into account emission reduction requirements. At the same time, green hydrogen emerges as a promising field for cross-Mediterranean cooperation, combining the abundance of solar energy in the South with the technological capabilities and markets of the North. However, this ambition faces major technical, economic, and social challenges related to production and transport costs, transboundary governance, and the social impact of allocating vast areas to renewable energy projects in the countries of the South. The 2026 DNV report, within its "Energy Transition Outlook" series, noted that the Gulf Cooperation Council countries produce about 18% of the world's oil and gas, that this share is expected to rise as investment in low-cost resources continues, and that these countries are redirecting their domestic systems to reduce oil and gas consumption and free up more for export, with the Middle East expected to become the world's largest hydrogen exporter by 2060. A research thesis issued by the Qatar National Library (Manara) in 2026 also raises a pivotal question: Do the emerging clean hydrogen industrial policies in the Gulf states (Qatar, Saudi Arabia, the UAE, Oman) reinforce rentier dynamics or support genuine economic diversification? The findings reveal opportunities and risks of clean hydrogen in rentier contexts, with the possibility of creating new industrial value chains, but they indicate that these policies may reproduce state dominance and the rentier logic rather than transcend it. Europe supports this direction through the T-MED investment platform, which aims to coordinate potential investments in the renewable energy and clean technology sectors in the MENA region and to mobilize private capital for green energy projects, within the framework of the GET-Med programme (Green Transition and Energy for the Southern Neighbourhood), which aims to enhance the green transition, climate resilience, renewable energy production, and strengthen interconnection in the southern neighbourhood and with Europe, in line with the priorities of the Mediterranean Pact (see annex).

II– Energy Transitions in the Mediterranean: Between Conventional Resources and the Green Transition

2.1 The Mediterranean Energy Structure: A Fundamental Asymmetry

The energy landscape in the Mediterranean reflects a deep structural divide between the two shores. While the countries of the southern and eastern Mediterranean (MENA) rely heavily on fossil fuels, whether as producing exporters (such as the Arab Gulf states, Egypt, Libya, and Algeria) or as consumers subsidizing growing domestic demand, the countries of the northern shore (the EU) are witnessing accelerated growth in renewable energy sources, albeit accompanied by persistent levels of vulnerability in energy security[5]. This was clearly evident in the repercussions of the conflict in Ukraine and Gaza, and most recently after 108 days of confrontations following the outbreak of war

[5]) Apergis, N., El-Montasser, G., Sekyere, E., & Gupta, R. (2014). Dutch disease effect of oil rents on agriculture value added in Middle East and North African countries. *Energy Economics*, 45, 485–490.

between the United States and Israel on the one hand and Iran on the other (28 February 2026), where, despite the signing of a fragile ceasefire agreement (on 17 June 2026), everyone realizes that we are at a historic turning point for all the countries of the region and their standing in the region as a whole. This asymmetry creates transboundary opportunities and challenges. From energy supply transit corridors (such as the export of Saudi oil in increasing quantities via the Red Sea, or the revival of the Tapline and Pipeline lines), to Iraq's recovery of a maritime outlet on the Mediterranean (which has been blockaded since the 1950s by the narrow port of Basra), through the construction of a new line for Iraqi oil (or Saudi oil, or Qatari gas via the Arab Gas Pipeline and then to Europe via Turkey), and the exploitation of the enormous solar potential and profitability in the southern Mediterranean, which remains only limitedly exploited to date—these can constitute an axis for ambitious Euro-Mediterranean partnerships in the fields of solar energy, wind energy, and hydrogen. These ambitions are embodied in electricity interconnection projects across the Mediterranean, such as the ELMED TUNITA project linking Tunisia and Italy, and the MedRing project aimed at integrating the electricity grids of the northern and southern Mediterranean into an interconnected electrical system. The 2025 report of the International Renewable Energy Agency (IRENA), entitled "Energy Transition in the Mediterranean: Enhancing Interregional Energy Flows," showed that the countries of North Africa (Algeria, Egypt, Libya, Morocco, Tunisia) possess enormous solar and wind potential far exceeding domestic demand, opening the way for exporting green electricity and green hydrogen to Europe, though this requires cumulative investments reaching one trillion US dollars.

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neighbourhood and with EU, in line with the priorities of the Mediterranean Pact (see annex).

III. Climate Change: A Shared Challenge and Divergent Responses

3.1 The Mediterranean: Oil Rents, Lagging Agriculture, and a Climate Change Hotspot

The Mediterranean basin is classified as one of the regions of the world most affected by climate change. Drought, desertification, water scarcity, and rising sea levels are worsening at an accelerating pace, threatening vital sectors such as agriculture and tourism and exacerbating demographic and economic pressures, particularly in the countries of the South.

Numerous studies indicate a long-term inverse relationship between oil rents and agricultural value added in the Mediterranean countries, providing evidence of the "Dutch disease" effect that weakens non-oil productive sectors and makes economies more vulnerable to climate shocks. The decline of agriculture (as a result of resources shifting toward the booming oil sector (increases these countries' dependence on food imports and exposes them to fluctuations in global markets and to the impacts of climate change on supply chains.

3.2 Linking Climate, Energy, and Migration

The triangular relationship between the climate crisis, energy insecurity, and migration constitutes one of the most prominent transboundary challenges in the Mediterranean and Middle East region. Environmental degradation, especially drought and desertification, forces populations to leave their lands, generating internal and cross-border displacement movements at record numbers. Globally, a quarter of a billion people were forcibly displaced over the past decade (2015–2025) due to climate disasters such as floods, storms, and drought, at a rate of 70,000 displacements per day. Last year, the number of internally displaced persons due to natural disasters and extreme weather rose to 13.6 million, an increase of 37% over the previous year.

At the regional level, there is a potential internal displacement of 13 million people in the Middle East by 2050 due to climate change. Drought and desertification are major drivers of displacement, as the MENA region faces an acute water crisis: it contains only 1% of the world's freshwater resources while hosting 6% of the global population, with rainfall in North Africa and the Levant expected to continue declining. As for the Tigris–Euphrates basin, shared by Iraq, Syria, and Turkey, the Turkish Southeastern Anatolia hydroelectric project has led to a significant decline in water availability, and the basin is expected to witness a 30% decrease in water flows by 2050, threatening agriculture and household water supplies.

By contrast, technological tools and artificial intelligence emerge as potential solutions for managing these challenges. Digital solutions and AI can improve the management of water–energy–food–ecosystems systems and develop early warning systems for climate disasters. A recent field study conducted by Nantsou and his colleagues (2026), based on 70 semi-structured interviews with migrants, showed that climate disasters destroy

livelihoods in countries of origin in the Global South, and that Greece is a major entry point for these flows in the eastern Mediterranean. The research also revealed a gap between global climate policies and local adaptation measures in countries of origin, and concluded that climate migration is not a voluntary choice but an emergency response to the loss of livelihoods. Consequently, the region faces an existential challenge requiring integrated solutions that combine water resource management, sustainable energy transition, and fair migration policies, while harnessing technology responsibly.

3.3 The Arab Region in the Face of Climate Change

The MENA region is one of the regions of the world most affected by climate change, despite its limited contribution to global emissions. The Arab countries face interconnected challenges including:

-Water stress: 60% of the region's population lives in areas suffering from acute water stress, and this situation is expected to worsen.

-Food security: climate change is causing a 30% decline in rainfed crop yields, threatening regional food security.

-Demographic challenges: population growth and aging place additional pressure on limited resources.

WB reports (World Bank: 2026a, 2026b) also show that climate change is already affecting economic performance and the labor market in the region, as high temperatures affect firms, sales, productivity, wages, and operating conditions, especially for small and financially constrained firms, with potential job losses, particularly in emission-intensive industries.

Last July, the WB issued a regional report (World Bank: 2026c) entitled "Building Food Security, Creating Jobs," focusing on MENA Region, Afghanistan, and Pakistan. It stated that the region can seize opportunities by developing stronger agricultural and food systems, improving nutrition, addressing food insecurity, and creating jobs through ambitious investments and business environment reforms. The region could see 5 million new jobs by 2050 in the food and agriculture sector.

Despite the challenges of growing food demand, local production constraints under the impact of climate change and acute water scarcity, trade management, and the devastating impact of conflict on food systems, the shift from costly subsidies toward innovation, resilient agrifood systems, efficient trade, and sustainable infrastructure offers the Arab region significant opportunities in the green transition. The cooling industry, for example, represents new growth opportunities worth $46 billion. Expanding sustainable irrigation alone could create no fewer than 245 million jobs globally, but reforms are needed that can achieve multiple gains: helping firms adapt to climate stress and addressing long-standing barriers to productivity and investment.

3.4 Carbon Pricing Trends 2026

In its annual report issued in May 2026, entitled "State and Trends of Carbon Pricing," the World Bank provided an updated overview of existing and emerging carbon pricing instruments globally:

-Record revenues: carbon pricing revenues collected by governments in 2025 amounted to $107 billion, an increase of 2% over the previous year, with revenues tripling over the

decade (from less than $30 billion in 2016). The number of policies also rose to 87 implemented carbon pricing policies, an increase of 7 policies over the previous year[6].
-Direct carbon pricing mechanisms currently cover more than 29% of global greenhouse gas emissions, with the average carbon price reaching about $21 per ton of CO2 equivalent in 2025. Carbon credit issuances also rose by 8% between 2024 and 2025.

3.5 Implications for the Arab Countries

The Arab region is one of the regions most affected by climate change, with major water, food, and employment challenges, but it also possesses opportunities in the green economy and renewable energy. Specifically, the World Bank is committed to supporting countries in increasing access to finance through carbon markets. Developing climate-smart solutions can also attract new investments, especially since the European Union's Carbon Border Adjustment Mechanism (EU CBAM) may affect the region's exports and investments, particularly in carbon-intensive sectors. Consequently, the Arab countries need reforms to improve green competitiveness and prepare for global trade requirements.
In its report "Competing in the Face of Climate Risks," issued by the World Bank in June 2026 for the MENA, Afghanistan, and Pakistan region, it shows:

- That yesterday's risks have become today's realities, and that climate risks are no longer future risks; they are already affecting jobs, trade, and livelihoods across the region.
- That high temperatures reduce firms' performance, especially smaller firms that face greater losses. Nevertheless, extreme heat can be turned into economic opportunities, helping firms adapt to climate stress and addressing long-standing barriers to productivity and investment.

As stated in the WB's latest report, "State and Trends of Carbon Pricing", considered the primary reference for understanding prices globally, the average carbon price in the MENA region is about $2 per ton of CO2, far lower than prices in Europe ($68) and North America ($34)[7]. On the other hand, the IMF book "The Potential for Corrective Fiscal Instruments on Energy Products" (2026) explains that most countries in the region do not impose taxes on fossil fuel consumption, and none of them adopts explicit carbon

[6]) Policies, in the context of the World Bank's report on carbon pricing, are the formal frameworks adopted by governments that define how carbon emissions are addressed. They include the laws, regulations, and national programmes that establish and regulate carbon pricing instruments. They constitute the broader framework within which specific implementing instruments—such as a carbon tax or an emissions trading system—are built. The distinction between a policy and an instrument is fundamental: a policy is the strategic decision and formal commitment, such as "adopting carbon pricing as a tool to reduce emissions" or "launching a national emissions trading system," and it defines the objective, the legal framework, and the responsible authority. An instrument, by contrast, is the specific implementing mechanism within that policy, such as the level of the carbon tax (for example, $25 per ton), the method of allocating allowances in a trading system, or the mechanism for using revenues. This distinction matters because the World Bank report measures the number of policies implemented, not the number of instruments; a single policy may include multiple instruments, and thus the number of policies reflects geographical spread and legal scope, not necessarily the number of implementing mechanisms.
[7]) In the MENA region, the average carbon price is about $2 per ton of CO2 equivalent, according to the World Bank's State and Trends of Carbon Pricing 2026 report. However, this figure does not reflect the level of carbon pricing across the entire region, since the only recorded instrument is the carbon tax in Israel, while North Africa is entirely absent from carbon pricing systems. This figure is far lower than prices in Europe ($68) and North America ($34), which reflects the absence of actual carbon pricing instruments in most countries of the region, rather than a low level of implemented policies.

pricing, with limited exceptions for excise taxes in countries such as Egypt, Jordan, and Morocco. Within the framework of EU support for the southern neighborhood, the MEDSTAT programme for Euro-Mediterranean statistical cooperation stands out, with the EU expressing its readiness to support, for example, Syria's return to the initiative. The EU also launched the programme "Supporting Fundamental Rights and Democratic Go) vernance in the Southern Neighbourhood" (2025–2027), which aims to enhance the social and economic resilience of southern neighborhood communities and contribute to preserving fundamental rights and advancing democratic governance. The list of beneficiary countries of southern neighborhood programmes includes: Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Palestine, Syria, and Tunisia.

At the national level, Saudi Arabia has launched the RVCMC platform for voluntary carbon trading, where the price of credits in its first operations reached about $10 per ton, with plans to launch a mandatory compliance system by 2028. In the UAE, a national registry for carbon credits has been established, considered a tradable financial instrument, setting a minimum emissions threshold (500,000 tons of CO2 equivalent annually) and requiring entities to submit annual reports, as a preparatory step for a future compliance system.

A Taylor & Francis study (2025) also highlights the experience of the Gulf Cooperation Council countries: despite the absence of carbon taxes or organized domestic markets, all of them have shown interest in international carbon markets in their updated Nationally Determined Contributions (NDCs), with plans in Saudi Arabia and the UAE to operate national registration and trading mechanisms. Christopher Cooding Vibin, in his report "Beyond Oil: The Gulf's Race to Define Carbon Value" (MEES, 2025), addresses the geopolitical and economic dimension of the issue, explaining how laws such as the European Carbon Border Adjustment Mechanism (CBAM) are pushing the Gulf states to build national carbon registration systems and determine the carbon value of their exported products, such as ammonia and hydrogen. Consequently, carbon markets in the Arab countries (especially the Gulf) remain emerging and are currently moving toward building voluntary systems that precede the establishment of mandatory (compliance) systems, with a focus on registering and certifying carbon credits for green hydrogen and carbon capture projects. The carbon market remains fragmented at the national level, but there are efforts to enhance regional cooperation to unify standards, especially with European pressures requiring exporters to calculate the carbon footprint of their products.

IV. From the Rentier Model to Productive Development: The Role of Technology and Artificial Intelligence

4.1 Dutch Disease and Diversified Rentier Economies

The concept of "Dutch disease" refers to the negative effects of a resource-based rent boom (such as oil or gas production) on other economic sectors, through the appreciation of the real exchange rate and the shift of other resources (especially labor) away from tradable sectors (such as agriculture and industry) toward the booming rentier sector and non-tradable sectors (services). The rent phenomenon in the countries of the southern

Mediterranean and the Arabian Gulf extends beyond oil and gas to include diverse patterns such as tourism (in Egypt, Tunisia, and Morocco), migrant worker remittances, Suez Canal revenues, and heritage revenues. This diversity of rent sources allows a better understanding of the diversity of rentier economies in the region and the complex relationships between rents, institutions, and economic growth. The rentier model, in its multiple forms, generates an economy that distorts incentives for productivity and innovation, weakens institutions, and creates dependence on external revenues.

4.2 The Role of Artificial Intelligence and Technology in Gaining Time and Reducing Costs

In the face of the challenges of the desired transformation, technology and artificial intelligence emerge as decisive tools for moving beyond the rentier model toward a productive development model based on knowledge and innovation. These tools can be concentrated in the following axes:

-First: Improving energy and resource efficiency: AI technologies contribute to improving the management of electricity grids, reducing losses, and balancing supply and demand, especially with the spread of intermittent renewable energy sources. They also help improve irrigation efficiency and water resource management in agriculture, a vital sector in the Mediterranean, which suffers from water scarcity.

-Second: Driving innovation and the circular economy: AI technologies enable the development of smart waste sorting systems and the promotion of the concept of "industrial symbiosis", whereby the waste of one industry becomes raw material for another. This reduces costs, creates new green jobs, and achieves environmental and economic objectives simultaneously.

-Third: Accelerating structural transformation and reducing dependence on rents: Employing technology in new economic sectors (such as financial technology, e-commerce, digital services, and technology-based manufacturing industries) can create alternative development paths that reduce dependence on rentier revenues, absorb unemployment, and raise productivity. Gaining time here means accelerating the pace of learning and innovation and bypassing long traditional development stages.

-Fourth: Improving governance and reducing corruption: AI applications in governance (such as transparency in public finance, project tracking, and improving government services) can limit opportunities for rent-seeking and corruption and enhance institutional efficiency, a fundamental condition for moving from a rentier model to an inclusive development model.

V. Lessons from Comparative Development Experiences (Vietnam, Indonesia, Turkey, Morocco, and Tunisia)

5.1 The Path of Structural Transformation: From Agriculture to Manufacturing and Services

The four countries (Turkey, Morocco, Tunisia, and Egypt) witnessed, between the 1960s and 2011, a broad structural transformation manifested in the expansion of the industrial and service sectors and the contraction of the agricultural sector. However, the pace of

this transformation slowed markedly in Egypt and Morocco from the 1970s onward, while it continued in Turkey and Tunisia.

Despite achieving economic growth rates ranging between 4–5% during the same period, this growth did not translate into sufficient job creation. Unemployment rates remained high and persistent in the four countries since the early 1990s, peaking in Tunisia and Morocco (around 15% and 13% respectively), while ranging between 9–10% in Egypt and Turkey. This reveals a fundamental dilemma: economic growth alone is not enough to absorb unemployment unless accompanied by genuine structural transformation that expands the productive base and creates decent jobs.

5.2 A Comparison of Relative Success Stories

Turkey offers the model of the most advanced structural transformation among the four countries, with greater diversity in the productive structure, more sophisticated industrial exports, and a better capacity to attract foreign investment. This reflects a longer and more stable development path, supported by active industrial policies over decades, despite persistent unemployment challenges and weak labor force participation rates.

Tunisia, meanwhile, achieved the fastest income convergence among the four countries, overtaking Morocco and Egypt despite starting from similar levels in the 1960s. This points to the relative effectiveness of its development and industrial policies during certain periods. However, this path was disrupted with the onset of the Arab Spring in 2010 and the political and economic instability that followed, confirming the fragility of development gains in the absence of institutional stability.

Morocco was the slowest to catch up with the other countries, despite its steadily improving performance in reducing unemployment since the 1990s. This reflects deeper structural challenges related to weak economic diversification, greater dependence on the agricultural and service sectors, and greater vulnerability to external shocks. Nevertheless, Morocco has recently succeeded, thanks to its National System of Innovation, in establishing a technological productive base in important sectors—not least aviation, where dozens of global companies have established sites in Morocco for manufacturing advanced aircraft components.

Vietnam and Indonesia, for their part, represent two Asian models of transformation from agricultural economies into industrial and export powers, benefiting from global value chains, investment in education and infrastructure, and the adoption of active industrial policies capable of adapting to international changes. This path differs fundamentally from that of the Mediterranean countries, which remained captive to the rentier model to varying degrees and were unable to build an industrial base capable of global competition and creating sufficient job opportunities.

VI. The Demographic Question: Between Employment, Unemployment, and Migration

6.1 Labor Market Dynamics in the Mediterranean

The countries of the southern Mediterranean suffer from complex demographic and labor market challenges. Labor force participation rates are low, not exceeding half of the working-age population, and this ratio has declined in all four countries (Turkey, Egypt,

Morocco, Tunisia) over the past decades, with a particularly sharp decline in Turkey. This is accompanied by persistently high unemployment, constituting a chronic phenomenon that reflects the failure of growth patterns to absorb population growth and the required structural transformations. This unemployment, especially among youth and women, is a major driver of irregular migration to Europe, fuels social and political tensions, and places enormous pressure on social protection systems and the level of public service provision.

6.2 Migration as a Transboundary Phenomenon and a Response to Pressures

Migration in the Mediterranean is a multidimensional phenomenon, organically linked to economic, environmental, and political pressures. Migration is a "thermometer" of global inequality, and it is also a catalyst for political tensions in receiving countries. The climate crisis and energy insecurity constitute additional push factors, driving populations to internal or cross-border displacement. In this context, the International Organization for Migration (IOM) report issued in 2026 on global migration routes (January–April 2026) documents a tragic paradox: a sharp decline in the number of arrivals to Europe (by 46% on the central route), matched by a doubling in the number of deaths, with 821 people dead or missing on the central route and 244 on the eastern route (an increase of 259%). The report links this increase in deaths to Cyclone Harry, which struck the region in January 2026. It also notes that conflicts, economic pressures, and changing policies reshaped migration routes during the period covered.

At the same time, the economy of southern Europe depends on migrant labor in vital sectors such as agriculture (for example, intensive agriculture in Almería, Spain), construction, and services. This creates a contradiction: while borders are restricted and militarized to stop the flow of people, the economies of the North actually need this labor, fueling forms of exploitation and social vulnerability. As for the Arab Gulf states, they constitute a major destination for migration from the southern Mediterranean (especially Egypt), creating large financial flows (worker remittances) that constitute an important source of national income and economic stability. This links the fate of the southern Mediterranean countries to the Gulf through migration and capital corridors, requiring an integrated regional approach to this phenomenon that transcends national borders. A peer-reviewed medical study published by Accurso and his colleagues (2026) in the journal Travel Medicine and Infectious Disease added a health dimension to this phenomenon, using the Italian island of Lampedusa as an "early sensing front" to monitor epidemiological shifts resulting from climate pressures and migration. It analyzed how rising Mediterranean Sea temperatures lead to the expansion of ecological ranges for disease-carrying mosquitoes such as West Nile fever, and linked transit conditions in North Africa (overcrowding, unsafe water, malnutrition) to increased health vulnerability.

VII. Toward a New Development Model: Regional Integration as a Strategic Choice

7.1 Elements of the Required Development Model

Building on the preceding analysis, the elements of the new development model that transcends the rentier model and rests on the principles set out below can be outlined:

- First: Transition to a knowledge and innovation economy: Investing in education, research and development, and technology, especially artificial intelligence, as a tool to raise productivity, accelerate structural transformation, and generate new job opportunities in promising sectors.
- Second: Green and equitable development: Integrating environmental sustainability objectives (energy efficiency, renewable energy, the circular economy, adaptation to climate change) into the heart of development strategies, while ensuring a just transition that includes the most vulnerable groups and does not exacerbate inequalities.
- Third: Effective regional integration: Moving beyond narrow competitive logic toward multi-level regional partnerships covering energy, water, food, climate, migration, and investment. This requires shared governance capable of reconciling conflicting national interests and addressing common challenges.
- Fourth: Institutional reform and anti-corruption: Enhancing transparency, accountability, and institutional efficiency and limiting opportunities for rent-seeking and corruption, as a fundamental condition for attracting investment, improving the business climate, and directing resources toward productive uses.
- Fifth: Active labor market policies: Designing operational policies that go beyond temporary solutions and focus on developing the skills required for the future labor market, supporting entrepreneurship and small and medium-sized enterprises, improving social safety nets, and addressing the root causes of forced migration.

This comes amid a qualitative shift in the EU's policy toward its southern neighborhood, where the transition from the unified European Neighbourhood Policy (ENP) to the new framework based on the Mediterranean Pact, the Directorate-General for MENA region, and the Gulf (DG MENA), and the Economic and Investment Plan represents a qualitative leap in the EU's relations with its southern neighborhood, with a more tailored, flexible framework focused on equal partnership and joint investment, opening broad prospects for cooperation with the countries of the region in the areas of institutional reform, governance, energy, digital transformation, and sustainable development.

7.2 The Relationship with the Arabian Gulf: Multiple Corridors

The relationship between the Mediterranean and the Arabian Gulf goes beyond traditional energy corridors to include several dimensions:

- Energy and investment corridors: The Gulf is a major source of oil and gas for the Mediterranean countries, and it also possesses huge sovereign funds that invest in infrastructure and renewable energy projects in the region. This creates networks of mutual dependence and economic integration.

- Migration and remittance corridors: The Gulf states represent a major destination for labor from the southern Mediterranean, generating important financial flows that contribute to the economic stability of the source countries.
- Security and stability corridors: The stability of the Mediterranean countries is linked to the stability of the Gulf states, as regional conflicts interact and the interests of regional and international powers intersect.
- Common challenges: Both sides share the challenges of water scarcity, food security, and energy transition, creating prospects for cooperation in the areas of technology, green investments, and water and food security.

Consequently, the Mediterranean region offers a unique model of challenges and opportunities in an interconnected world undergoing profound transformations in energy, climate, and development. Thus, energy transitions in the Mediterranean are not merely a technical matter; they are a reflection of comprehensive geopolitical, social, and economic transformations that are redefining the relationship between North and South, and between people and resources.

The rentier model, in its multiple forms, oil, gas, tourism, the Suez Canal, and transit, has proven its limitations in achieving comprehensive and sustainable development. It has rather led to economic fragility, chronic unemployment, social inequalities, unregulated migration, and the weakening of productive and institutional capacities, and it has made countries vulnerable to "Dutch disease," which undermines productive sectors and creates dependence on external revenues.

By contrast, technology and artificial intelligence represent decisive tools for gaining time in the development path, reducing costs, and bypassing traditional growth stages. By improving energy and resource efficiency, driving innovation and the circular economy, accelerating structural transformation, and improving governance, technology can contribute to building a new development model based on knowledge, productivity, and sustainability.

The experiences of countries such as Vietnam, Indonesia, and Turkey, and even Morocco and Tunisia during certain periods, offer valuable lessons on the possibility of transitioning from a rentier model to a productive development model, provided there is political will, active industrial policies, investment in people and infrastructure, institutional reform, and effective regional integration.

Ultimately, the future of the Mediterranean depends on the ability of its countries and peoples to transcend the narrow logic of national interests and move toward adopting a shared regional vision of integration and cooperation, one grounded in recognizing a common destiny in the face of environmental and economic challenges, investing in innovation and knowledge as a pillar of sustainable development, and turning transboundary challenges into opportunities for solidarity and shared progress.

Conclusion: What Next?

In the final analysis, the climate crisis, energy transitions, migration, and economic security intersect in a complex fabric in the countries of the Mediterranean basin and the Gulf. The Mediterranean is not merely a geographical space but an integrated politico-economic system in which the fates of the countries of the North and the South are intertwined, and whose dynamics are shaped by the transformations of the Arabian Gulf through energy and trade corridors. The Mediterranean is classified as a climate

"hotspot", as its temperatures rise faster than the global average, exacerbating water stress, food security, and unemployment, especially among youth in some countries, which fuels irregular migration and political tensions.

The energy landscape also reflects a deep structural divide: while the countries of the North seek carbon neutrality, the southern Mediterranean relies on fossil fuels despite its enormous solar and wind potential. Yet this asymmetry creates opportunities for multidimensional integration.

Climate change is the most prominent shared challenge, with worsening drought, desertification, water scarcity, and rising sea levels. The climate crisis is closely linked to energy insecurity and migration, but extreme heat can be turned into economic opportunities through adaptation, investment in resilient agricultural and food systems, and reforms to improve green competitiveness.

The countries of the southern Mediterranean suffer from multiple rentier patterns (oil, gas, tourism, the Suez Canal, remittances), which stifle productivity and innovation, weaken institutions, and create chronic unemployment and economic fragility. By contrast, technology and artificial intelligence emerge as decisive tools for gaining time and reducing costs, through improving energy and resource efficiency, driving innovation and the circular economy, accelerating structural transformation, and improving governance and curbing corruption.

Not to mention the demographic question, which reflects weak labor force participation and chronic unemployment and constitutes a major driver of migration toward Europe and the Gulf, linking the fate of the region to the Gulf through migration, remittance, investment, and security corridors.

In the final analysis, adopting a new development model that transcends rents is no longer a transitional matter or a change in style; it has become a necessity requiring benefit from the knowledge and innovation economy and reliance on green and equitable development, effective regional integration, institutional reform, and active labor market policies. The future of the Mediterranean depends on the ability of its countries to adopt a shared regional vision that recognizes a common destiny in the face of environmental and economic challenges and turns transboundary challenges into opportunities for solidarity and shared progress.

And what next? This analysis requires opening a new research path that places migration and youth at the heart of development policies—not as dependent variables but as central actors in any future model. Arab youth, who constitute a high proportion of the population in the countries of the southern Mediterranean, are not only victims of unemployment and forced migration; they are also an enormous productive energy if given the opportunity. Hence, resource management and use become a real test of the seriousness of states in achieving sustainable development: oil and gas wealth, solar and wind potential, and scarce water resources must be directed to serve people first, not to finance rentier consumption patterns or regional wars. The required economic model is not one measured by aggregate growth rates, but one that translates into decent jobs, social protection, distributive justice, and human dignity.

The repercussions of migration are not limited to migrants themselves; they extend to the economic and social structures of both sending and receiving countries, making it a comprehensive development issue requiring a radical approach. In sending countries, the loss of young people of working age leads to what is known as "brain drain" and "skills

drain", as these countries lose their most important human resources and those most capable of creativity and production. This outflow also leads to family disintegration, a rising dependency ratio, declining productivity, and increasing reliance on migrant remittances, which become a fragile but primary source of national income. The migration of young people also drains societies of their vital energies, weakens popular pressure for reform, and deepens population aging, increasing the burdens on health and social systems. Under these circumstances, sending countries find themselves in a vicious circle: the more migration increases, the greater the need for remittances, the greater the dependence on abroad, and the lower the incentives to invest in education and infrastructure, pushing more young people to migrate.

In receiving countries, migration creates multidimensional pressures. It leads to increased demand for public services (health, education, housing, transport) and creates social and cultural tensions, especially with the rise of anti-migrant populist discourse. Irregular migration also places border and security systems under great pressure and leads to the exploitation of migrants in the informal labor market, lowering wages and working conditions for local labor. At the same time, these countries suffer from a structural contradiction: their economies need migrant labor in vital sectors such as agriculture, construction, and services, yet they simultaneously seek to close borders and restrict migration. This contradiction fuels selective migration and deportation policies, increases the vulnerability of migrants, and deepens crises of integration and identity.

The American war on Iran (since February 2026) and the accompanying sharp rise in energy prices and fluctuations in global supply chains have exposed the fragility of Arab economies in the face of external shocks. This escalation has exacerbated energy and food crises, raised transport and insurance costs, reduced investments, and increased waves of internal and cross-border displacement, especially from Lebanon, Iraq, Syria, and Yemen. In this context, the question is no longer "Will the Arab countries be affected?" but "How will they respond?" The options available to these countries range between a reactive response that reproduces patterns of dependence on abroad, borrowing, and reliance on rents, and a transformative response that builds indigenous capacities in renewable energy, food security, and technological manufacturing, invests in human capital, and launches a comprehensive regional dialogue on migration and development. Only the second option is capable of turning challenges into opportunities, turning youth from emigrant energy into productive energy, and turning resources from instruments of rent into instruments of development.

Consequently, any serious approach to the issue of migration must transcend the narrow logic of "security solutions" and adopt a comprehensive development perspective that addresses the root causes of migration in sending countries, guarantees the rights of migrants in receiving countries, and builds fair regional partnerships based on common interests and shared responsibility. Migration is not merely a "problem" to be contained; it is a complex human and economic phenomenon that can be turned into an opportunity for development and integration if managed wisely and justly. The future of the region will not be determined in international decision-making capitals, but in the ability of its countries and peoples to formulate a new social contract in which the economy serves people, development serves the human being, and migration is a choice rather than a necessity.

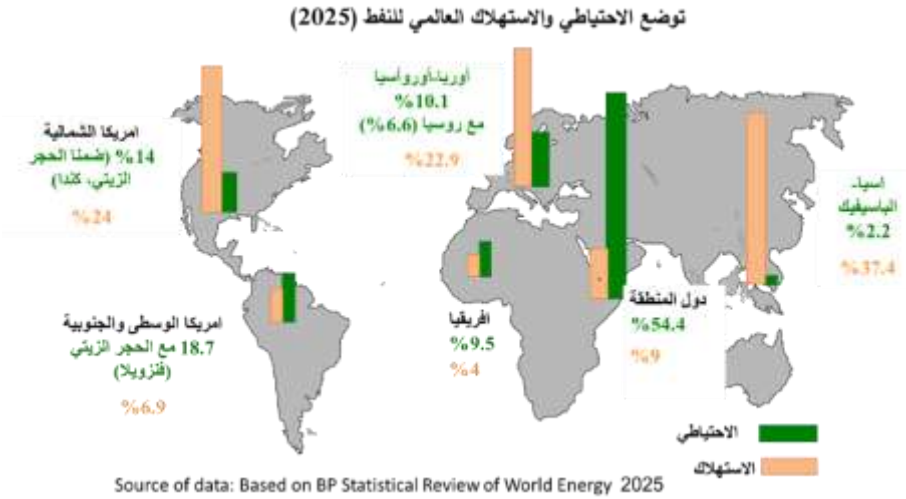


Figure 1: Distribution of oil reserves and consumption by world region — Source: author's elaboration based on data from the Energy Institute (2025), Statistical Review of World Energy 2025 (74th edition, June 2025), published by BP until 2022.

The chart illustrates the global distribution of oil reserves (green) versus consumption (orange) by geographic region in 2025. It highlights a massive structural imbalance in the Middle East (including the Gulf), which holds 54.4% of global reserves but consumes only 9%, making it the world's dominant oil export hub. In sharp contrast, regions such as Asia-Pacific and North America consume vastly more oil than they hold in reserves: Asia-Pacific consumes 37.4% while holding only 2.2%, and North America consumes 24% with 14% of reserves.

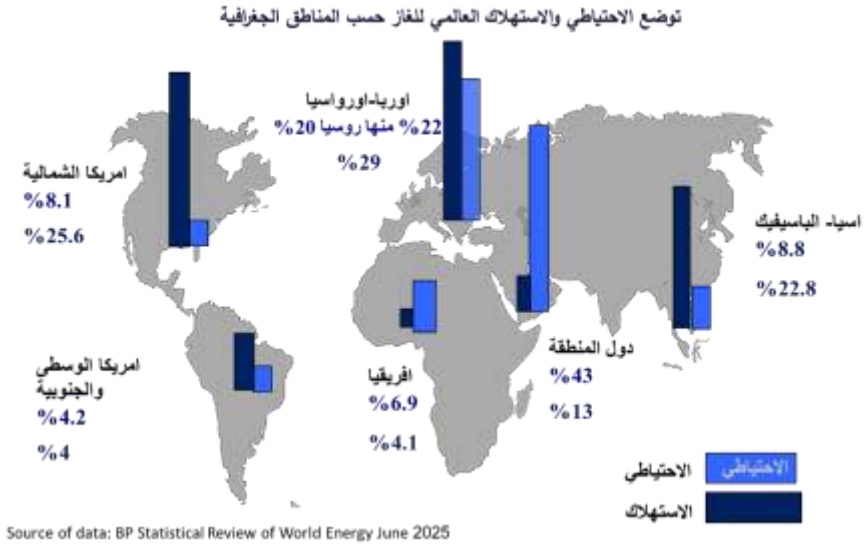


Figure 2: Distribution of oil and gas reserves and consumption by world region — Source: author's elaboration based on data from the Energy Institute (2025), Statistical Review of World Energy 2025 (74th edition, June 2025), published by BP until 2022.

The chart illustrates the global distribution of natural gas reserves (light blue) versus consumption (dark blue) by geographic region. It highlights a severe structural imbalance in the Middle East (including the Gulf), which holds a massive 43% of global reserves but consumes only 13%, making it a major export hub. Conversely, Europe and Eurasia consume 29% of global gas despite holding only 22% of reserves (with Russia alone holding 20%), while the Asia-Pacific region is a major importer, consuming 22.8% with only 8.8% of reserves.

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Figure 3: Changing economic weights of world regions — GDP at current prices (USD billion) for 1990, 2010, 2022 and 2027 (estimates). Source: International Monetary Fund, IMF DataMapper, based on the World Economic Outlook database (October 2021 for 1990 and 2010; October 2022 for 2022 and 2027). The graphic illustrates the global distribution of GDP (in current prices, billions of U.S. dollars) across four time periods: 1990, 2010, 2022, and projections for 2027, using circle size to represent economic weight. Over this period, the maps clearly show the dramatic economic expansion of East and South Asia, particularly China and India—whose circles expand significantly, alongside the persistent dominance of the North American and European economies. The projections for 2027 indicate a continued shift in global economic gravity toward Asia, reflecting a multipolar world economy where emerging markets account for a growing share of global GDP.

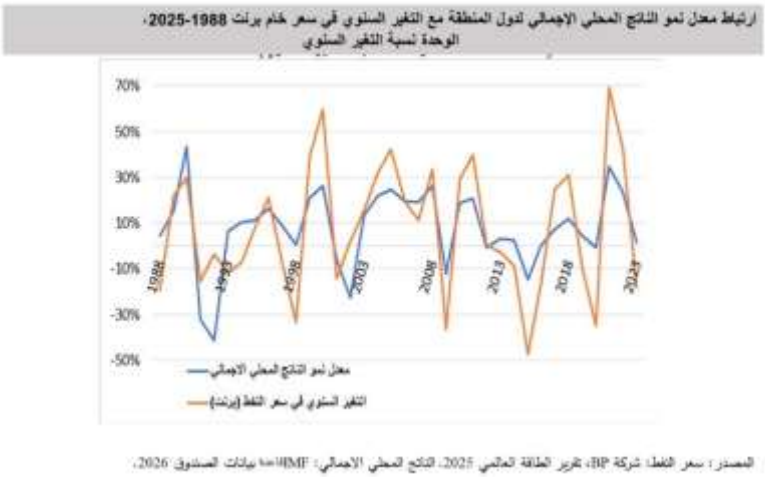


Figure 4: Correlation between Arab countries' GDP and the world oil price — Source: author's elaboration; Brent crude price from the Energy Institute, Statistical Review of World Energy 2025; GDP from the International Monetary Fund, World Economic Outlook database (2026). The chart illustrates the strong positive correlation between annual changes in Brent crude oil prices (orange line) and the GDP growth rate of the Middle East region (blue line) from 1988 to 2025. It shows that regional economic growth is highly volatile and heavily synchronized with oil price fluctuations, experiencing severe contractions during price crashes (e.g., 1998, 2009, 2015, and 2020) and sharp expansions during price spikes (e.g., 1990, 2003–2008, and 2022). This pattern underscores the region's persistent structural dependence on hydrocarbon revenues, leaving its macroeconomic stability highly vulnerable to external oil market shocks.

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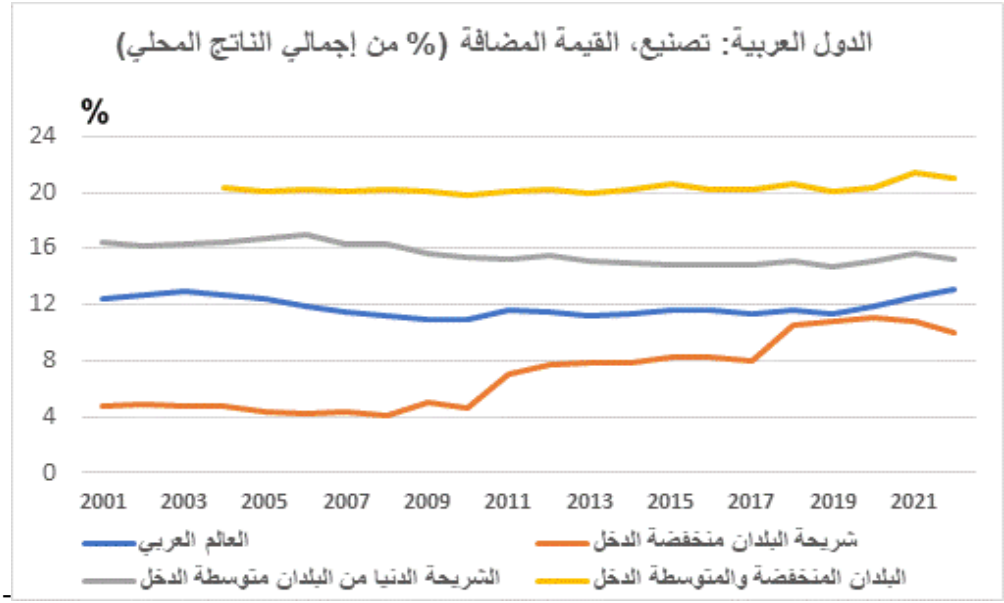


Figure 5: Weak manufacturing value added in Arab countries — Manufacturing, value added (% of GDP), 2001–2022. Source: World Bank, World Development Indicators database, indicator NV.IND.MANF.ZS. This line chart tracks manufacturing value added as a percentage of GDP for Arab countries between 2001 and 2022, comparing the overall Arab world with different income groups. It shows that the Arab world's manufacturing share (blue line) has remained relatively stagnant and low, fluctuating between roughly 11% and 13% of GDP, while higher-income Arab countries (yellow line) maintain the highest share at around 20%. Meanwhile, lower-income Arab countries (orange line) have seen their manufacturing share rise from about 4% in 2001 to over 10% recently, yet the overall regional share remains structurally weak compared to global averages, indicating limited industrial diversification.

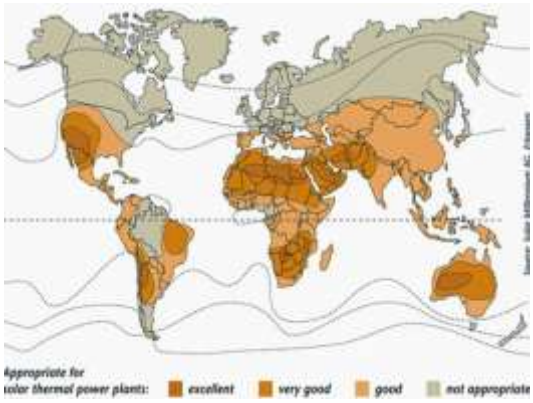


Figure 6: Solar irradiation by region — Areas suitable for concentrated solar thermal power plants. Source: Solar Millennium AG, Erlangen (map widely used in the DESERTEC literature).

Table 1: Global ranking of Arab countries by human development indicators

	ترتيب الدول	مؤشر التنمية البشرية	العمر المتوقع عند الولادة	سنوات متوقعة من التعليم	متوسط سنوات التعليم	نصيب الفرد من الدخل القومي الإجمالي
1	سويسرا	0.962	84.0	16.5	13.9	66,933
21	الولايات المتحدة	0.921	77.2	16.3	13.7	64,765
26	الامارات العربية المتحدة	0.911	78.7	15.7	12.7	62,574
35	البحرين	0.875	78.8	16.3	11.0	39,497
35	السعودية	0.875	76.9	16.1	11.3	46,112
42	قطر	0.855	79.3	12.6	10.0	87,134
46	هنغاريا	0.846	74.5	15.0	12.2	32,789
48	تركيا	0.838	76.0	18.3	8.6	31,033
50	الكويت	0.831	78.7	15.3	7.3	52,920
54	عمان	0.816	72.5	14.6	11.7	27,054
67	البانيا	0.796	76.5	14.4	11.3	14,131
76	ايران	0.774	73.9	14.6	10.6	13,001
79	الصين	0.768	78.2	14.2	7.6	17,504
83	كوبا	0.764	73.7	14.4	12.5	7,879
91	الجزائر	0.745	76.4	14.6	8.1	10,800
97	مصر	0.731	70.2	13.8	9.6	11,732
97	تونس	0.731	73.8	15.4	7.4	10,258
102	الاردن	0.720	74.3	10.6	10.4	9,924
104	ليبيا	0.718	71.9	12.9	7.6	15,336
106	فلسطين	0.715	73.5	13.4	9.9	6,583
112	لبنان	0.706	75.0	11.3	8.7	9,526
121	العراق	0.686	70.4	12.1	7.9	9,977
123	المغرب	0.683	74.0	14.2	5.9	7,303
150	سورية	0.577	72.1	9.2	5.1	4,192
171	جيبوتي	0.509	62.3	7.4	4.1	5,025
172	السودان	0.508	65.3	7.9	3.8	3,575
183	اليمن	0.455	63.8	9.1	3.2	1,314
191	جنوب السودان	0.385	55.0	5.5	5.7	768
	الصومال	..	55.3	..	..	1,018
	تنمية بشرية عالية جدا	0.896	78.5	16.5	12.3	43,752
	تنمية بشرية عالية	0.754	74.7	14.2	8.3	15,167
	تنمية بشرية متوسطة	0.636	67.4	11.9	6.9	6,353
	الدول النامية	0.685	69.9	12.3	7.5	10,704
	الدول العربية	0.708	70.9	12.4	8.0	13,501
	العالم	0.732	71.4	12.8	8.6	16,752

مؤشر مركب (HDI)، يقيس متوسط الإنجاز في ثلاثة أبعاد أساسية للتنمية البشرية: حياة طويلة وصحية (متوسط العمر المتوقع عند الولادة)، المعرفة (سنوات الدراسة المتوقعة ومتوسط سنوات الدراسة، عدد سنوات التعليم لمن يبلغون من العمر 25 عامًا أو أكثر) والمستوى المعيشي (نصيب الفرد من الدخل القومي الإجمالي بحسب تعادل القوة الشرائية).

المصدر: Human Dev. Reports, Undp: https://hdr.undp.org/data-center/human-development-index#/indicies/HDI

This table highlights a stark development divide within the Arab world based on the Human Development Index (HDI). The Gulf states—led by the UAE (ranked 26th), Bahrain (35th), Saudi Arabia (35th), and Qatar (42nd)—perform exceptionally well globally, with HDI scores above 0.85 and high income per capita. In contrast, several Arab countries suffer severe development deficits, ranking near the bottom globally: Sudan (172nd), Yemen (183rd), and South Sudan (191st), with HDI scores below 0.51 and very low life expectancy. Overall, the Arab world's average HDI (0.708) and per capita income ($13,501) lag behind the global average, reflecting deep structural inequalities and uneven development across the region.

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Annex

The Pact for the Mediterranean

The New Institutional and Financial Framework (European Union Policy toward the Southern Neighbourhood)

This annex reviews the institutional and financial transformations in the European Union's policy toward the southern neighbourhood, which reflect a strategic reorientation toward the Mediterranean. In February 2025, the European Commission restructured the Directorate-General for Neighbourhood and Enlargement Negotiations into two separate directorates-general:

1- The Directorate-General for the Middle East, North Africa, and the Gulf, responsible for relations with the countries of the southern neighbourhood (Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Palestine, Syria, Tunisia). It is overseen by Commissioner Dubravka Šuica and managed by the Italian diplomat Stefano Sannino. It aims to develop partnerships based on mutual interests and to promote stability and sustainable development.

2- The Directorate-General for Enlargement and the Eastern Neighbourhood, responsible for enlargement policies and the eastern neighbourhood (the countries of the Western Balkans, Ukraine, Moldova, Georgia, Armenia, Azerbaijan, Belarus). It focuses on eastern priorities and accelerated accession paths.

This separation reflects the European Union's awareness that the challenges and priorities of the southern neighbourhood differ fundamentally from those of the East, necessitating a tailor-made approach for each region, with growing interest in the southern Mediterranean for geopolitical, economic, and demographic reasons.

The New Financial Framework

- Neighbourhood, Development and International Cooperation Instrument – Global Europe: This constitutes the financial backbone of the Union, with a total budget of €79.5 billion for the period 2021–2027.
- The Pact for the Mediterranean: The European Commission proposes doubling the Union's budget for the region to €42 billion for the period 2028–2034.
- The Economic and Investment Plan (EIP) for the Southern Neighbourhood: Launched in 2021 within the framework of the "Mediterranean Agenda." It offers a European financial package reaching €7 billion (grants and concessional loans), with the aim of mobilizing €30 billion in public and private investments by 2027. The target was achieved by September 2025, two years ahead of schedule, as the value achieved by November 2024 reached about €26.7 billion (89% of the target).
- The Global Gateway: Launched in 2021 with the aim of mobilizing €300 billion over five years, but the target was achieved in only four years. The new target was raised to €400 billion by 2027. The targeted sectors include: digitalization, energy and climate, transport, health, education, and research. It adopts the "Team Europe" approach based on cooperation between Union institutions, member states, and development finance institutions.
- The T-MED investment platform: Aims to coordinate potential investments in the renewable energy and clean technology sectors in the Middle East and North Africa region and to mobilize private capital for green energy projects.

Sectoral Policies and Programmes

- The GET-Med programme: Aims to enhance the green transition, climate resilience, renewable energy production, and strengthen interconnection in the southern neighbourhood and with Europe, in line with the Pact for the Mediterranean.
- The MEDSTAT programme: Euro-Mediterranean statistical cooperation, and the European Union has expressed its readiness to support Syria's return to the initiative.
- The programme "Supporting Fundamental Rights and Democratic Governance in the Southern Neighbourhood" (2025–2027): Aims to enhance the social and economic resilience of southern neighbourhood communities and contribute to preserving fundamental rights and advancing democratic governance.
- The beneficiary countries of southern neighbourhood programmes include: Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Palestine, Syria, and Tunisia.

Conclusion

The transition from the unified European Neighbourhood Policy (ENP) to the new framework based on the Pact for the Mediterranean, the Directorate-General for the Middle East, North Africa, and the Gulf (DG MENA), and the Economic and Investment Plan represents a qualitative leap in the European Union's relations with its southern neighbourhood. This framework is more tailored, flexible, and focused on equal partnership and joint investment, opening broad prospects for cooperation in the areas of institutional reform, governance, energy, digital transformation, and sustainable development.

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