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Climate change, environmental degradation and renewable energy

Michael Mason

Introduction

Since the early 1970s, shared concerns about marine pollution and other threats to the Mediterranean have motivated cooperation between countries in the region. The evolution, over 40 years, of the United Nations (UN) Mediterranean Action Plan attests to a growing body of rules seeking to prevent and mitigate ecological degradation in the marine environment and coastal areas. More recently, and outside this UN process, there have been multiple efforts to coordinate national actions on climate change, freshwater resources and renewable energy, much taking place the aegis of Euro-Mediterranean cooperation, including the Barcelona Process, the Union for the Mediterranean and the Mediterranean Component of the European Union Water Initiative (MED EUWI). A complex, confusing array of overlapping processes has fostered institutional fragmentation and diluted political commitments to joint action.

At the same time, the ecological challenges facing Mediterranean countries societies are severe: rapid population growth, urbanisation and economic development are feeding rising demands for water and energy, threatening to overwhelm the modest gains in environmental quality achieved by regional cooperation over the management of natural resources. Climate change in the Mediterranean Basin is forecast to intensify the ecological disruption of human

lives and livelihoods, particularly for vulnerable populations in the southern and eastern Mediterranean countries. While these impacts of regional warming have been acknowledged by the majority of Mediterranean states – evident in their carbon mitigation and adaptation commitments under the 2015 Paris Agreement of the UN Framework Convention on Climate Change (UNFCCC) – there are also countervailing geopolitical forces undermining multilateral action on low carbon development, notably the securitisation of fossil fuel resources and population flows fuelled by violent conflict in north Africa and the eastern Mediterranean.

In this chapter I offer an overview of major transnational environmental challenges facing Mediterranean countries, highlighting projected climate change impacts, issues around water pollution and scarcity, and the emergent, uncertain transition to renewable energy. The collective environmental concerns of Mediterranean societies over urbanisation and economic development (e.g. ecological impacts arising from a shared economic dependence on tourism), typically linked to basin-wide biogeographical and climatological processes, have invited the scholarly labelling of a 'Mediterranean syndrome' (Eder and Kousis 2001: see also Marquina 2004) to capture a distinctive regional dynamic in environmental politics. To be sure, as noted below, there are recurrent institutional forms and effects, above all from the European Union (EU), both harmonising environmental policy in those Member States bordering the Mediterranean, and also projecting environmental governance norms onto non-member states seeking to benefit from greater economic cooperation with the EU. Yet, the fractured political geography of the Mediterranean starkly reveals the shortfalls of EU soft power and the wider security interdependencies that, I claim, have slowed or stalled efforts to build basin-wide cooperation over freshwater and energy resources. I turn first to climate

change as the issue with arguably the highest level of salience in recent public and policy discourses on environmental threats to the Mediterranean Basin.

Climate change

The Mediterranean Basin is projected to receive significant impacts from climate change. Regional climate modelling indicates generally a warming trend for the Mediterranean, more pronounced in summer and autumn, alongside a rise in high temperature events (Giannakopoulos et al. 2009; Jacobeit et al. 2014). Precipitation is projected to decrease across all seasons, contributing towards an increased frequency and intensity of drought (IPCC 2013: 7; Cook et al. 2016). A decline in soil moisture in all seasons, but especially in summer, is greatest in the southern and eastern Mediterranean, but the European states bordering the northern Mediterranean are also face drier growing conditions (Dubrovský et al. 2014). In coastal regions there are also concerns over sea-level rise, an increase in seawater temperature and rising acidity (Santos et al. 2014). Significant uncertainty remains regarding local climatic changes, in part because the Mediterranean is a climatic transition zone between temperate North Atlantic and tropical African atmospheric processes, and because even regional climate model simulations are unable to incorporate the physical geographic variation of the basin.

A number of EU-funded research projects have examined the projected impacts of climate change on Mediterranean countries. While focused on EU states, the PESETA II project, addressing sector-based economic impacts of climate change, projects for the Mediterranean region falling crop yields as a result of declining water availability and a truncated growing

season. Under a business-as-usual scenario, agricultural yields for southern Europe are estimated to fall by 20% in the 2080s with more severe yield reductions in the southern Mediterranean (Ciscar et al. 2014: 54-58). The PESETA II project also records, by 2071-2100, a major increase in the risk of meteorological forest fires in the Mediterranean coastal regions of Algeria, Morocco and Tunisia. By mid-century, coastal zones around the Mediterranean are projected to experience a decrease in summer tourism as a result of heatwaves and competing water demands. All Mediterranean coastal zones are also projected by PESETA II to face mounting costs from sea-level rises and sea storm surges, which will impact on productive land and infrastructure (Ciscar et al 2014: 71-81).

The southern and eastern Mediterranean is a region particularly exposed to climate change on account of water scarcity, rapid urbanisation and a reliance on rain-fed agriculture. The Climate Change, Hydro-conflicts and Human Security (CLICO) project, which included case studies in Egypt, Morocco, Palestine and Turkey, concluded that populations in the EU Mediterranean countries were generally less vulnerable to climate change than southern and eastern Mediterranean countries due to more advanced welfare and social security systems in the former states. Nevertheless, CLICO research also identified in southern Mediterranean countries examples of communal socio-economic systems (e.g. Bedouin drought management practices in the Egyptian Sinai) and governance structures (e.g. basin-level cooperative water management in Morocco) which demonstrate proven means for reducing vulnerability to climate change impacts (Gerstetter and McGlade 2012). Informed by these and other project insights, CLICO research has served as a necessary corrective to media and policy reports forecasting political instability and conflict as a result of hydro-climatic changes in the eastern Mediterranean and the Middle East (Kallis and Zografos 2014).

The UNFCCC Paris Agreement, which entered into force in November 2016, serves as the key international driver for the climate mitigation actions of Mediterranean states. To limit the rise in global temperatures to below 2 degrees Celsius above pre-industrial levels, the Paris Agreement invites Parties to issue suitably ambitious "nationally determined contributions" (NDCs) in greenhouse gas emission reductions, which have major implications for economic development and energy investment choices. The Mediterranean member states of the EU are bound by the union's commitment to a binding target of at least a 40% domestic reduction in greenhouse gas emissions by 2030 compared to 1990, with national efforts delivered through participation in the EU emissions trading system (ETS) and tailored emissions targets for non-ETS sectors, such as agriculture, surface transportation and waste. These emission commitments are part of an energy and climate strategy for 2030 that includes targets for 27% share of renewable energy consumption and 27% energy savings compared with a business-as-usual scenario. Phase III (2013-20) of the ETS prioritises carbon trading with least developed countries (including UNFCCC Clean Development Mechanism credits), which serves as a disincentive to integrated Mediterranean-wide action on climate mitigation, although there is also an opportunity under the EU Renewable Energy Directive (2009/28/EC) for southern and eastern Mediterranean countries to export renewable energy-sourced electricity to Europe. Thus, Euro-Mediterranean carbon mitigation is steered more through EU energy trading interests than the UNFCCC process.

In contrast to unconditional EU climate mitigation commitments, the NDCs of the southern and eastern Mediterranean countries are, aside from Israel and Turkey, conditional on receiving significant financial, technological and administrative support from the international community. This is consistent with the Paris Agreement and the continued application of a "common but differentiated responsibility and respective capabilities" norm

in UNFCCC decision-making (UNFCCC 2015: Article 2), where industrialised countries are expected to exercise more ambitious emission reduction targets; and, despite a trend of declining CO_2 emissions, the EU still accounts for 9.6% of the global total (PBL Netherlands Environmental Assessment Agency 2015: 23-25). For southern and eastern Mediterranean states, NDCs are incorporated into national strategies for sustainable development (e.g. Egypt and Morocco), clean energy transitions (e.g. Morocco, Tunisia), and donor-led climate adaptation planning (e.g. Jordan, Lebanon). In their NDCs, both Israel and Turkey cite strong demographic and economic growth as reasons qualifying their emissions reduction commitments.

The NDCs of most southern and eastern Mediterranean countries include statements on adaptation to climate change, and the Paris Agreement includes as an explicit goal "increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production" (UNFCCC 2015: Article 1(b)), requesting also that Parties strengthen regional cooperation on climate change adaptation. However, recent attempts to craft Mediterranean-wide cooperation on climate change adaptation have largely been symbolic. A Mediterranean Climate Change Initiative, launched by the Greek government in October 2010, aimed to develop a regional strategy on climate change adaptation and low carbon development: its modest networking gains were incorporated in the energy and climate change programme of the intergovernmental Union for the Mediterranean (UfM), which brings together 28 EU Member States and 15 countries from the southern and eastern Mediterranean. The first Ministerial Meeting on Environment and Climate Change convened by UfM took place in May 2014: both an expert group and working group established by this

meeting have yet to generate a coordinated agenda for climate change adaptation in the Mediterranean.

In the absence of a major institutional platform for Mediterranean climate cooperation, the EU remains the lead player for Euro-Mediterranean climate relations, skewing this interaction towards EU priorities and interests. The Interreg MED Programme (2014-20), which promotes territorial cohesion between the Mediterranean regions of ten Member States and three pre-accession countries (Albania, Bosnia-Herzegovina and Montenegro), features a commitment to climate change adaptation under a priority programme priority on low carbon and energy efficiency. EU dialogue with nine southern and eastern Mediterranean states (Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Palestine and Tunisia) on climate change adaptation and mitigation is fostered by financial and technological assistance under the separate ClimaSouth programme (2013-17), part of the European Neighbourhood Policy. ClimaSouth interventions are designed to be consistent with the overall EU goal of advancing democratic governance and market economy norm – a "good governance" prescription that has struggled to implement a technical-managerial climate planning model across governance contexts directly and indirectly affected by political insecurity and conflict. Furthermore, the NDCs of the southern and eastern shore countries are either conditional or qualified: they are an expression of sovereign rights to economic development in which climate mitigation (and adaptation) commitments rest on the receipt of external financial, technological and administrative assistance and/or an expectation that the EU and international community recognise that demographic trends and priorities for economic growth can trump environmental constraints in these countries. As noted below, clean energy is an exception to this perceived trade-off insofar as it is seen as supportive of economic development.

Marine environmental degradation and water management

The Mediterranean was the first marine area subject to international cooperation under the UN Regional Seas Programme. Established in 1975 to reduce and mitigate marine pollution, the Mediterranean Action Plan was followed a year later by the adoption of the Convention for the Protection of the Mediterranean Sea against Pollution (Barcelona Convention). Over time this regional environmental regime has expanded in scope and membership, facilitated by the United Nations Environment Programme (UNEP). In 1995 the Barcelona Convention was amended, renamed as the Convention for the Protection of the Marine Environment and Coastal Region of the Mediterranean: it now has seven protocols, including agreements on land-based sources of pollution, special protected areas and hazardous wastes. Phase II of Mediterranean Action Plan, launched in 2005, consolidated the shift in focus from marine pollution prevention to a broader concern with the sustainable management of Mediterranean natural resources and integrated coastal zone governance. To this end, in 2016 the 22 contracting parties of the Barcelona Convention adopted the Mediterranean Strategy for Sustainable Development (2016-2025) as a framework to guide ecosystem-based decision-making at regional, sub-regional and national scales.

According to a seminal study by Haas (1990), the Mediterranean Action Plan represents a successful institutional design for coordinating international rule-making on pollution control, distinguished in part by the effective integration of scientific research and assessment. Indeed, at least in terms of its growing scientific command of the state of the Mediterranean environment and the comprehensive regulatory scope of the Barcelona Convention and protocols, this regional environmental regime has fostered improved governance of the

Mediterranean Sea (Frantzi 2008; Skjærseth 2001). At the same time, there are concerns at the lack of effectiveness of the Mediterranean Action Plan in addressing land-based sources of pollution, which are responsible for 80% of the pollution in the Mediterranean Sea. The modest progress made in the treatment of wastewater and solid waste management threatens to be overwhelmed by the rapid urbanisation and population growth in southern Mediterranean countries, as well as increasing industrial pollution from energy-intensive industries, such agro-foods, cement production, chemicals and metalworking (Massoud et al. 2003; Sauzade 2015).

Regional efforts to develop a joint freshwater management strategy have largely taken place outside the Mediterranean Action Plan, beginning with a Mediterranean Charter for Water adopted in Rome in 1992 at a meeting of water ministers from Mediterranean Basin states. This charter informed a chapter on water in a wide-ranging Barcelona Declaration signed by Euro-Mediterranean Foreign Ministers in November 1995. Under the Barcelona Declaration, water scarcity is seen as an increasing problem in Mediterranean countries: regional collaboration on water is deemed necessary to ascertain current and future needs, to identify ways of reinforcing regional cooperation, and to make proposals for rationalising the planning and management of water resources (SEMIDE/EMWIS 2016). Little progress was made in these areas until Euro-Mediterranean cooperation was re-energised by the creation, in 2008 of the UfM. Bolstered by a permanent secretariat, the UfM water and environment programme created a Euro-Mediterranean Water Expert Group which, informed by the Barcelona Process, finished drafting in March 2010 a long-term Strategy for Water in the Mediterranean.

In April 2010 the draft Strategy for Water in the Mediterranean was presented to a Euro-Mediterranean conference hosted by the Spanish presidency of the UfM. There was consensus from UfM countries over the challenges facing water resources in the region, particularly in the south, where over 180 million people were classified as water poor (access to less than 1000m^3 of renewable water per capita per year) and over 60 million were classified as facing a water shortage (access to less than 500m^3 of renewable water per capita per year). In addition, there was common recognition of water abstraction pressures from agriculture, industry and domestic use, with rising levels of seawater intrusion in coastal aquifers due to overexploitation of groundwater resources (Union for the Mediterranean 2010: 4: see also Holst-Warhaft and Steenhuis 2010). Differences between EU and non-EU Mediterranean countries over implementation targets saw the latter secure more relaxed deadlines on the adoption by states of river basin planning and management. However, there was a failure to reach consensus agreement on the water strategy after Israel objected to references in the draft plan to the occupied territories.

After the deadlock in 2010, the UfM has continued to promote the development of a regional water strategy, but its framing of cooperation according to European norms of water governance has provoked sovereignty sensitivities from other non-EU Mediterranean states. Egypt and Turkey have objected to recommendations that cooperation on transboundary water resources in the Mediterranean should be in conformity with international water law, notably the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (1992) and Convention of the Law of the Non-Navigational Uses of International Watercourses (1997). Both countries are not parties to either convention, claiming prior use entitlements to major transboundary waters crossing their territories. In anticipation of a proposed UfM Ministerial Conference on Water, in 2016 the Water Expert

Group renewed work on a revised Mediterranean water strategy, highlighting technical areas of joint concern rather than political-legal parameters for international cooperation.

For southern and eastern Mediterranean countries, the UfM water agenda for Euro-Mediterranean cooperation has a dominant European presence, despite region-wide consultation and the parallel UN Barcelona Convention process. In 2005 the EU launched a Horizon 2020 Initiative to accelerate pollution reduction in the Mediterranean, seeking synergies between UN, UfM and EU regional programmes. Horizon 2020 also overlaps with the Mediterranean component of the EU Water Initiative (MED EUWI), launched in 2003 under the sponsorship of the Government of Greece with a focus on integrated water resources management, and more recently supported by the Swedish International Development Cooperation Agency. Hampered at least initially by cumbersome governance (Terry Lawrence Associates 2007), MED EUWI has carried out regional and bilateral activities, including country dialogues with so-called partner countries (Lebanon, Egypt, Palestine, Syria and Tunisia), encouraging water management practices consistent with the EU Water Framework Directive.

Given the plurality of regional initiatives on water management in the Mediterranean, it is not surprising that concerns have been raised, particularly by eastern and southern shore states, at a lack of institutional efficiency and complementarity. Efforts have been made to address these shortfalls in coordination; for example, MED EUWI now provides technical and administrative support to efforts to revitalise the Strategy for Water in the Mediterranean. Nevertheless, the shift in gravity in Mediterranean water cooperation from UN-led hard law to EU-driven soft law processes has at the same time imported the slow, hesitant pace of

European Neighbourhood Policy in the region, favouring a lowest common denominator of (technical) collaboration and not challenging regional wielders of geopolitical power (e.g. Israel, Turkey) who are generating transboundary inequities in freshwater allocation. These procedural complexities have hampered joint efforts to address marine environmental degradation in the Mediterranean Sea, but the biggest constraint to environmental effectiveness remains the rapidly increasing scale of land-based pollution sources – a result largely of urbanisation, industrialisation and population growth in southern Mediterranean countries. For the ruling elites of these states, there is currently no major economic or political incentive, or indeed capacity, to curb growth.

Renewable energy

Across the Mediterranean region a shared political commitment to an increased use of renewable energy derives from a convergence of interests between, on the one hand, EU goals for a low carbon economy and, on the other, the need for southern and eastern shore Mediterranean states to invest in new energy infrastructure in the face of rapidly growing per capital energy consumption. As noted above, a priority axis for Interreg MED 2014-20, the EU territorial cohesion plan for Member States and pre-accession countries in the Mediterranean region, is the promotion of low carbon strategies and energy efficiency, including increasing the share of renewable local energy sources in the energy mixes of Mediterranean territories. The regional and bilateral mechanisms of the European Neighbourhood Policy extend these goals to the non-EU Mediterranean states, fostering their efforts to produce low carbon energy, both for domestic use and also the future possibility,

under the Renewable Energy Directive of exporting renewable energy-sourced electricity to the Europe.

Since Euro-Mediterranean Foreign Ministers signed the Barcelona Declaration in 1995, the EU has viewed energy cooperation with southern and eastern Mediterranean countries as a matter of energy security and geopolitical stability. The EU Energy Diplomacy Action Plan (2015) defines Euro-Mediterranean cooperation as a means of strengthening the diversification of EU energy sources, supplies and routes, favouring the export of European expertise on low carbon technologies and systems measures (Council of the European Union 2015: 6). Thus far, these has been limited interest from the net energy exporting states of the southern Mediterranean (Algeria, Egypt), where interest in renewable energy (and energy efficiency) is seen as a means to preserve state rents on fossil fuel sales by reducing domestic oil and gas consumption. The EU has had more success through bilateral cooperation with net energy importing Mediterranean countries, signing memoranda of understanding with Jordan, Lebanon and Morocco, as well as deepening pre-accession energy cooperation with Turkey: in all these cases, the promotion of renewable energy and energy efficiency is conjoined with support for regulatory changes consistent with a greater role of private investment and energy trading.

In southern and eastern Mediterranean countries, a scaling up of commitments to renewable energy expresses a common governmental goal for the diversification of national energy mixes. Most of these countries have national renewable energy targets as a percentage of domestic electricity generation: while policy aspirations rather than legal obligations, these targets vary between 10% (Israel) and 42% (Morocco) by 2020 (REN/MOFA/IRENA 2013:

18). The share of renewable energy in total energy consumption exceeds 5% in four of these countries (Israel, Morocco, Tunisia and Turkey). In order to encourage new investment in energy infrastructure, the southern and eastern Mediterranean states are inviting foreign investors (public and private) in renewable energy. Regulatory incentives for renewable energy investment include the adoption of feed-in-tariffs (Algeria, Egypt, Israel, Jordan, Palestine and Turkey) and net-metering (Egypt, Israel, Jordan, Lebanon, Morocco, Palestine and Tunisia). The 500 MW Noor-Ouarzazate solar energy complex in Morocco, attracting US $3 billion financing from foreign and multilateral investors, is currently the most significant of these renewable energy developments. Further regional investment in clean energy is constrained by subsidies for domestic energy consumption and geopolitical instability.

While the European Union is due to meet its target of 20% final energy consumption from renewable sources by 2020, staying on track also to meet the EU-level target of 27% final energy consumption by 2030, there are concerns that renewable energy is not effectively integrated into the internal energy market (European Commission 2015: 4). The Mediterranean region is identified as a priority area for enhancing Member State uptake of renewable energy and fostering network integration, with projects, for example, to increase transmission capacity between Portugal, Spain and other Mediterranean states. In September 2016 the first Summit of Mediterranean EU countries (Republic of Cyprus, France, Greece, Italy, Malta, Portugal and Spain) issued a declaration identifying low-carbon energy projects and energy interconnections among a number of sectors justifying a doubling of European strategic investment. EU political commitments to the upscaling of renewable energy in the Mediterranean region are tempered by the recognition that, with the development of major gas fields in Egypt and Israel, European market access to these new reserves would make a significant contribution to energy security.

The same tensions between new fossil fuel development and clean energy commitments are expressed in wider Euro-Mediterranean cooperation on energy (Rubino 2016). In 2014 a Ministerial Conference of Euro-Mediterranean Energy Ministers launched three platforms for cooperation: (i) the development of a regional electricity market; (ii) the promotion of renewable energy sources and energy efficiency; and (iii) the creation of a Mediterranean gas hub. Under the administrative support of the UfM, initial efforts on the integration of transmission networks have focused on the southern and eastern Mediterranean countries, with the longer-term aim of fostering energy trading with the EU. The most ambitious cooperation initiative under the renewable energy platform is the Mediterranean Solar Plan, which has the long-term goal of incentivising investment in solar photovoltaic technology in the southern and eastern Mediterranean states by physically connecting to, and therefore allowing access to, EU clean energy markets. This draws in part on the idea of a Mediterranean clean energy community, the DESERTEC Initiative, developed since 2003 by a global civil society coalition (Mason 2009). In 2015 the UfM joined with the European Commission, European Investment Bank and the KfW Development Bank to establish a Mediterranean Solar Plan – Project Preparation Initiative to cover preparation costs for clean energy in selected partner countries (Algeria, Egypt, Jordan, Lebanon, Morocco, Palestine and Tunisia).

There has been a sustained effort under the European Neighbourhood Policy to engage with subnational authorities and civil society in the Mediterranean region, including projects promoting renewable energy and energy efficiency. Foremost amongst these is the Cleaner Energy Saving Mediterranean Cities Project (CES-MED), which, since 2013, has funded

sustainable energy action plans covering 23 cities/regions in eight target countries (Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Palestine and Tunisia). This CES-MED network is served by regional focal points in Rabat (Maghreb region) and Beirut (Mashreq region). The EU has also encourages participating local authorities to join the Covenant of Mayors for Climate and Energy – a separate European Commission initiative inviting local governments to issue voluntary energy and climate mitigation commitments consistent with EU policy. Due to its successful growth across and beyond the EU, the Covenant of Mayors has become the favoured EU platform for promoting scaling the adoption of European energy and climate goals in the southern and eastern Mediterranean countries. To this end, in 2016 the European Commission proposed a separate Mediterranean section of the Covenant of Mayors.

Some CES-MED participating municipalities have reported major governance challenges in aligning with EU norms on clean energy and climate change mitigation. In Algeria, Jordan and Palestine, CES-MED cities have declared as problematic high energy prices and/or supply dependence on a state utility. For Palestinian municipalities in the West Bank dependence on Israel for energy is part of a matrix of occupation-related restrictions on local self-determination: the CES-MED network avoids addressing conflict-related pressures on clean energy development. Where municipalities are granted more autonomy in energy choices, with the support of national authorities, the prospects for improved energy efficiency and use of renewables are enhanced. This is particularly noteworthy in Tunisia. At a CES-MED supported event in May 2015, the National Agency of Energy Efficiency in Tunisia launched an Association of Municipalities for Energy Transition, with over 200 Tunisian municipalities participating. Sousse, one of the Tunisian cities selected under CES-MED has, for example, received support from this national agency to adopt solar powered water heating for sports facilities (Cleaner Energy Saving Mediterranean Cities 2016).

Across the Mediterranean region, national commitments to renewable energy seemingly express a convergence of interests on clean energy development, though there are different political drivers: EU binding targets on renewable energy reflect a climate and energy agenda that attempts to square energy security with international climate mitigation commitments, while for the southern and eastern Mediterranean countries, investment in renewable energy is a promising vehicle for meeting rapidly expanding energy demand. Euro-Mediterranean cooperation on low-carbon energy, fostered principally by the EU and the UfM, anticipates a growing integration of the Mediterranean energy network. Nevertheless, this vision also accommodates a major role for the development of a regional gas hub given the development of substantial gas reserves in the eastern Mediterranean. Furthermore, with a supply glut in oil production and weak economic growth, there is little short-term prospect of a sustained recovery in global oil prices following their collapse at the end of 2015. Low fossil fuel prices have tempered the ambition of Euro-Mediterranean plans for the regional upscaling of renewable energy.

Conclusion

As noted in the introduction, the notion of a ‘Mediterranean syndrome’ (Eder and Kousis 2001) was coined to capture a distinctive regional dynamic in environmental politics, with basin-wide biogeographical and climatological processes shaping, and being shaped by, shared socio-economic development paths in the Mediterranean – notably urbanisation and tourist-oriented economic growth. There has also been distinctive regional cooperation in response to these social and ecological interdependencies, generating a diverse range of more or less developed institutional structures. In broad terms, the contrast is between, on the one

hand, the legally binding obligations imposed on participating Mediterranean countries by the Barcelona Convention and the UNFCCC Paris Agreement and, on the other, the soft law norms imparted mainly by the EU and the UfM in a series of initiatives furthering Euro-Mediterranean cooperation over climate, environment and energy issues. While there are clear thematic overlaps between the UN-led and EU/UfM institutional pathways, there has been no meaningful orchestration or institutional clustering of Mediterranean environmental governance.

Established under the Barcelona Convention process, and administered by UNEP, the Mediterranean Action Plan continues to be the most stable governance platform for addressing the environmental protection of marine areas and coastal zones across the Mediterranean Basin. Over time, with the adoption of successive protocols to the Barcelona Convention, the Mediterranean Action Plan has broadened its terms of reference. In 2016 this resulted in the adoption of a Mediterranean Strategy for Sustainable Development, embracing an ecosystem-based management philosophy. It is instructive that efforts to build Mediterranean cooperation over freshwater management, taking place outside the Barcelona Convention process, have struggled; for example, UfM attempts to draft a Strategy for Water in the Mediterranean have, as discussed above, provoked sovereignty sensitivities over the incorporation of norms from international water law (Egypt, Turkey) and international humanitarian law (Israel).

In the face of scientific observations and projections pointing to significant climate change in the Mediterranean area, there are growing efforts to integrate climate change considerations in the Mediterranean Action Plan. The favoured vehicle is the Protocol on Integrated Coastal

Zone Management (2008), with the intent to integrate climatic variability and change into national strategies on integrated coastal zone management: these efforts are coordinated by a Regional Climate Change Adaptation Framework for the Mediterranean Marine and Coastal Areas, adopted at a Conference of the Parties to the Barcelona Convention in 2016. Locating this regional cooperation initiative within the UN-led Mediterranean Action Plan reflects the recognition, notably by southern and eastern Mediterranean states, that UfM and EU climate cooperation efforts have not yet effectively addressed the climate mitigation and adaptation priorities of these countries. Notwithstanding the valuable contribution of EU-funded research on climate change, water availability and other environmental pressures in the Mediterranean region, there is a perception that, outside the Barcelona Convention process, Euro-Mediterranean climate relations are skewed by European geopolitical interests.

Renewable energy is a policy domain where there is currently a significant, if contingent, overlap between EU climate mitigation goals (expressing UNFCCC obligations) and the energy diversification strategies of most southern and eastern Mediterranean states. Euro-Mediterranean energy cooperation rests on an EU drive to promote low-carbon economic development across the region. EU Mediterranean Member States are locked into an energy and climate strategy that includes a target of a 27% renewable energy share of final energy consumption by 2030. To support this, an upscaling of renewable energy use is promoted also in non-EU Mediterranean states through EU agreements with adjoining pre-accession territories and, further afield, a diverse set of projects delivered through the European Neighbourhood Policy. EU external energy policy in the region reinforces Euro-Mediterranean energy cooperation under the auspices of the UfM: higher levels of renewable energy and energy efficiency are seen as critical to the resilient functioning of an integrated energy network across the Mediterranean. At the same time, however, there are

countervailing economic and geopolitical incentives in favour of new fossil fuel investments, particularly the current development of substantial natural gas reserves in the eastern Mediterranean. EU concerns over climate change are constrained by the paramountcy of energy security in Euro-Mediterranean energy cooperation: by themselves, for the time being, low-carbon energy sources are seen as insufficient for baseload electricity generation in Mediterranean countries.

The framing of regional environmental politics according to a Mediterranean syndrome of shared ecological risks slipping into a geographical determinism unless other political-economic forces and interests, operating at different scales, are admitted into the analysis. Some of these political-economic processes – European integration, energy securitisation, urbanisation, demographic growth – are registered above, though these longer-term trends are also altered and disrupted by unforeseen pressures, such as the recent migration crisis featuring hundreds of thousands of asylum seekers crossing the Mediterranean Sea to reach Europe: in 2015 and 2016 thousands died or went missing during these desperate journeys. The migration crisis is itself a symptom of a fractured political geography across the Mediterranean region, where shared security interdependencies have yet to generate a coordinated, effective response to conflict and political instability. Measured against the ambition that environmental cooperation should serve as a vehicle for peaceful coexistence and normative integration in the Mediterranean (e.g. European Neighbourhood Policy, UfM environment initiatives), the shortfall of European soft power is telling. While its ecological effectiveness is at best mixed, the more measured, managerial scope of the Mediterranean Action Plan suggests that environmental regime building in the region is best developed by UN institutions.

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