

Economic Challenges in the Mediterranean

The Mediterranean Economies in the Face of the Climate Emergency: Shifting from Environmentally Harmful Tools to Green Economic and Financial Instruments

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This article discusses the urgent need for Mediterranean economies to shift from environmentally harmful economic tools to green economic and financial instruments in the face of climate change. Shifting to green tools not only addresses environmental concerns but also makes economic sense, as harmful subsidies are costly and their removal can free up fiscal space for addressing broader development challenges. The article highlights how current practices like fossil fuel subsidies and capacity-enhancing fisheries support contribute to environmental degradation, economic instability and social issues. It also explores the potential of more environmentally-virtuous approaches such as green budgeting, environmental taxation and green bonds to promote resilience and sustainability. The article emphasizes the importance of adapting these green tools to the specific realities of the Mediterranean region, considering disparities in economic development and governance, and stresses the necessity of integrating social equity into green finance initiatives to ensure a just transition. Crucially, it emphasizes how regional political support, such as through the Mediterranean Strategy for Sustainable Development (UNEP/MAP), will be essential for ensuring long-term policy coherence and coordination.

The Mediterranean at a Crossroads

The Mediterranean region stands at a critical juncture, being one of the world's most climate-vulnerable regions. Rising temperatures, already 1.5°C above pre-industrial levels compared to the global average of 1.1°C, threaten its ecosystems, economies and livelihoods (MedECC, 2020). The region is home to unparalleled biodiversity and fragile ecosystems, from species-rich marine areas to intensively exploited coastal zones. The accelerating frequency of extreme weather events, coastal erosion, water scarcity and biodiversity loss are no longer distant concerns but present-day realities. These challenges are particularly acute for economic sectors that rely on natural resources, such as tourism, agriculture and fisheries, which together contribute significantly to regional GDP and employment.

Indeed, climate change is not only an environmental issue but also an economic one. Inaction could cost Mediterranean economies up to 10% of their GDP by 2050 due to rising climate-related damage, including infrastructure losses, declining agricultural yields and increased disaster recovery expenditures. The *SoED 2020* report highlights that nearly 40% of the region's population already lives under water stress conditions, and this is projected to worsen with unsustainable resource management practices and climate change impacts (Plan Bleu, 2020). Additionally, sea-level rise threatens densely populated coastal cities, where more than a third of the Mediterranean population resides. The costs of adaptation and mitigation are high, but the costs of inaction are far higher.

Meanwhile, the region continues to grapple with deep-seated economic and social challenges that further complicate efforts to achieve sustainable development.

Regional integration in the form of trade agreements did not yield the expected results for the Southern and Eastern Mediterranean countries (SEMs) in terms of attracting foreign direct investment (FDI) and, most importantly, facing persistent unemployment (Moreno-Dodson, Augier, Tsakas et al, 2022). Indeed, endemic unemployment remains a critical issue, with some SEMs facing jobless rates exceeding 30%. The region also exhibits some of the largest gaps between men and women in observed rates of labour force participation. Economic inequalities between and within countries persist and structural weaknesses, such as low productivity and informal labour markets, further hinder inclusive growth. In SEMs, the lack of access to quality education and healthcare are also sources of “deprivation of potential” since they remove all opportunities for an individual to choose the life they lead (Augier, Tsakas, Moukaddem et al, 2019). Political instability, governance challenges and conflicts in certain parts of the region create further uncertainty, discouraging investment and long-term planning.

Tackling these escalating risks demands a fundamental overhaul of economic instruments, replacing environmentally harmful and ineffective measures with more sustainable and impactful alternatives. The World Bank, OECD and UN Environment (2018) already highlighted the importance of aligning infrastructure investments with climate goals to achieve a low-carbon, resilient future. They argue that current infrastructure financing mechanisms are insufficient to meet the Paris Agreement targets, urging governments, financial institutions and the private sector to adopt innovative financial instruments to fund the sustainable transition.

Yet, despite clear economic and environmental risks, many Mediterranean countries continue to rely on policies and tools that worsen the challenges they face. Outdated economic tools not only reinforce unsustainable practices but also create significant financial burdens, diverting public funds away from climate adaptation and green investments. At the same time, some countries in the region have taken steps toward adopting more environmentally friendly economic tools and policies. However, it remains inconsistent to promote sustainability while simultaneously maintaining harmful incentives that undermine these efforts.

In this article we argue that Mediterranean economies must transition away from environmentally harmful economic tools and move towards green economic

and financial instruments that promote resilience, sustainability and social cohesion. Drawing on key findings from recent Plan Bleu research on sustainable finance, we outline how shifting financial and economic incentives can turn the Mediterranean's climate vulnerabilities into pathways for a sustainable future.

The Challenge: Moving away from Environmentally Harmful Economic Tools

Environmentally harmful subsidies (EHS) are financial supports that promote practices or industries harmful to the environment and biodiversity. These subsidies distort markets, encourage unsustainable practices and deplete natural resources, undermining long-term sustainability. While they may provide short-term benefits, EHS contribute to climate change and environmental degradation, making their reform essential.

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The Mediterranean region faces a set of interconnected challenges exacerbated by EHS (Plan Bleu and UNEP/MAP, 2024). A key issue is the rapid decline in natural capital, with unsustainable practices, such as fossil fuel subsidies, overfishing and industrial agriculture, accelerating environmental degradation. This is coupled with soaring public debt, especially in SEMs, limiting their capacity to invest in green(er) technologies and sustainable infrastructure. Political instability further hinders regional cooperation on environmental and economic issues, discouraging investments that could address these critical challenges.

The prevalence of harmful subsidies is found in key sectors such as fisheries and energy. While these sectors are essential for the economy and employment, they are also major contributors to environmen-

tal degradation. The fisheries sector in the Mediterranean is a vital source of income and employment, particularly for coastal communities. Small-scale fisheries (SSF) dominate, playing a crucial role in local economies, and in some countries (eg. Tunisia, Greece and Turkey) fisheries represent a non-negligible share of national income. Productivity of SSF is reported to be 16% higher than that of industrial fisheries in the Mediterranean and the Black Sea. However, certain subsidies in the fisheries sector, such as fuel subsidies and support for shipbuilding, often contribute to the overexploitation of fish stocks, benefiting large fisheries, to the detriment of SSF, and aggravating marine biodiversity loss. Around 60% of fisheries subsidies are considered harmful, as they artificially increase revenues or reduce sector costs, leading to overcapacity and overfishing. Developed countries are responsible for two-thirds of global fisheries subsidies, further exacerbating the problem.

Petroleum has been the most subsidized energy source over the past twelve years, with recent increases for natural gas and coal

Similarly, fossil fuel subsidies (FFS) are still widely used to ensure energy security in many Mediterranean countries. Despite intentions that may be noble from a social perspective, FFS exacerbate air pollution and greenhouse gas (GHG) emissions, undermining the region's climate commitments. These subsidies take the form of direct transfers, tax exemptions or price guarantees. Analysis by Plan Bleu, based on OECD data from eight Mediterranean countries, reveals that petroleum has been the most subsidized energy source over the past twelve years, with recent increases for natural gas and coal. Plan Bleu's evaluation indicates that a 1% increase in fossil fuel subsidies results in a 0.04% rise in per capita GHG emissions, with natural gas subsidies being particularly harmful. Furthermore, a 1% increase in GDP is associated with a 0.5% increase in emissions, suggesting that more developed countries pollute more.

Water management represents another critical challenge in the Mediterranean, a region often impacted by droughts and where water resources are increas-

ingly limited. Fossil fuel subsidies significantly influence the interaction between water stress and energy consumption. Plan Bleu and UNEP/MAP (2024) show that an increase in fossil fuel subsidies is linked to higher levels of water stress. Simultaneously, water stress continually reacts to changes in energy consumption. The analysis suggests that reducing subsidies could alleviate water stress, decrease energy consumption, stabilize national budgets and promote sustainable economic development while reducing inflationary pressures.

Such challenges are compounded by high demographic and tourism pressures, particularly along the coasts. Some subsidies, designed to stimulate economic development in the tourism sector, can have detrimental environmental consequences if they fail to focus on sustainability. Furthermore, EHS can have social implications. As shown in Plan Bleu's findings, for each 1% increase in fossil fuel subsidies, female employment in the sector may decline by 2.37% to 2.84%, suggesting that higher subsidies discourage women's employment.

The Opportunity: Green Economic Tools and Finances

Green economic tools and finances, on the other hand, present a significant opportunity to reshape the region's development trajectory, transforming vulnerabilities into drivers of long-term resilience (Plan Bleu and UNEP/MAP 2025, forthcoming). Public finance instruments integrate environmental considerations into public revenue and expenditure frameworks, ensuring that government budgets actively support sustainability goals.

First, a Green Budgeting approach ensures that national budgets systematically integrate climate and environmental objectives, making sustainability a core principle of fiscal policy rather than an afterthought. Led by the OECD, France's "green budget" initiative is an example that aims to increase transparency by assessing the environmental impact of state revenues and expenditures, identifying both beneficial and harmful ones. While its scope remains limited, it represents an important step in aligning fiscal policy with sustainability goals, particularly in the context of ongoing health and environmental crises. However, to fully realize its potential, a new public

finance programming law is needed to provide a long-term framework that supports a truly sustainable economic recovery (Degron and Stroeymeyt, 2021). Among the relevant instruments is also environmental taxation. Taxes on pollution, carbon emissions and resource extraction create financial incentives for sustainable practices. Recent Plan Bleu research shows that environmental taxes alone do not significantly reduce per capita GHG emissions, but when combined with stringent environmental policies, they become more effective. A 1 percentage point increase in environmental or climate-related tax revenue reduces emissions by 0.01-0.02%, suggesting that taxation without strict enforcement is insufficient to drive change. Complementary policies, such as emissions standards and renewable energy mandates, enhance the impact of taxation (Plan Bleu and UNEP/MAP 2025, forthcoming). Green Bonds are another useful instrument, increasingly used to fund climate mitigation and renewable energy. Recent Plan Bleu research shows that green bond issuance can significantly reduce air pollution in the Mediterranean. The total amount of green bonds issued does not have a statistically significant impact on air pollution, suggesting strategic allocation matters more than volume. However, longer-maturity green bonds are found to be more effective in reducing pollution, likely due to sustained funding for environmental projects (Plan Bleu and UNEP/MAP, 2025, forthcoming).

The Mediterranean cannot rely on a one-size-fits-all approach. The region's stark disparities require context-specific solutions

Market-based green economic tools play a crucial role in shaping private sector behaviour and accelerating sustainable development in the Mediterranean. For instance, implementing carbon taxes and emissions trading systems (ETS) can create strong financial incentives to reduce greenhouse gas emissions. Renewable Energy Incentives (REIs), including feed-in tariffs, tax credits and investment subsidies, encourage the deployment of clean energy technologies (Plan Bleu and UNEP/MAP 2025, forthcoming). Countries like Germany have successfully used these tools to

scale up renewable energy, offering a blueprint for Mediterranean nations seeking to reduce their reliance on fossil fuels.

Pathways for Green Transition: The Need for Mediterranean-Specific Approaches

While green financial and economic tools offer substantial potential, their implementation in the Mediterranean requires careful adaptation to regional realities. The EU has more advanced legislative frameworks and guidelines that can serve as a reference and inspire a shift in the entire region towards green tools and policies for sustainable investments. However, the Mediterranean cannot rely on a one-size-fits-all approach. The region's stark disparities in economic and social development, governance structures and financial capacities require context-specific solutions.

Energy: Phasing out Fossil Fuel Subsidies and Accelerating Renewable Energy Investments

Phasing out fossil fuel subsidies and accelerating renewable energy investments must go hand in hand to ensure a just and efficient energy transition. The periodic withdrawal of subsidies for coal, petroleum and natural gas is essential to curb GHG emissions, correct market distortions and to be able to redirect resources toward clean energy. Reform of taxation systems to discourage fossil fuel consumption may also be required, however, measures must also be taken to mitigate the impact of subsidy removal on vulnerable groups reliant on fossil fuels for heating and cooking. The experiences of Morocco and Egypt illustrate how gradual subsidy reforms, paired with targeted social support and clear communication, can ease the transition and ensure public acceptance (Plan Bleu and UNEP/MAP, 2024). Specifically, Morocco's fossil fuel subsidy reform is seen as a success story in the Mediterranean, between 2012 and 2016, subsidies were reduced from \$6.5 billion to \$1.1 billion through a phased approach, public awareness campaigns and continued support for essential goods like LPG, sugar and flour. The government also promoted energy efficiency and renewable energy adoption, incentivizing private-sector engagement. Such reforms highlight the importance of clear policy signals, social protections and stakeholder engagement.

Meanwhile, strategic fiscal policies, including carbon pricing and well-regulated feed-in tariffs (FITs), can stimulate renewable energy deployment while maintaining economic stability. In the Mediterranean, diverse legal and political contexts require flexible approaches that combine investment in Renewable Energy Communities (RECs), research and development (R&D) to lower costs, and regulatory simplification to attract private capital. Energy security concerns, particularly in fossil-fuel-dependent economies, further reinforce the need for the rapid but well-managed expansion of renewables. Offshore Wind Farms (OWFs), for instance, hold great potential but require thorough environmental assessments to minimize harm to marine ecosystems.

Fisheries & Blue Economy: Financial Mechanisms for Sustainable Fisheries and Marine Conservation

Shifting subsidies from harmful practices toward responsible fishing and sustainable fisheries management is crucial for ecosystem health and long-term economic viability. This requires strategic financial allocation, as well as participatory adaptive governance, which does not only “consult” different stakeholders such as fishers, scientists and local coastal communities, but also empowers them to make a genuine contribution to decision-making. Investments in data transparency, including vessel tracking, blockchain and environmental DNA (e-DNA), can enhance monitoring and enforcement. Additionally, subsidies should support sustainable fishing gear and alternative livelihoods, like eco-tourism and aquaculture, to supplement fishing incomes without compromising small-scale, artisanal fishers’ identity and culture. International cooperation, particularly within the UNEP/MAP framework, can harmonize policies and promote best practices, ensuring a resilient blue economy in the Mediterranean.

Enhancing Water Finance in the Mediterranean

Plan Bleu’s analysis of financial instruments for water innovation highlights both the strengths and limitations of traditional tools, like bank lending and grants, while also emphasizing the potential of emerging

mechanisms, such as crowdfunding and green bonds, which require additional regulatory support. Public-private partnerships offer significant opportunities for large-scale, transformative water projects. The analysis stresses the need for a framework that ensures these financial instruments are aligned with sustainability goals. The EU Taxonomy has the merit of existing (Degron, 2024), providing a clear classification system that guarantees transparency, consistency and alignment with environmental and climate objectives. Meanwhile, EU policies on water management, reuse and climate resilience offer valuable models for Mediterranean countries but should be adopted critically. Key shortcomings, such as poor implementation coordination and slow development of market mechanisms, highlight the need for tailored approaches. Recognizing these gaps can help Mediterranean countries adapt solutions to local conditions rather than applying a one-size-fits-all approach. Through its platform and water dialogues, the Union for the Mediterranean (UfM) can also promote joint initiatives and collaborative projects, enabling countries to tackle water-related issues in a more coordinated and integrated manner, while leveraging regional expertise to improve policy implementation and support sustainable investments.

The Need for Social Equity

Green finances and instruments must not neglect the social dimension. For instance, while European nations are equipped to adopt higher carbon taxes due to advanced renewable energy systems and diversified economies, SEM countries may require gradual approaches to avoid economic and social disruption. Recent Plan Bleu findings focus on country-specific social costs of carbon (SCC),¹ various projected policy scenarios and the cascading impacts of implementing carbon taxes in the region on emissions, economic performance and societal well-being (Plan Bleu and UNEP/MAP, 2025).

To assess the effects of carbon taxation across Mediterranean countries, three scenarios were developed, ranging from moderate taxation and minimizing economic disruption, to an aggressive approach aimed at accelerating low-carbon transitions. The economic

¹ The social cost of carbon is defined in the literature as “the impact of emitting an additional tonne of carbon dioxide, or the benefit of slightly reducing emissions, when evaluated along an optimal emissions trajectory.”

impact varies significantly across the region. Fossil fuel-dependent countries like Algeria and Libya would face the largest GDP losses. In contrast, countries such as Morocco and Tunisia, with lower fossil fuel reliance, would see more moderate economic effects. These findings underscore the importance of tailored carbon pricing strategies that align environmental objectives with economic resilience. For SEM countries, a phased approach is essential, starting with small-scale carbon pricing initiatives and gradually increasing as renewable energy infrastructure strengthens. This progressive transition will help mitigate social and economic disruptions, ensuring that climate policies remain both effective and equitable.

Conclusion and Recommendations: Towards a Mediterranean Green Taxonomy and Strengthening Political Support

The Mediterranean faces pressing environmental and socioeconomic challenges, making Green Economic and Financial Instruments essential for ensuring long-term resilience. Despite shifting global political rhetoric, marked by events such as the US withdrawal from climate agreements, the urgency of addressing climate and environmental issues remains paramount for the Mediterranean. The region cannot afford to be distracted from this reality. Environmental degradation directly threatens key economic sectors such as tourism, fisheries and agriculture, with the potential to destabilize entire economies. Prioritizing sustainable finance is not just about environmental protection; it is also about unlocking much-needed economic opportunities and ensuring a just and inclusive transition. Overcoming resistance from entrenched interests will require gradual reform approaches, compensation mechanisms and robust awareness campaigns to mitigate social tensions.

A key step in this process is the development of a structured approach to sustainable investment, ensuring financial flows are directed towards genuinely green projects. In turn, this requires the development of a green taxonomy specific to the Mediterranean, a structured classification system for sustainable economic activities that takes into account the region's particular environmental and socioeconomic realities. At the same time, it is important to recognize that an EU Green Taxonomy already exists for EU Mediterranean

countries (Degron, 2024). Before moving towards a full Mediterranean-specific classification system, the immediate (and politically feasible) priority could be the creation of Guidelines for Green/Sustainable Investment, tailored to the region's specific context. They would provide much-needed clarity for investors, policymakers and businesses, helping to steer capital towards sustainability while avoiding greenwashing.

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This effort must be complemented by the introduction of new financial mechanisms, including public instruments such as those discussed above, but also private instruments and blended finance approaches that mobilize both public and private investments. Indeed, there is significant untapped potential for private finance in the Mediterranean, which could play a transformative role in funding sustainable projects. These mechanisms can support nature-based solutions, innovation in water technologies, sustainable fisheries and tourism and other strategies that are essential for the region's long-term economic and environmental stability.

Strengthening Corporate Social Responsibility (CSR) can also be key. Transparent and accountable CSR practices could not only enhance a company's reputation and competitiveness but also attract sustainable investments, foster innovation and mitigate environmental risks. Encouraging businesses to adopt genuine sustainable practices, beyond mere greenwashing, will be essential in aligning the private sector with the broader goals of climate resilience and socioeconomic stability in the Mediterranean.

At the same time, regional political support through the Mediterranean Strategy for Sustainable Development (MSSD) will be essential for ensuring long-term policy coherence and coordination. The upcoming MSSD 2026-2035, set to be adopted at the end of 2025, will include sustainable finance as a priority, marking a significant opportunity to institutionalize

green finance principles, strengthen transparency and establish accountability mechanisms to guide national policies towards shared regional goals. To provide a structured approach, the MSSD 2026-2035 is expected to introduce a new strategic direction on “Laying the Groundwork for Mediterranean Sustainable Finance Guidelines/Taxonomy,” aimed at establishing a standardized framework or taxonomy for classifying public and private financial flows that support adaptation to environmental risks and resilience-building. In this context, the MSSD could also promote national and regional actions to operationalize sustainable finance, including developing national/regional sustainable finance frameworks that integrate diverse financial instruments to support adaptation and resilience-building and establishing national/regional sustainable finance networks that bring together financial institutions, governments, private sector actors, academia and NGOs. By integrating such elements, the MSSD revision can create the foundations for a structured and coordinated sustainable finance agenda in the Mediterranean.

As the Mediterranean moves forward, a comprehensive approach combining political commitment, clear investment guidelines and innovative financial mechanisms will be critical in establishing a robust foundation for a sustainable and resilient future. The challenges ahead are significant, but so are the opportunities. With the right frameworks in place, the region can unlock new economic potential, while preserving its natural ecosystems. However, time is of the essence. Advancing sustainable finance is not just an option; it is an urgent necessity. The Mediterranean has the tools, the expertise and the momentum to act.

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