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**2nd Standing Committee on Economic, Social and Environmental
Cooperation**

**“Climate and environmental changes in the Mediterranean region: an urgent call for
cooperation”**

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Report

Executive Summary

This report examines the current state of the environment in the Euro-Mediterranean and Gulf regions. By collecting the latest available data, forecasts, and scenario analyses from various scientific sources, this study indicates the most effective policy responses to address climate-related risks in the context of the post-pandemic recovery plans.

The alarming evidence on environmental degradation in the Mediterranean highlights the urgency of concerted and immediate climate actions. Sea warming and acidification, marine heatwaves, biodiversity losses, and declining freshwater resources define the Mediterranean as a climate change hotspot. These trends, coupled with polluting manmade activities, such as mass tourism and overfishing, are severely threatening the regional biosphere and the livelihood of people and communities.

This report highlights opportunities for PAM Member States to align national economic policies with the existing international climate agenda. In particular, this study urges parliaments to declare a state of environmental emergency and adopt an integrated approach to climate action and climate-related security risks. The report’s findings call for immediate decarbonization of economies through the implementation of renewable energy transition strategies. It furthermore recommends concrete policy actions for the promotion of sustainable practices in the fields of tourism, fishing, and agriculture across the broader Mediterranean region. Building on both the Paris Agreement and the Barcelona Convention, the report recommends that full advantage is taken of COVID-19 recovery efforts to direct policy strategies towards green initiatives and sustainable development goals.

I. Introduction

1. In 2020, the climate crisis has continued its relentless progression. Although confinement measures adopted to contain the COVID-19 pandemic have reduced the annual global emission rate by 5.8% compared to 2019 levels, the atmospheric concentration of long-lived greenhouse gases has hit new records.¹ According to the World Meteorological

¹ International Energy Agency, *Global Energy Review: CO2 Emissions in 2020*, March 2021. <https://www.iea.org/articles/global-energy-review-co2-emissions-in-2020>

Organization, the year 2020 closed the warmest decade ever recorded.² These alarming trends are of particular concern for the Mediterranean Basin, considered by scientists a “climate change hotspot” due to its extreme exposure to temperatures rise and changes in water regimes.

2. The impacts of climate and environmental changes in the Euro-Mediterranean and Gulf regions are multifaceted and transnational. Air and sea temperatures are soaring faster than in the rest of the world. Sea warming, marine heatwaves and sea acidification are causing severe habitat and biodiversity losses. Human lives and livelihoods in coastal areas are increasingly threatened by storms and flash floods. Agricultural systems are jeopardized by unpredictable weather patterns and the scarcity and degradation of freshwater resources.
3. A failure to mitigate these climate and environmental trends would hamper long-run prospects for sustainable economic development and quality of life in the region. The COVID-19 crisis demonstrated that reactive policies are insufficient for effectively confronting systemic risks. Addressing challenges that transcend boundaries, such as health or climate hazards, requires forward-looking strategies and coordinated actions of all Euro-Mediterranean and Gulf countries. The pandemic provides policymakers with an unexpected chance to redirect development models and steer regional recovery efforts toward the overriding aim of halting environmental degradation across the broader Mediterranean.
4. This report examines the current state of the environment in the Euro-Mediterranean and Gulf regions, with the aim of highlighting opportunities for PAM Member States to align national economic policies with the existing international climate policy agenda. This analysis seeks to provide PAM parliamentarians with the necessary information to prioritize green initiatives as post-pandemic economic recovery plans are devised and implemented.

II. The impacts of climate and environmental changes in the Mediterranean

The rising temperatures

5. Historically, the Mediterranean Basin has benefited from favourable climatic conditions, which enabled the development of highly biodiverse landscapes and the adoption of sophisticated land use systems, providing numerous benefits to the communities living across the region. However, rising average temperatures and the mismanagement of natural resources are currently threatening biodiversity and livelihoods in Euro-Mediterranean and Gulf countries.
6. Ample scientific evidence shows that climate and environmental changes stemming from anthropogenic emissions are disproportionately affecting the region. According to the latest findings of the Mediterranean Experts on Climate and environmental Change (MedECC), warming in the Mediterranean Basin is occurring at a 20% faster rate compared to the global average.³ Currently, annual mean temperatures are 1.54°C above pre-industrial levels, exceeding the global average by 0.4°C. In a business-as-usual scenario, the regional

² World Meteorological Organization, *News: 2020 closes a decade of exceptional heat*, 24 December 2020. <https://public.wmo.int/en/media/news/2020-closes-decade-of-exceptional-heat>

³ MedECC, *Climate and Environmental Change in the Mediterranean Basin – Current Situation and Risks for the Future. First Mediterranean Assessment Report* [Cramer, W., Guiot, J., Marini, K., (eds.)] Union for the Mediterranean, UNEP/MAP Regional Activity Centre Plan Bleu, UNEP/MAP, Marseille, France, 2020. <https://www.medecc.org/first-mediterranean-assessment-report-mar1/>

forecasts of the Intergovernmental Panel on Climate Change (IPCC) predict an alarming temperature rise of up to 5°C by the end of this century.⁴

7. The waters of the Mediterranean Sea are experiencing similar warming trends. The official records of sea surface temperature (SST) indicate a 1.3°C increase between 1982 and 2020.⁵ The incidence of prolonged abnormally high temperatures is intensifying throughout the entire region, leading to a higher frequency and intensity of marine heatwaves. Additionally, rising SST is contributing to the process of seawater acidification.
8. Sea warming and acidification trends are placing exceptional strain on the ecological balance in the Mediterranean Sea, curbing the capacity of marine ecosystems to mitigate natural hazards and man-made environmental disturbance. In particular, severe changes in water temperature and composition are altering the Mediterranean biodiversity landscape, as indigenous species struggle to adapt to changing conditions and non-indigenous species monopolize nutrient sources. Currently, there are more than a thousand non-indigenous marine species in the Mediterranean, with 10% poised to be invasive.⁶ The International Union for Conservation of Nature (IUCN) estimates that more than 70 marine species are at risk of extinction in the Mediterranean, with approximately 30 expected to go extinct by the end of the century.⁷
9. Warming temperatures on land and sea affect human lives and livelihoods as well, as these alterations contribute to more frequent and intense extreme weather events across the region. Marine heatwaves have been occurring at a higher frequency since the 1960s and with a higher incidence in the Mediterranean compared to the rest of the world.⁸ Precipitations in the region are predicted to decrease by 4% per degree increase of mean global temperatures,⁹ with an intensification of heavy rainfall events in all seasons except the summer.¹⁰ These phenomena will exacerbate the risks of hydrological shocks such as droughts and floods.¹¹

The pressure on water resources

10. Water security is a central challenge for regional development and stability. Climate change is posing additional pressures on the already uneven distribution of freshwater across the Mediterranean. Currently, around 74% of water resources are located in Northern shore countries, while 75% of water needs are located in Eastern and Southern shore countries. As a result, approximately 180 million people in the region suffer from water scarcity

⁴ IPCC, *Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems*. Geneva, Switzerland, In press, 2019.

⁵ Pastor, F., Valiente, J.A., Khodayar, S. *A Warming Mediterranean: 38 Years of Increasing Sea Surface Temperature*. Remote Sens. (12) 2687, 2020. <https://www.mdpi.com/2072-4292/12/17/2687>

⁶ UNEP/MAP Regional Activity Centre Plan Bleu. *State of the Environment and Development in the Mediterranean*, October 2020. <https://planbleu.org/en/soed-2020-state-of-environment-and-development-in-mediterranean/>

⁷ IUCN. (2018). *The IUCN Red List of Threatened Species*. Version 2018-2. <http://www.iucnredlist.org>

⁸ Jacob, D., Petersen, J., Eggert, B., Alias, A., Christensen, O.B., Bouwer, L.M., Braun, A., Colette, A., Déqué, M., Georgievski, G., Georgopoulou, E., Gobiet, A., Menut, L., Nikulin, G., Haensler, A., Hempelmann, N., Jones, C., Keuler, K., Kovats, S., Kröner, N., Kotlarski, S., Kriegsman, A., Martin, E., van Meijgaard, E., Moseley, C., Pfeifer, S., Preuschmann, S., Radermacher, C., Radtke, K., Rechid, D., Rounsevell, M., Samuelsson, P., Somot, S., Soussana, J., Teichmann, C., Valentini, R., Vautard, R., Weber, B. & Yiou, P. *EURO-CORDEX: New high-resolution climate change projections for European impact research. Regional Environmental Change*, 14 (2), 563-578, 2014. <https://doi.org/10.1007/s10113-013-0499-2>

⁹ Lionello, P. & Scarascia, L. *The relation between climate change in the Mediterranean region and global warming. Regional Environmental Change*, 18 (5), 1481-1493, 2018. <https://doi.org/10.1007/s10113-018-1290-1>

¹⁰ Toreti, A. & Naveau, P. *On the evaluation of climate model simulated precipitation extremes*. Environmental Research Letters, 10 (1), 2015. <https://iopscience.iop.org/article/10.1088/1748-9326/10/1/014012/meta>

¹¹ World Bank. *Beyond Scarcity: Water Security in the Middle East and North Africa*, MENA Development Report; Washington, DC: World Bank. 2018. <https://openknowledge.worldbank.org/handle/10986/27659>

(having annually less than 1,000 m³ per capita) and 80 million people from extreme water shortage (having less than 500 m³).¹²

11. The availability of freshwater resources across the Euro-Mediterranean and Gulf regions is expected to further decline in the coming decades. The combination of rising temperatures and decreased precipitations will reduce the recharge rates of groundwater systems, while simultaneously increasing the water requirements for irrigated crops.¹³ Policymakers in the Mediterranean Basin will be confronted with the task of managing scarcer water resources for a growing population. In a report on the demographic evolution in the Mediterranean region issued in October 2020, the United Nations Environment Programme/Mediterranean Action Plan (UNEP/MAP) estimates that the population will reach about 600 million individuals in 2050 – rising by 15% compared to 2020 figures.¹⁴ By contrast, during the same period, the Southern and Eastern shores of the Mediterranean are expected to suffer a decline of freshwater resources between 30 and 50%.¹⁵
12. In conjunction with water scarcity, Euro-Mediterranean and Gulf countries are also experiencing declines in freshwater availability due to surface and groundwater overexploitation and water quality degradation. Similarly, agricultural intensification and the expansion of irrigated land are the main causes of the loss of wetlands in the region.¹⁶ These activities are disrupting the natural pattern of replenishment of groundwater resources and causing significant alterations in water quality due to agricultural runoff laden with contaminants from chemical pesticides and fertilizers. In coastal areas, saltwater intrusion is inducing the salinization of deltas and coastal aquifers – especially in the southern rim of the Mediterranean. According to the European Environment Agency, around 49% of river basins across the Euro-Mediterranean region do not meet the criteria to reach the standard of Good Environmental Status due to high salinity concentration, pollution, and habitat degradation.¹⁷
13. Critical levels of pollution are also affecting the Mediterranean Sea, which today represents one of the most marine-litter-affected areas in the world. Along with nearly 200 tonnes of plastic dumped each day, less than 8% of wastewater entering the sea undergoes tertiary treatment.¹⁸ Water pollution is more acute in the Southern and Eastern shores of the region, due to stronger environmental pressures caused by the rapid industrialization, urbanization and tourism development that have occurred over the past decades.¹⁹

The vulnerability of agricultural systems

14. The rise of temperatures and the alteration of weather patterns are jeopardizing food production and food security across the Mediterranean. Extreme weather events, such as

¹² MedECC, *Climate and Environmental Change in the Mediterranean Basin – Current Situation and Risks for the Future. First Mediterranean Assessment Report*, 2020.

¹³ Ibid

¹⁴ UNEP/MAP Regional Activity Centre Plan Bleu, *Tendances et perspectives démographiques en Méditerranée*, October 2020. <https://planbleu.org/wp-content/uploads/2020/10/PLAN-BLEU-CAHIER-21-Tendances-demographiques-en-Mediterranee.pdf>

¹⁵ UNEP/MAP. *Mediterranean 2017 Quality Status Report*, 2017. <https://www.medqsr.org/population-and-development>

¹⁶ UNEP/MAP Regional Activity Centre Plan Bleu. *State of the Environment and Development in the Mediterranean*, 2020.

¹⁷ European Environmental Agency. *Ecological Status of Surface Water Bodies*, 2018.

<https://www.eea.europa.eu/themes/water/european-waters/water-quality-and-water-assessment/water-assessments/ecological-status-of-surface-water-bodies>

¹⁸ UNEP/MAP Regional Activity Centre Plan Bleu. *State of the Environment and Development in the Mediterranean*, 2020.

¹⁹ Ludwig, W., Bouwman, A.F., Dumont, F. & Lespinas, F. *Water and nutrient fluxes from major Mediterranean and Black Sea rivers: Past and future trends and their implications for the basin- scale budgets*. *Global Biogeochemical Cycles*, 24(4), 2010. <https://doi.org/10.1029/2009GB003594>

droughts, heatwaves, and heavy rainfalls aggravate soil erosion and soil fertility losses in the region, augmenting crop yield variability and vulnerability.

15. The agricultural sector is disproportionately impacted in the MENA region, whereby a 1.5°C-2°C increase in average temperatures could result in a 30% reduction in crop yields.²⁰ More specifically, recent projections estimate that, by 2050, Egypt could experience a decline of 40% in legume production,²¹ a downward trend that may also affect the overall crop productivity in Algeria and Morocco.²²
16. Prolonged periods of drought, coupled with increased risks of forest fires, are placing additional pressures on the agricultural sector in Euro-Mediterranean countries. Combined with declines in water availability, these factors are contributing to the increased variability of domestic food supplies, while also affecting local and global commodity prices. In the next decades, climate and environmental changes are expected to further expand the agricultural production disparities among countries, increasing food insecurity and exacerbating the risk of conflicts in the whole region.

III. Human-driven environmental degradation and the impacts on lives and livelihoods

17. The latest review of the United Nations Environment Programme on the state of the environment in the Mediterranean indicates that climate and environmental changes are severely curtailing economic opportunities in PAM Member States.²³ Industries such as tourism and fishing, which serve as economic pillars of the regional economy, face the risk of dramatic productivity losses due to environmental degradation and resource scarcity. At the same time, most commercial activities in these sectors are based on resource-intensive and linear models that generate numerous types of pollution and further compound environmental degradation in the region.
18. Over the last two decades, tourism has grown into one of the most important economic sectors in the Mediterranean. In 2019, this industry generated 11.3% of total GDP and 11.5% employment opportunities in the region.²⁴ Before the COVID-19 pandemic, the Mediterranean Basin annually attracted nearly 30% of global travellers and it represented the second most popular destination for cruise ships.²⁵ Tourism strongly depends on the region's natural assets. In the past years, the intense flows of visitors, concentrated in coastal areas, caused heavy pressure on local ecosystems due to the massive consumption of energy and water resources and the unsustainable disposal of sewage and solid waste. As a case in point, according to the Mediterranean Information Office for Environment, Culture, and Sustainable Development (MIO-ECSDE), tourism consumes 2.5 times more resources than the Mediterranean ecosystems can provide.²⁶ National policies adopted by PAM Member States to ensure responsible tourism practices remain fragmented. More

²⁰ MedECC, *Climate and Environmental Change in the Mediterranean Basin – Current Situation and Risks for the Future. First Mediterranean Assessment Report*, 2020.

²¹ Tanasijevic L., Todorovic M., Pereira L. S., Pizzigalli C., Lionello P. *Impacts of climate change on olive crop evapotranspiration and irrigation requirements in the Mediterranean region*. *Agricultural Water Management*, 144, 54-68, 2014. <https://doi.org/10.1016/j.agwat.2014.05.019>

²² UNEP/MAP Regional Activity Centre Plan Bleu. *State of the Environment and Development in the Mediterranean*, 2020.

²³ Ibid

²⁴ Association of the Mediterranean Chambers of Commerce and Industry, *The Mediterranean Tourism Forum – MEDITOUR 2019*, 13 May 2019. <http://www.ascame.org/en/mediterranean-tourism-forum-meditour-2019>

²⁵ UNEP/MAP Regional Activity Centre Plan Bleu. *State of the Environment and Development in the Mediterranean*, 2020.

²⁶ Vlachogianni, T., Vogrin, *Tourism & Biodiversity in the Mediterranean: Opportunities and Threats*. MIO-ECSDE, 2012. <https://mio-ecsde.org/wp-content/uploads/2015/02/En-Tourism-and-Biodiversity-in-the-Mediterranean-Opportunities-and-Threats.pdf>

robust legislative convergence across the region is needed to address the scale of these challenges.

19. The fishing industry, which represents another staple of the regional economy, faces similar concerns regarding its long-run viability. The Mediterranean Sea is home to more than 10,000 marine species, comprising between 7% and 10% of the world's marine biodiversity. Nevertheless, according to the estimates of the World Wildlife Fund (WWF), around 93% of fish stocks in the Mediterranean are overfished²⁷ and the Basin has registered a decline of 34% in total fish populations compared to the 1950s' stock levels.²⁸ A number of Northern shore Member States have sought to curb unsustainable fishing practices in accordance with EU sustainability guidelines. Such measures include a reduction in the number of fishing vessels per country and more stringent requirements related to catch limits and environmental stewardship.²⁹ In order to protect marine biodiversity from overexploitation, countries of the entire Mediterranean region will have to operate a convergence of their fishery legislations, taking stock of existing best practices and international commitments, such as those agreed upon under the Malta MedFish4Ever Ministerial Declaration³⁰ and the Mid-term Strategy of the Food and Agriculture Organization's General Fisheries Commission for the Mediterranean (FAO-GFCM)³¹.
20. In conjunction with unsustainable fishing practices, the illegal dumping of plastic waste into water contributes to the decline in fish species. Indeed, water treatment centres often dump microplastic particles into the Mediterranean Sea, threatening marine life and habitats – such as coral reefs. Improving waste management practices is, therefore, crucial to prevent further depletion of marine resources. Starting from 2017, Turkey has been implementing a Zero Waste campaign involving a large number of public and private sector actors.³² The initiative aims to minimise reliance on single-use plastics and develop a disposal system that keeps all plastics out of the Mediterranean Sea. Similar measures have been adopted in Tunisia³³, in Morocco³⁴, and within the European Union, where all single use plastic will be banned starting from 3 July 2021 as provided for in the EU Directive 2019/904³⁵. All these provisions will help alleviate the burden on marine life coming from human activities and environmental degradation. The fishing industry can benefit from the consequent replenishment of fishing resources, thus favouring the communities that rely on them for their livelihoods.
21. Not only does human-driven environmental degradation damage the regional economy and biodiversity, but it also undermines human health and security. Environmental factors contribute to 15% of deaths in Mediterranean countries, with air pollution cited as being

²⁷ WWF, *A Vision for Healthy fisheries in the Mediterranean*, WWF Position Paper, September 2016. http://d2ouvy59p0dg6k.cloudfront.net/downloads/mediterranean_fish_briefing_31082016_final_2_.pdf

²⁸ Piroddi C., Coll M., Liquele C., Macias D., Greer K., Buszowski J., Steenbeek J., Danovaro R., Christensen V., *Historical changes of the Mediterranean Sea ecosystem: modelling the role and the impact of primary productivity and fisheries changes over time*, Scientific Reports, March 2017. <https://www.nature.com/articles/srep44491.pdf>

²⁹ European Commission, *Mediterranean Sea, The Common Fishery Policy*, 2021. https://ec.europa.eu/fisheries/cfp/mediterranean_en

³⁰ Ministerial conference on the sustainability of Mediterranean fisheries, *Malta MedFish4Ever Ministerial Declaration*, 30 March 2017. <https://www.actu-environnement.com/media/pdf/news-28756-declaration-malte-surpeche-mediterranee.pdf>

³¹ General Fisheries Commission for the Mediterranean, *Mid-term Strategy (2017–2020) towards the sustainability of Mediterranean and Black Sea fisheries*, 2016. <http://www.fao.org/gfcm/activities/fisheries/mid-term-strategy/en/>

³² Republic of Turkey, *What is Zero Waste?*, 2021. <http://zerowaste.gov.tr/en/zero-waste/what-is-zero-waste>

³³ "UN Environment Programme," *UN Environment Programme*, March 6, 2020, <https://www.unep.org/unepmap/news/news/ban-single-use-plastic-bag-introduced-tunisia-unepmap-support>

³⁴ Kawtar Ennaji, "Morocco World News," *Morocco World News*, September 19, 2019.

<https://www.morocoworldnews.com/2019/09/283009/zero-mika-vision-plastic-free-morocco/>

³⁵ European Parliament and Council of the European Union, *Directive (EU) 2019/904*, 5 June 2019. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019L0904&from=EN>

the cause of 228,000 premature deaths in 2016.³⁶ Against this backdrop, the Southern shore of the Mediterranean is considered particularly vulnerable. As highlighted in the latest report of the Arab Forum for Environment and Development, 23% of all deaths in the Arab region are attributable to environmental factors.³⁷

22. Climate change and environmental degradation also undermine national security apparatuses by decreasing the availability of valuable natural resources such as water and arable farmland. The decline in the availability of these basic needs is considered a threat multiplier and an important driver of migration, especially in vulnerable areas such as water-scarce countries, rainfed farmland, and urban slums.³⁸ The Mediterranean is considered a global hotspot for both migration and climate change, even though the numerous factors that influence movement patterns hamper the ability to quantify the net effect of climate change on migration.³⁹ As the repercussions of climate change are expected to intensify over the coming decades, countries across the Euro-Mediterranean and Gulf regions should embrace an integrated approach to climate legislation, implementing adaptation and mitigation strategies that also address the threats posed by climate-related security risks – such as food insecurity, migration stemming from resource scarcity, political and socio-economic tensions over water and land resources.⁴⁰
23. The COVID-19 pandemic caused substantial economic disruptions to economies and societies. Nevertheless, the crisis also represents an unexpected opportunity for national governments and parliaments to reshape the trajectory of development across the broader Mediterranean region. Policymakers can build enduring political cooperation based on shared economic, climate, and security objectives. The lessons learnt from the COVID-19 crisis should be applied to tackle climate and environmental changes – which, similarly, represent a systemic and transnational emergency. The sudden setbacks to the regional economic activities provide an opportunity to modernise productive methods in essential sectors – such as tourism, agriculture, and fisheries – in a smart and sustainable manner. The development of a shared climate policy approach, complete of both transboundary prevention and management of environmental degradation and security risks, should be placed on top of the regional political agenda.

IV. Climate action in the Mediterranean: five years after the adoption of the 2030 Agenda and the Paris Agreement

24. Five years after the adoption of the Paris Climate Agreement and the United Nations 2030 Agenda, progress on the implementation of sustainable development across the Mediterranean Basin remains sluggish. According to the most recent reports of the United Nations Sustainable Development Solutions Network, no country in the region is on the right track to achieve the 17 Sustainable Development Goals (SDGs) comprised in the 2030 Agenda.⁴¹ With the exception of some promising gains on SDG 1 “Ending Poverty”, the region is underperforming in a number of critical areas. In particular, the Mediterranean

³⁶ UNEP/MAP Regional Activity Centre Plan Bleu. *State of the Environment and Development in the Mediterranean*, 2020.

³⁷ AFED, *Health and the Environment in Arab Countries*. Annual Report of Arab Forum for Environment and Development, Saab, N., and Habib, R. R. (Ed.), Beirut, Lebanon, November 2020. <http://www.afedonline.org/en/reports/details/health-and-the-environment-in-arab-countries>

³⁸ UNEP/MAP Regional Activity Centre Plan Bleu. *State of the Environment and Development in the Mediterranean*, 2020.

³⁹ Werz, M., Hoffman, M., *Europe's twenty-first century challenge: climate change, migration and security*. European View, 2016. <https://doi.org/10.1007/s12290-016-0385-7>

⁴⁰ UNEP/MAP Regional Activity Centre Plan Bleu. *State of the Environment and Development in the Mediterranean*, 2020.

⁴¹ Sustainable Development Solutions Network, Santa Chiara Lab, *Sustainable Development Report 2019 – Transformations to achieve the Sustainable Development Goals*. Mediterranean Countries Edition, September 2019. https://sdsn-mediterranean2.wp.unisi.it/wp-content/uploads/sites/30/2019/10/Report_SDG_MED-min.pdf

received the lowest index score for progress towards SDG 2 “Zero Hunger”, SDG 9 “Industry, Innovation, and Infrastructure”, and SDG 14 “Life Below Water”.⁴²

25. The COVID-19 crisis has shown the need for a radical and urgent systemic change to improve the resilience of societies and economies vis à vis future shocks and transnational emergencies. Amid a wave of investment to re-energize economies hit by the pandemic, the 2030 Agenda represents a blueprint for ambitious action toward a sustainable future in the Euro-Mediterranean and Gulf regions. The successful fulfilment of the SDGs by 2030 requires national governments to adopt recovery plans that integrate climate action, human welfare, and economic development.
26. PAM Member States can accelerate the achievement of sustainability goals by building on the areas in which they already perform comparatively well – such as SDG 3 “Good Health and Well-Being” and SDG 4 “Quality Education”. In parallel, by enhancing their engagement with SDG 7 “Affordable and Clean Energy” and SDG 13 “Climate action”, they will support the realisation of broader domestic and regional green objectives.⁴³ Moreover, the alignment of national policies with SDG 14 “Life below Water” and SDG 15 “Life on Land” has the potential to support biodiversity and reverse the alarming environmental degradation trends that are affecting the region.⁴⁴
27. Crucial for the identity and socio-economic well-being of Euro-Mediterranean and Gulf countries, climate and environment-related goals must be set at the heart of decision-making. Uneven levels of engagement and investment in SDGs across the region weaken the efficacy of those green initiatives already in place. A resilient and environmentally sound revitalization in the Mediterranean will only be possible through resolute, concerted, and equally distributed commitments among PAM Member States.

V. Environmental multilateralism in the Mediterranean

28. In response to the COVID-19 pandemic, national governments have strengthened their fiscal firepower to offset the socio-economic backlash of lockdown measures. These efforts have bolstered global environmental objectives and raised ambitions for both the upcoming UN Climate Change Conference (COP26) and the 22nd Meeting of the Contracting Parties to the Barcelona Convention (COP22).
29. COP26, scheduled to take place in November 2021 in Glasgow (UK), aims at facilitating the convergence of Nationally Determined Contributions (NDCs), realising substantive progress on the 2050 carbon-neutrality target, and adopting the necessary financial mechanisms for the establishment of functioning global carbon markets. The stakes of the meeting cannot be underestimated. Without the harmonisation of NDCs and the reaching of an agreement on carbon credits, the objective of maintaining the global temperature increase below +2°C compared to pre-industrial levels will be threatened.
30. Planned for December 2021 in Antalya (Turkey), COP22 will be equally pivotal for PAM Member States and the other parties to the Barcelona Convention. The Convention, adopted under the auspices of UNEP/MAP, provides a platform for signatories to exchange knowledge on the most pressing environmental challenges facing the Mediterranean Basin

⁴² Ibid

⁴³ Ibid

⁴⁴ Ibid

and to plan a coordinated response. The upcoming Conference of the Contracting Parties will seek to solidify the implementation of practical steps towards climate action and environmental protection in the region by prioritising, in particular, the establishment of shared guidelines for the assessment of marine pollution and the adoption of concrete measures towards the sustainable management of coastal resources.⁴⁵ Additionally, the conference will focus on improving cooperation among Mediterranean coastal states in adopting strategies that are essential to achieve tangible progress on national and regional sustainability goals.⁴⁶

31. These conferences have the potential to serve as valuable instruments for the realisation of a green and resilient renaissance in the Mediterranean. The mass mobilisation of resources and the cross-border collaboration in addressing the COVID-19 pandemic can indeed be applied to reinvigorate climate action in the region and tackle the transnational challenges which arise from climate change and environmental degradation. However, the degree of effectiveness of COP26 and COP22 will be determined by the resolve and commitments of the participating parties.

VI. Recommendations

32. At the Climate Ambition Summit in December 2020, UN Secretary-General António Guterres called on all countries to immediately declare a state of climate emergency. This is of particular relevance for Euro-Mediterranean and Gulf regions. Framing climate and environmental changes as an emergency serves to avoid postponing climate efforts by increasing the sense of urgency, acknowledging the immediacy and clarity of the danger, and adopting an approach which also views climate change as a security risk. Following the example of Malta, Andorra, Italy, France, Portugal, the Holy See, and the European Parliament, all PAM Member Parliaments should declare a climate and environmental emergency in the Mediterranean and globally. This would allow for regional and national shifts in political priorities and thus for the implementation of solid and immediate action plans to achieve net-zero emissions by mid-century.
33. As the response to the COVID-19 pandemic shifts from crisis management towards forward-looking economic plans, legislators are uniquely positioned to facilitate a sustainability-driven recovery. Rather than choosing between economic or green targets, national parliaments should bolster the incorporation of the SDGs and NDCs into fiscal and monetary policies. By doing so, parliamentarians across the Mediterranean can successfully coordinate and monitor progress towards their climate agendas and uphold the values and principles of the Agenda 2030, the Paris Agreement, and the Barcelona Convention.
34. Realising substantial progress towards the Paris Agreement requires the adoption of bold conditional NDCs backed by legally binding legislative action. Unleashing the full potential of the Barcelona Convention and its Protocols requires a similar commitment. Parliamentarians across the Mediterranean should include legal indicators in their national legislative frameworks to monitor and ensure compliance with the objectives enshrined in global and regional agreements.

⁴⁵ International Institute for Sustainable Development. *Barcelona Convention COP22*, 7-10 December 2021. <https://sdg.iisd.org/events/barcelona-convention-cop-22/#:~:text=The%2022nd%20Meeting%20of%20the,take%20place%20in%20December%202021>

⁴⁶ Ibid

35. The capacity of PAM Member States to challenge the risks of water scarcity will be largely defined by their transition towards green and circular economic models. The agricultural sector, which is responsible for the largest consumption of freshwater in the region, has the potential to drive the regional shift towards more resilient and effective water governance strategies. For example, the adoption of precision irrigation systems, including drip irrigation, not only guarantees water use efficiency and freshwater saving, but it also allows for the reutilization of treated wastewater. As the Mediterranean accounts for 60% of the world production of durum wheat, preserving irrigation capacities is critical for human welfare and economic stability in the region and beyond.⁴⁷ In light of the rising average temperatures, improvements in water use efficiency and reuse and the implementation of cross-sectoral and coordinated approaches to the development and management of water and land, such as the Integrated Water Resources Management (IWRM) framework, are crucial to preserving water security in the region.⁴⁸ In parallel, the development of unconventional water technologies, such as desalination plans, should be accompanied by rigorous environmental data collection to facilitate the sustainable disposal or reuse of the chemical-laden waste that results from these processes.
36. In light of its economic prominence in many PAM Member States, the tourism industry can serve as a key driver towards the realisation of numerous sustainability goals if it starts embracing environmentally sound practices. A concrete way to transform the sector would be the promotion of local touristic enterprises, in contrast with larger commercial activities. This, in combination with stronger environmental protection laws and broader regulatory oversight over pollutive practices, will incentivize responsible tourism. Many countries across the Mediterranean have already adopted policy instruments to regulate touristic activities – such as green incentives and eco-labels. However, expanding transnational cooperation is necessary to establish common standards and promote sustainability.
37. The fishing sector in the regional economy depends wholly on healthy marine biodiversity and fish stock abundance. Rising sea temperatures, acidification, and increasing marine heatwaves, combined with extensive overfishing, are putting the Mediterranean ecosystems under severe strain. Measures adopted until now to tackle dwindling fish stocks, such as catch limits, have served a preventive purpose, but are insufficient for long-term maintenance of biodiversity. Immediate and exceptional measures, such as catch documentation schemes and stringent gear regulations, need to be embraced by all Mediterranean countries in unison with a transboundary ecosystem-based approach to a common fishery policy.
38. Furthering the achievement of sustainability goals also requires attentive monitoring and evaluation of the regional trends of air, water, and soil pollution. With approximately 150 million people living close to the Mediterranean coast,³¹ insufficient sanitation services and poor urban planning leave marine areas particularly exposed to environmental degradation. As the regional population is expected to grow steadily in the next decades, policymakers must urgently consider improvements of pollution prevention and control instruments, reinforcing, in particular, sewage networks, circular waste management systems, and air pollution control. As pollution contributes to 15% of premature deaths in the

⁴⁷ Royo C., Soriano J.M., Alvaro F. *Wheat: A Crop in the Bottom of the Mediterranean Diet Pyramid*, *Mediterranean Identities - Environment, Society, Culture*, Borna Fuerst-Bjelis, IntechOpen, November 2017. <https://www.intechopen.com/books/mediterranean-identities-environment-society-culture/wheat-a-crop-in-the-bottom-of-the-mediterranean-diet-pyramid>

⁴⁸ MedECC, *Climate and Environmental Change in the Mediterranean Basin – Current Situation and Risks for the Future. First Mediterranean Assessment Report*, 2020.

Mediterranean⁴⁹, national parliaments across the whole region must cooperate with each other and with local authorities to rethink urban development and natural resource management in a way that combines human welfare with environmental sustainability.

39. To improve the alignment between regional and global climate goals, PAM Member States are encouraged to incorporate forward-looking energy transition strategies into their recovery plans. Most urgent measures include the removal of subsidies for non-renewable energy sources, the acceleration toward a more sustainable and diversified energy mix, the development of nature-based solutions for carbon sequestration, and the enhancement of energy markets integration and cooperation at the regional level. Parliamentarians are also called to commit to legislative measures in support of the adoption of a Carbon Added Tax, as already remarked in the PAM resolution unanimously adopted by Member States on 3 February 2015, on the occasion of the 9th PAM Plenary Session.
40. On 23 February 2021, the United Nations Security Council (UNSC) held a high-profile discussion on the implications of climate change on international peace and security. Recent and historical events in the broader Mediterranean region have shown that environmental degradation has the potential to exacerbate social, political, and economic tensions. Through the reinforcement of transnational information sharing systems on climate-related security risks, especially in those areas that are vulnerable to political instability, terrorist threats, and radicalisation, PAM Member States can be better prepared to prevent and manage climate risks and their direct and indirect impacts on socio-economic development, human security, and societal stability.

VII. The role of PAM delegates

41. The transnational impact of climate change and environmental degradation requires broad collaboration among national parliaments, governments, multilateral organisations, international financial institutions, civil society groups, and the private sector. PAM engages with its excellent network of policymakers and strategic partners to facilitate the development of effective science-policy-society interfaces for cohesive and science-based climate actions across the Euro-Mediterranean and Gulf regions.
42. Over the course of 2020, PAM delegates have participated and contributed to a number of conferences and webinars on climate change adaptation and mitigation hosted by distinguished international and multilateral organisations – including UNEP/MAP, the United Nations Framework Convention on Climate Change (UNFCCC), the Organization for Security and Co-operation in Europe (OSCE), and the Arab Forum for Environment and Development (AFED). On these occasions, parliamentarians had the opportunity to discuss current and future trends of climate and environmental threats with regional and international experts, reinforcing the parliamentary and scientific dialogue over green recovery strategies and the transition towards circular and climate-neutral economies in the Euro-Mediterranean and Gulf countries.
43. On 14 December 2020, PAM co-organised a high-level virtual meeting with UNEP/MAP in order to promote the dissemination and discussion of the latest scientific reports on the current state of the environment and development in the Mediterranean Basin. The event represented the occasion to pair PAM parliamentarians with climate scientists and senior

⁴⁹ UNEP/MAP Regional Activity Centre Plan Bleu. *State of the Environment and Development in the Mediterranean*, 2020.

officers from UN Agencies, such as UNEP/MAP and UNFCCC, to exchange insights on best practices and policy solutions to urgently and effectively address the deleterious consequences of climate and environmental changes in the region.

44. The 14 December event represented the inauguration of PAM's preparatory works for COP26 and COP22 and followed the participation of the Assembly in the Climate Ambition Summit, an event co-hosted by the UN and the British and French governments on the occasion of the 5th Anniversary of the Paris Agreement. Over the course of 2021, PAM will continue to contribute to a series of high-level conferences organised by strategic partners to support parliamentarians in their efforts to raise climate ambitions. In this framework, PAM will cooperate with relevant UN Agencies and the Italian Presidency to the G20 to host, in Summer 2021, a virtual parliamentary debate in preparation for the delicate negotiations that will take place in Glasgow and Antalya. Only by engaging with the latest scientific findings and deploying political and financial resources, PAM Member States can effectively tackle the challenges that climate change poses to the region.
45. In recognition of the unforeseen opportunities provided by Covid-19 stimulus packages, PAM will continue to develop and enrich cross-regional cooperation in areas pertaining to climate action and sustainable growth. In this context, on 30 March 2021, PAM and the Parliamentary Assembly of Turkic Speaking Countries (TURKPA) co-organised a High-level Virtual Meeting to reinforce interparliamentary dialogue for a resilient and sustainable economic recovery in the two regions. The event provided opportunities for parliamentarians to engage with experts on topics such as the Fourth Industrial Revolution, public-private partnerships for sustainable tourism, policy support for renewable energy development, and sustainable and ethical financing approaches. Along these lines, PAM will continue to cooperate with other parliamentary assemblies and regional actors to assure policy coherence and mutual support between regions vis à vis environment-related risks and impacts.
46. The Assembly will strengthen its collaboration with UNEP/MAP to raise awareness among policymakers of the importance of protecting the Mediterranean ecosystems, encouraging the ratification and implementation of the Barcelona Convention and its Protocols among Member States. PAM will also continue to support national parliaments in the incorporation of updated NDCs into national recovery plans, as transparent indicators of an environmentally sound allocation of recovery efforts.
47. PAM is committed to facilitating partnerships on climate action between private actors, national parliaments, public administrations, and local authorities. The Assembly supports valuable projects based on private-public partnerships that aim to develop a more integrated sustainable development. Among others, it provides its institutional support to a private consultancy firm that is implementing a fish repopulation project in the Mediterranean in collaboration with the Food and Agriculture Organization's General Fisheries Commission for the Mediterranean (FAO-GFCM) and technical experts from Egypt, Malta, Spain, Israel, Spain, Turkey, Tunisia, France, Croatia, Germany and Morocco. By allowing for greater synergies between private actors and the public sector, PAM can foster stakeholder dialogue and contribute to the Assembly's mission to empower local communities while advancing regional peace and prosperity.
48. In accordance with the UN Agenda 2030, PAM will continue to prioritise energy security and a clean energy transition in the region. Towards this effort, the Assembly will advocate

for and back initiatives that foster cross-border environmental collaboration among Member States. PAM will reinforce its relationship with the Association of Mediterranean Energy Regulators (MEDREG), actively supporting legislative convergence towards a green energy transition in the Mediterranean Basin. The Assembly will also continue to share with Member Parliaments the latest information on energy transition in synergy with the scientific community and key international organisations, such as the International Renewable Energy Agency (IRENA). Along these lines, PAM is working with a senior academic expert from the University of Naples Parthenope to publish an in-depth report on energy security. The report will anticipate a major event dedicated to the topic, tentatively held in person at the beginning of 2022.

49. As an observer to both the Conference of Parties to the Paris Climate Agreement and the Meeting of Contracting Parties to the Barcelona Convention, PAM is committed to representing the interests of national parliaments from the Euro-Mediterranean and Gulf regions. As Member States seek to take ambitious and concrete steps towards sustainability, the Assembly will continue to employ these international platforms to improve the coordination of policy measures aimed at addressing transnational climate challenges. The harmonisation of legislative and implementation processes will improve the efficacy of policies and bring the Mediterranean region closer to realising the aspirations of the Agenda 2030, the Paris Climate Agreement, and the Barcelona Convention.