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Agenda item 3: Thematic Decisions

Preparation of the MED 2050 Foresight Study on the Environment and Development in the Mediterranean

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Note by the Secretariat

The MAP Mid-Term Strategy (MTS) 2016-2021 (Decision IG.22/1) set out – under the theme “Governance” – the objective *“To deliver knowledge-based assessments of the Mediterranean environment and scenario development for informed decision-making and stakeholder work”*. As noted in Chapter 3 of the Mediterranean Strategy for Sustainable Development (MSSD) 2016-2025: *“Science is key to success: all action and policy development at the national or regional level must rely on a strong evidence bases. The analytical tools that will allow the forecasting, planning and assessment of sustainable development-related impacts and actions need to be developed with the scientific community, which itself needs to direct its research capacity in support of decision making”*. To this end, the MTS includes a Key Output 1.4.1 reading *“Periodic assessments (...) addressing inter alia (...) scenarios and prospective development analysis in the long run”*.

Accordingly, the Programme of Work and Budget 2016-2017 (Decision IG.22/20) includes a specific Main Activity 1.4.1.3 *“Develop a roadmap for the preparation of MED 2050 report”*, which is a foresight study on the environment and development in the Mediterranean region at the horizon 2050.

The Secretariat supported by its Plan Bleu/Regional Activity Centre (PB/RAC) prepared such a roadmap during the biennium 2016-2017. An expert workshop was organized in December 2016 and a second workshop is planned in December 2017. A benchmark study analysed and compared 35 foresight exercises in the Mediterranean region and sub-regions over the last 15 years, identifying critical gaps as well as resources to build on. A synthesis of the benchmark is available on the PB/RAC website and the full report will be made available by the end of 2017.

The Meeting of the Plan Bleu Focal Points (Nice, France, 25-26 April 2017) provided feedback on the proposed roadmap and supported its timely implementation. The Focal Points recommended to adopt a participatory process for building a shared vision based on national visions and exercises, to incorporate lessons learned and inputs from existing exercises and reports, and to mobilize additional external resources.

The Draft MED 2050 Roadmap was presented by the Secretariat to the 17th Meeting of the Mediterranean Commission on Sustainable Development (MCSD) held on 4-6 July in Athens, Greece (working document UNEP(DEPI)/MED WG.441/7). The MCSD considered that the last MAP foresight exercise was performed in 2005-2006, over ten years ago, and that the socio-economic, environmental and governance context in the Mediterranean has completely changed since then. The MCSD concluded essential to include this perspective of rapid changes in MAP policies, and underlined that MED 2050 should provide valuable information on future developments based on science-based scenarios and on anticipating actions to promote sustainable development in the Mediterranean region. There was a general consensus in the MCSD on the Draft MED 2050 Roadmap proposed by the Secretariat, and suggestions to further develop it were provided, as mentioned in the report of the meeting (working document UNEP(DEPI)/MED WG.441/9).

The Draft MED 2050 Roadmap was presented at the meeting of the MAP Focal Points in Athens, Greece, in September 2017 (Information document UNEP(DEPI)/MED WG.443/Inf.21). The Focal Points requested further details on the actions proposed in the roadmap, including measures taken to ensure MED 2050 linkages with other foresight exercises in the Mediterranean and mandated assessment reports.

Following the above, the proposed Roadmap for a Foresight Study on the Environment and Development in the Mediterranean (MED 2050) has been further developed and is presented in this document. The main elements of this Roadmap are summarized in Annex II to the proposed draft decision IG.23/7 “Implementation and monitoring of the Mediterranean Strategy for Sustainable Development 2016–2025 and of the Regional Action Plan on Sustainable Consumption and Production in the Mediterranean”. MED 2050 will provide valuable information on development futures based on science-based scenarios. It will highlight necessary transitions and strategic

investments in the short, medium and long terms, and serve as a key reference for the coming decades in anticipating actions to promote sustainable development in the Mediterranean region. In its design, MED 2050 is conceived as an original science-policy interface. It will involve decision-makers and stakeholders in a participatory approach, and help generate contrasted visions across the Mediterranean. It will capitalize on previous and on-going works, including the 2019 State of the Environment and Development Report, while reinforcing dissemination, communication and capacity building. Its findings will feed the process of reviewing the implementation of the MSSD, as planned by Decision IG.22/2, as well as sectoral strategies at the regional, sub-regional and national levels.

Preparation of the MED 2050 Foresight Study on the Environment and Development in the Mediterranean

I. Introduction

1. Since the late 1970's, Mediterranean countries have decided to cooperate to put *“at the disposal of political leaders and decision-makers all information that will enable them to develop plans likely to ensure sustained optimal socio-economic development without degrading the environment”* and help *“governments of coastal states in the Mediterranean region to increase their knowledge of the joint problems they have to face, both in the Mediterranean Sea and in their coastal areas”* (Inter-governmental Meeting, UNEP/IG.5/7, 1977). Within this context and in the framework of the implementation of article 4 of the Barcelona Convention and of the Mediterranean Strategy for Sustainable Development (MSSD), the Plan Bleu/Regional Activity Centre (PB/RAC) has been mandated with the *“preparation of analyses and prospective studies to assist in constructing visions of the future as an aid to decision-making”* and the *“dissemination of the findings of this work in the various appropriate forms and channels, including the regular publications of state of environment and development reports and environment and development outlook for the Mediterranean region”* (UNEP(DEPI)/MED IG.19/8, Decision IG.19/5 *“Mandates of the Components of MAP”*, 16th Meeting of the Contracting Parties, 2009).

2. PB/RAC has coordinated and published two major Futures Reports to date: *“The Blue Plan: Futures for the Mediterranean Basin”* (1989) and *“A sustainable future for the Mediterranean: The Blue Plan's Environment and Development Outlook”* (2005). Those reports have served as a reference to prepare environment and sustainable development policies in the Mediterranean, including the MSSD. They have supported regional, national and sectoral planning in various domains, and been cited hundreds of times. While they are now outdated and best used as historical references, decision-makers and experts continue to request PB/RAC with information drawn from those reports given the lack of work fulfilling the same objectives.

3. The MAP Mid-Term Strategy (MTS) 2016-2021 reiterates the objective *“to deliver knowledge-based assessments of the Mediterranean environment and scenario development for informed decision-making and stakeholder work”* (Decision IG.22/1). To implement this decision, Contracting Parties to the Barcelona Convention included in the Programme of Work and Budget 2016-2017 the development of *“a roadmap for the preparation of Med2050 report”*, as the Main Activity 1.4.1.3 (Decision IG.22/20).

4. To prepare such roadmap, PB/RAC organized an expert workshop (December 2006), conducted a benchmark study on the strengths, weaknesses and gaps of 35 recent foresight studies in the Mediterranean region, and consulted with national representatives and experts. The proposed Draft MED 2050 Roadmap was presented and discussed at the meeting of Plan Bleu Focal Points (April 2017), the 17th Meeting of the Mediterranean Commission on Sustainable Development (MCSD) (July 2017) and the meeting of the MAP Focal Points (September 2017). Plan Bleu Focal Points and MCSD members expressed support for the preparation and implementation of MED 2050 on the basis of the proposed roadmap. MAP Focal Points requested further information on synergies with other activities, planning and budget. This document presents a proposed roadmap revised on this basis. Its main elements are summarized in Annex II to the proposed draft decision IG.23/7 *“Implementation and monitoring of the Mediterranean Strategy for Sustainable Development 2016–2025 and of the Regional Action Plan on Sustainable Consumption and Production in the Mediterranean”*.

Supporting environment and sustainable development policies through foresight analysis

Foresight is defined as “A systematic, participatory and multi-disciplinary approach to explore mid- to long-term futures and drivers of change” (A Glossary of Terms commonly used in Futures Studies, Forward Thinking Platform, 2014). Participatory strategic foresight relies on three components: (i) Futures analysis: forecasting, forward thinking, prospective, etc.; (ii) Planning: strategic analysis and priority setting; and (iii) Networking: participation and dialogue. The proposed MED 2050 roadmap follows those three principles.

Foresight exercises can support public and private decision making in a number of ways:

- *Planning.* Foresight helps decision-makers identify successive priorities across a long time-period. Considering long-term horizons is critical in environmental policies. It helps decision-makers plan for structural changes, identify mid-term transitions and short-term investments required to get on the path of a desirable future.
- *Awareness raising.* Foresight analyses raise awareness on emerging challenges and opportunities associated with environmental changes. They are crucial for example to take stock of risks, impacts, necessary evolutions and opportunities associated with climate change.
- *Integration.* Foresight integrates economic, social and environmental factors, breaking down barriers across specialties and sectoral actions, in a multi-disciplinary and systemic approach.
- *Economic efficiency.* Foresight exercises help decision-makers improve economic efficiency by identifying strategic investments in prevention measures early enough to avoid facing major reparation or relocation costs at a later stage.
- *Evaluation.* Foresight exercises help understand whether policies already in place or decided on are sufficient to reach environmental and sustainable development goals, e.g. Sustainable Development Goals (SDGs).
- *Mobilization and dialogue.* Foresight helps mobilize decision-makers and stakeholders across geographical and institutional boundaries. It helps build dialogues, partnerships, and shared visions on desirable futures and critical decisions.
- *Communication.* Foresight exercises can be a powerful vehicle to communicate on priorities, challenges, individual and collective responsibilities. They set the light on institutions and processes addressing them.

II. Timing for a Foresight Study on the Environment and Development in the Mediterranean at the horizon 2050 (MED 2050)

5. Activities PB/RAC undertook during the 2016-2017 biennium (benchmark, expert workshops, and stakeholder consultations) established that a new foresight exercise on environment and development would be necessary in the Mediterranean, and provided guidance on how this exercise should be shaped to fill gaps and facilitate decision-making in the next decade, while building on existing knowledge and resources.

6. There are five major reasons for undertaking MED 2050:

- i. The first reason is that the last MAP foresight exercise was performed in 2005-2006, over ten years ago, and the context has completely changed. Oil glut, global and regional geopolitical changes, Arab Spring, European economic crisis, acceleration of climate change, transformed the environment and development context in the Mediterranean in the last decade. These changes may realistically be further accentuated by 2050 in all areas – technology, demographics, geopolitics, economics, ecology, etc. It is essential to include this perspective of rapid transformation in MAP policies, as the Mediterranean is and will be particularly affected.

- ii. The second reason is that most existing foresight analyses on the Mediterranean, including that of 2005, now have too short a time-frame and are not able to take into account more long-term issues, such as climate change or possible ecosystem disruptions, nor consider transitions (e.g. economic, energy transitions) which will only have an effect in the long term.
 - iii. The third reason is that neither the 2005 foresight exercise nor those performed outside of the MAP take into account impacts on the sea, or even on the marine economy, which does not reflect the concerns of the UNEP/MAP-Barcelona Convention.
 - iv. Another very significant reason – which could in itself justify a new exercise – is that past work has only focused on one possible aspect of foresight: forecasting, while other aspects, which are equally interesting and perhaps more useful for action, have been neglected. The aim of foresight is not only to extrapolate current statistics to reveal trends in some identified and well-understood variables or problems. It also has three other functions which are as important but have not been adequately explored so far. It should alert to new risks or poorly-understood opportunities, identify possible disruptions and anticipate the consequences of improbable events – and therefore assess uncertainties and not just probable trends. It should also compare and discuss various visions of the future, in order to contribute to jointly building consensus on what is collectively desirable or at least not unacceptable. Finally, it has a fundamentally strategic purpose and should help policy-makers to construct and assess the paths and strategies needed to achieve shared goals in a context of uncertainty. Undertaking a new exercise would finally provide the opportunity to use these foresight capacities not only to predict but also to alert policy-makers to possible disruptions, to promote comparison of visions and discussion, and finally, to jointly build and compare long-term strategies suitable for the diversity of Mediterranean countries.
 - v. Finally, a fifth and final reason should not be neglected: communication. Experience has shown that major foresight exercises, can be very useful tools for communication and funding, including for the general public and media – which is not always the case for more specialist work. Undertaking MED 2050 would put the MAP system back in the heart of public debate on the environment in the Mediterranean.
7. MED 2050 will provide valuable information on future developments based on science-based scenarios and on anticipating actions to promote sustainable development in the Mediterranean region for the coming decades. Its findings will feed the process of reviewing the implementation of the MSSD 2016-2025, as planned by Decision IG.22/2. As noted in Chapter 3 of the MSSD 2016-2025: *“Science is key to success: all action and policy development at the national or regional level must rely on a strong evidence bases. The analytical tools that will allow the forecasting, planning and assessment of sustainable development-related impacts and actions need to be developed with the scientific community, which itself needs to direct its research capacity in support of decision making”*.

III. Benchmark study: findings and identified gaps

8. To prepare the MED 2050 roadmap, a benchmark study was performed of work pertaining to the scope of action for the MAP and MSSD. Thirty-five studies/exercises performed over the last fifteen years at the scale of the Mediterranean basin, or of a significant part of the Mediterranean, were used and analysed (Annex 2). On-going and planned exercises were also identified.
9. The benchmark summary published in April 2017 is available on PB/RAC website and gives a precise, qualitative and quantitative overview of existing and on-going work. In particular, it demonstrates a certain number of gaps both in content and methods, in addition to the gaps mentioned above.
10. Firstly, gaps in the content of these exercises:
 - The time-frames are too short, very little work looks beyond 2030.

- Possible disruptions, improbable events, and the emergence of very new risks or opportunities have not been adequately explored. Recent Mediterranean foresight studies are mainly forecasts on trends or deviations from trends (macro scenarios).
- Little work is multi-scale covering both the sea and coastline on the one hand and the Mediterranean region on the other.
- Only one exercise, MED TRENDS (2015), led by WWF (with the support of PB/RAC) explicitly covers the Mediterranean ecosystem and maritime space (in the Western Mediterranean). The vast majority of the other studies focus on the relationships between economic development, demographics and governance.
- When taken into account, the environment is generally considered as a (downstream) effect of socio-economic changes. The reverse impacts of transformations of habitats and ecosystems on development, lifestyles, migrations, etc., are rarely considered. For example, this is true for the rare works that focus on climate change.
- Opportunities associated with transition towards a blue economy are not considered in foresight.
- Little work considers the Mediterranean in its diversity with a differentiation in issues, opportunities and trends. The majority of work considers the Mediterranean region as a whole, often only using the distinction between Northern and Southern countries. While case studies are offered for some countries, or sometimes certain territories, geography and cultural specifics are inadequately covered in the overall dynamic of scenarios.
- Finally, many of these exercises lead to recommendations that are insufficiently effective, due to the lack of true strategic analyses comparing the options for achieving the set goals. This is another consequence of the predominance of forecasting approaches: approaches using strategic foresight (or “back-casting”) are insufficiently used.

11. Secondly, gaps in terms of methodology:

Other than this imbalance in favour of forecasting, several other methodological gaps are highlighted in the benchmark study:

- The vast majority of the 35 exercises are the work of experts or researchers, performed in a relatively small circle, often for bodies that are specialist themselves;
- Direct stakeholder participation (States, territories, businesses, associations, etc.) in producing assumptions and scenarios is usually very limited;
- The political integration of these exercises in the reality of each country or region is also highly inadequate, in particular due to their overly general approach;
- With a few exceptions (e.g. the WWF study), communication is insufficiently developed, in particular for the general public, media and direct decision-makers.

12. MED 2050 will build on both the results and lessons learned from these past exercises.

IV. Key directions for MED 2050

13. The aforementioned benchmark report and all preparatory work performed by the Secretariat through its PB/RAC in 2016-2017 have helped draw up general directions for the future MED 2050 exercise.

14. The proposed MED 2050 roadmap has been presented and discussed by the Meeting of the Plan Bleu Focal Points (Nice, France, 25-26 April 2017) and the 17th Meeting of the MCSD (Athens, Greece, 4-6 July 2017), which supported its timely implementation. However, it is important to note that, since this is still an early stage of the initiative, further consultation is planned with Contracting Parties to the Barcelona Convention on the design of MED 2050.

15. MED 2050 will build on existing and on-going foresight studies and fill critical gaps identified in the benchmark study. Specific synergies have already been identified in the benchmark study, others will be organized as MED 2050 and on-going works develop.

16. It is suggested that this exercise will be quite different from that of 2005, which was mainly a quantitative exercise by experts, focusing on the environmental impacts of major socio-economic trends forecast in the mid-term (2025).

17. This difference should be expressed through seven general key directions:

- i. Firstly, an extension of the time-frame – the choice of 2050 – with an intermediate time-frame of 2030, corresponding to the horizon adopted for the SDGs;
- ii. Next, more balance between a quantitative and qualitative approach. The future exercise should combine intelligent use of existing statistics on trends – or statistics that will become available in the next report on the state of the environment and development in the Mediterranean – with more qualitative considerations to include recent major geopolitical changes, economic, technological, political and ecological uncertainties, possible disruptions, stakeholder visions, etc. This would not therefore involve building an overly complex, data-hungry, quantitative model – although, of course, this does not mean that statistics will be lacking.
- iii. Thirdly, consideration of climate change in a more systems-based perspective to include the consequences of this change on ecosystems and on the economy, agriculture, lifestyles, migrations, urbanisation, energy policies, etc.
- iv. Much greater priority will also be given to foresight regarding the sea, which was largely missing in the 2005 exercise. This will probably involve differentiating at first between scientific work on marine ecosystem transformations and more general foresight for the Mediterranean region, and then articulating both works. This also assumes that perspectives for the blue economy are better taken into account.
- v. Moving from an exercise by experts to open, participatory foresight, providing structure for true dialogue between all Mediterranean countries and involving the relevant stakeholders and civil society representatives. The aim of the future exercise should be to make comparison possible and then to consider contrasting visions of the future of the Mediterranean, prior to the joint construction of shared medium and long-term goals. For this, MED 2050 must better take into account the specifics, resources and experiences of the various countries around the Mediterranean than previous exercises.
- vi. Alongside openness to stakeholders and civil society, a more strategic focus is another essential condition for placing the foresight exercise within the reality of the challenges facing each country, underpinning the Barcelona Convention. The key question that the foresight exercise must answer is not what the future will be in 2050, but instead the question of transitions: how do we move from today's situations and crises to medium-term action plans and long-term goals or challenges? For this, priority must be given to the production and comparison of various options for transition, taking into account the specifics of the different Mediterranean sub-regions, and realistically identifying the resources, opportunities and obstacles, etc. Considered in this way, the future exercise should make a significant contribution to any new or reviewed strategy for sustainable development in the Mediterranean.
- vii. Finally, a seventh and final direction would be to invest much more in communication and transfer than in the past. The results of this work, even at intermediate stages, should be made much more accessible to various relevant audiences – from specialists to the general public – which means considering the communication strategy from the exercise design phase, and probably inventing a more interactive production process.

18. In conclusion, this means drawing up an ambitious project which best meets the expectations of various countries and stakeholders, and the crucial ecological challenges of the Mediterranean from now to 2050. The proposed roadmap has been sketched out for the next two biennia.

V. Activities and planning

19. In recent consultations, decision-makers and other stakeholders, including Focal Points, have highlighted the need for:

- further information and involvement of national focal points and local end-users in the activities/projects;
- more sharing of experience and best practices (e.g. through web platforms);
- further capitalisation, capacity building and training, integrated in the activities/projects.

20. The meeting of the Plan Bleu Focal Points recommended to adopt a participatory process for building a shared vision of the future based on national visions and exercises, to incorporate lessons learnt and input from existing exercises and reports and to mobilize additional external resources. The meeting of the MAP Focal Points (Athens, Greece, 12-15 September 2017) also insisted on synergies between MED 2050 and recent or concomitant MAP and non-MAP activities.

20. The proposed activities and planning for MED 2050 have been prepared with those objectives in mind. The proposed roadmap is organized around six key sets of activities, all of which scientists and MAP experts will be associated to. A summary graph of those components is presented in Annex 1. A tentative timeline is presented in Annex 2.

21. The proposed roadmap is tentatively planned over two biennia. However, activities are proposed for each biennium with specific outputs. Biennium 2018-2019 will focus on activity sets 1 and 2. An updated version of the roadmap will be presented at COP 21, based on further consultations and achievements during biennium 2018-2019.

1) Mobilizing existing resources and building a network on Mediterranean futures

- i. Capitalization. For all the reasons presented above, recent foresight studies in the Mediterranean region do not fulfil MED 2050's objectives, but they provide very valuable analyses to build on, including sectoral foresights. EuroMed 2030 for example presented integrated analyses on economic and socio-demographic trends. MedPro provided a series of thematic works on key drivers of future changes, some of which based on strong quantitative modelling. MedTrends accounted for issues affecting the marine environment. Sectoral works on agriculture, water, energy, forestry, transport, tourism also provide useful insight, even though some analyses are now outdated (see Annex 4). Relevant information and analyses can also be drawn from work on-going in the region, for example on climate change through MedECC (the scientific network *Mediterranean Experts on Climate and Environmental Change*), and on research and innovation for a blue economy (SWITCH MED programme, the Union for the Mediterranean (UfM), the Blue Med initiative, etc.). MED 2050 will thus capitalize on recent works – several of which PB/RAC participated in – and build partnerships with on-going and new initiatives, several of which components of the MAP participate in. The aforementioned benchmark is already a significant step in this capitalization process. In late 2017, a second workshop will draw further from the knowledge and views of experts and stakeholders from the Mediterranean region.
- ii. Consultation. The Secretariat through its PB/RAC will consult various Mediterranean stakeholders (MAP Focal Points, MCSD Members, MAP Partners and other stakeholders and experts), to identify national experiences, expectations (demand), and parties interested to participate in MED 2050 or support regional, sub-regional and national workshops.
- iii. Networking. Early on in the MED 2050 exercise, PB/RAC will help set up an informal network of decision-makers, prospectivists and scientists interested in environment and development futures in the Mediterranean. Membership will be open and could evolve as themes and interests develop. This network will be conceived as a dynamic science-policy

interface. It will facilitate the mobilization of existing resources, strengthen stakeholder dialogues on an on-going basis, and facilitate the appropriation of research findings in policy development. MAP institutional framework and existing partnerships will help set up the network. Institutions and experts involved in recent or on-going foresight studies in the Mediterranean will be invited to participate, as well as relevant scientific networks and institutions (including MedECC). MAP and Plan Bleu Focal Points will be invited to participate and/or identify national participants and country representatives. They will be kept informed of the network's activities. The various MAP components will be able to bring critical expertise and facilitate linkages with other MAP and non-MAP exercises.

Network participants will exchange key findings, analyses, viewpoints and questions, using in particular a web-platform and a newsletter developed by the Secretariat through its PB/RAC. That newsletter will not focus on scientific findings alone. It will leave space for questioning, sharing national, regional or international experiences, informing on on-going projects, debating futures options and scenarios, etc. Successive newsletter articles on the same theme will be clustered and synthesized to produce thematic booklets. Newsletters and thematic booklets will be reviewed by a scientific committee and made broadly available. Those intermediary outputs will contribute to the preparation of the final report, and support the communication strategy as they will aim at a broader audience than the final report.

- iv. Timing. Capitalization, consultation and networking will require particular attention at the beginning of MED 2050 implementation (2018). Those activities will then be continued over the two biennia 2018-2019 and 2020-2021, to take advantage of new developments and ensure continuous dialogues among interested parties. In particular, intermediary outputs will be presented to the various bodies of the MAP system, who will be consulted on a voluntary basis.

2) *Assessing trends, breakthroughs and scenarios in a new Mediterranean context*

A second set of activities will focus on forecasting trends on economic, social and environmental variables. Three sets of trends will be described, using quantitative and qualitative analyses. This activity will be undertaken in 2018-2019 in close relation with the preparation of the 2019 State of the Environment and Development Report.

- i. Geo-economic and socio-political trends. The 2019 State of the Environment and Development Report under preparation simultaneously will serve as a baseline reference for MED 2050. In addition, analyses already available for 2030 in recent foresight studies will be drawn upon to define tendential (business as usual) scenarios for 2050.
- ii. Environmental impacts of economic activities and socio-political evolutions in the Mediterranean. This analysis will include a focus on the Mediterranean Sea and marine ecosystems. It will be implemented in relation with other MAP components, in particular MED POL, REMPEC, and SPA/RAC.
- iii. Climate change in the Mediterranean. This section will build on the works undertaken by MedECC, which is preparing a regional report about current and future impacts of climate and environmental changes in the Mediterranean. This report is under preparation with support from the Secretariat through its PB/RAC.
- iv. Environmental and climate changes: risks and opportunities. This section will analyse retroactions of environmental changes on economic and social variables. New constraints and adaptation needs will be highlighted, as well as innovation opportunities and blue economy potentials. This section will build on recent and on-going work on a blue economy, and innovation in the Mediterranean, including work carried out or supported by the MAP system (SCP/RAC, PAP/RAC, PB/RAC...), the UfM, the European Union (e.g. Blue Med initiative), etc.

3) *Zooming on under-documented priorities, with a focus on sea and marine ecosystems*

- i. Sea and marine ecosystems. Sea and marine ecosystems will get specific attention under MED 2050.
- ii. Other priorities and emerging issues identified in consultation with Contracting Parties and network participants.

The Secretariat through its PB/RAC will look for partnerships and co-funding to undertake in-depth analyses on under-documented priorities. Blue Med - a coordination and support action project funded by the European Commission on blue economy and innovation in the Mediterranean - has for example listed “*Understanding and Forecasting the Mediterranean Sea dynamics*” as one of the 24 goals of its Strategic Research and Innovation Agenda (2017), and partnerships are envisaged since the MAP is member of the Blue Med Advisory Board.

4) *Comparing and sharing contrasted visions across the Mediterranean*

MAP Phase II, adopted by the Conference of Plenipotentiaries on the Convention for the Protection of the Mediterranean Sea against Pollution and its Protocols (Barcelona, 9-10 June 1995), as Annex I of the Barcelona Resolution on the Environment and Sustainable Development in the Mediterranean Basin, noted that “*Public information and public participation are a dimension essential to the policy of sustainable development and environmental protection*”.

At its 17th Meeting held on 4-6 July 2017 in Athens, Greece, the MCSDD also requested to pay more attention to participatory approaches towards large stakeholder consultations, notably by electronic means (web platforms), in addition of involvement of national governments (UNEP(DEPI)/MED WG.441/9).

Contrary to most analyses identified in the benchmark study, MED 2050 will not rely on expert work alone. Contracting Parties and stakeholders will be consulted on their visions for the future of the Mediterranean (on a voluntary basis), with the objective to share potentially contrasted visions across Mediterranean sub-regions. This approach will be coherent with the principle of participation enunciated above.

This activity will at minima rely on questionnaires prepared, disseminated and analysed using recognized foresight methods. In addition, the Secretariat and PB/RAC will look for partnerships to fund and organize national or regional workshops. Contracting Parties may be interested to host and organize such workshops. Donors will also be approached. Depending on funding, interests and collaborations, regional or national workshops could be associated with an in-country capacity building and technical assistance component. A regional workshop will help consolidate visions at a 2030-2050 horizon, and agree on scenarios compatible with shared visions of desirable or acceptable futures.

5) *Co-constructing transition paths and strategies for the short, medium and long-terms*

MED 2050 will not stop at identifying scenarios. Agreeing on desirable or acceptable futures at a 2050 horizon will allow identifying alternative transition strategies in the mid-term (2030 horizon) and performing comparative assessment of their plausibility, as well as pointing out critical short-term investments. When analysing transition paths and critical investment strategies, MED 2050 will consider sub-regional heterogeneities in the Mediterranean region. In this regard, MED 2050 will directly feed in future strategies and planning, including the mid-term review of the MSSD 2016-2025, as well as national and sectoral plans. It will help identify key obstacles, figure out responses when still feasible, anticipate emergencies and prevent major reparation costs.

6) *Disseminating the results and transferring to action. Capacity building and technical assistance*

MED 2050 will contribute to the visibility and outreach of the MAP system. Through the network above mentioned, MED 2050 will play an active role in capitalising and

disseminating its own findings as well as the findings of other relevant foresight studies. Newsletters and synthetic booklets will provide communication supports to reach a broad audience, from policymakers to private sector, including the general public. They will start being produced early on (2018) and facilitate the involvement of stakeholders in the network on environment and development futures in the Mediterranean. In addition, the Secretariat through its PB/RAC will research funding in collaboration with interested parties to provide in-country technical assistance in response to national demands, present MED 2050 findings locally and help integrate them in sub-regional and national foresights, strategies and planning.

VI. Synergies with other MAP and non-MAP activities. Resource mobilization

22. Synergies with recent, on-going and planned work will ensure MED 2050's efficient use of resources:

- In 2018, PB/RAC will organize an informal network of decision-makers, prospectivists and scientists interested in environment and development futures in the Mediterranean. This network will facilitate capitalizing on existing resources. It will play an important role in the implementation and efficiency of MED 2050.
- MED2050 will benefit from existing exercises and scientific networks, such as MedECC on climate and environmental changes.
- In 2018-2019, MED 2050 will extrapolate current statistics to reveal trends in close coordination with the concomitant preparation of 2019 State of the Environment and Development Report. Statistics and qualitative analyses in the 2019 State of the Environment and Development Report will be used to establish a baseline and past trends for MED 2050.
- In return, MED 2050 and the 2019 State of the Environment and Development Report will feed in the revised Quality Status Report to be prepared for COP 22 (2021), with the same timing as MED 2050. The 2019 State of the Environment and Development Report will also help populate indicators for the MSSD Dashboard of Sustainability, the sustainable consumption and production (SCP) indicators, SEIS II Assessment and Indicators, the Blue Economy dashboard, GES indicators, EcAp and IMAP. Synergies between activities are further described in Annex 3.
- At the same time, MED 2050 will provide valuable inputs to the development of future strategic and planning documents of the MAP-Barcelona Convention system, *in primis* the 2022-2027 Mid-Term Strategy to be also approved at COP 22 in 2021.

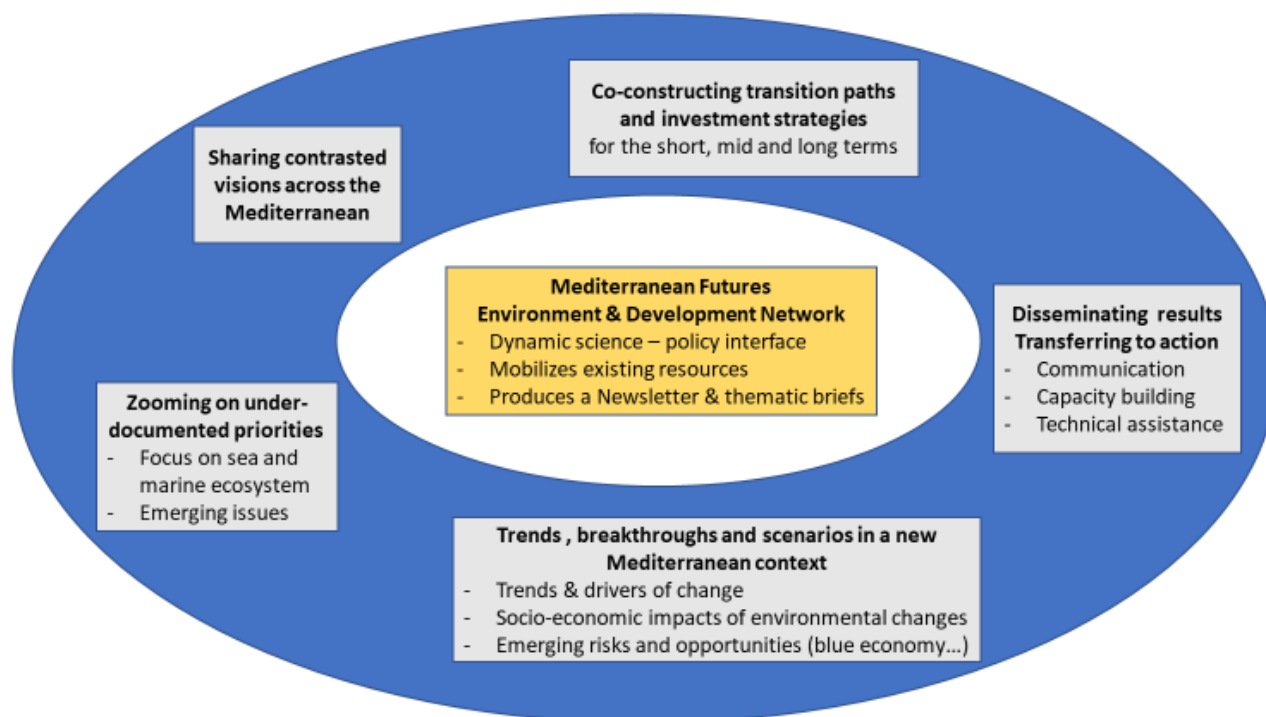
23. In addition, tentatively planning MED 2050 over two biennia allows for a first phase (2018) concentrating on mobilising resources, by looking for and setting up technical, institutional and financial partnerships. A core set of activities – sufficient to produce a MED 2050 report by COP 22 – will only rely on technical partnerships, MTF funding and limited co-funding. The corresponding activity budget has been estimated at 200,000 Euros over two biennia. Additional or more ambitious activities would require mobilising additional co-funding or partnerships. MED 2050's organisation in modules and sets of activities will help research funding associated with explicit activities and outputs. For example, development or investment banks (World Bank, European Investment Bank, African Development Bank, etc.) may be interested in obtaining references to shape future investment strategies by funding activities focussing on transition paths and critical investments on various parts of the basin. Mediterranean countries could be willing to organize and support sub-regional or national workshops. Bilateral or international donors will also be approached in collaboration with interested parties to support workshops, capacity building and technical assistance in Southern and Eastern Mediterranean countries, or in-depth analyses on ecosystems and issues emerging as underserved priorities from the consultation (European Union, French Agency for Development, etc.). MTF funding and endorsement by the Contracting Parties to the Barcelona Convention will allow setting up such co-funding and partnerships, while ensuring that MED 2050 outputs will feed in the MAP Mid-Term Strategy 2016-2021 objective to deliver knowledge-based assessments of the Mediterranean environment and scenario development for informed decision-making and stakeholder work.

VII. Conclusion and expected Outputs

24. MED 2050 will produce diverse outputs, in accordance with the objective to reach a broad and diverse public. INFO/RAC will provide advice on the dissemination strategy. Newsletters will be produced on a regular basis by the network on environment and development futures in the Mediterranean, starting in 2018. Thematic booklets will build on the network's products, starting early 2019. Both types of products will be used to communicate to a broad audience while keeping focal points informed of MED 2050 developments. Chapters of the final report will be delivered progressively, with a chapter on trends in 2019, a chapter on visions in 2020, and a chapter on transition paths and critical investments late 2020 or early 2021. The final report will be discussed with instances in the MAP system in 2021 in view of being presented at COP 22 of the Barcelona Convention in 2021. Tentative planning is further developed in Annex 2.

25. Given the geopolitical situation and increasing environmental concerns in the Mediterranean region, the next two decades will indeed be decisive to resolve environmental issues, seize emerging opportunities and set the path to a peaceful, prosperous and sustainable Mediterranean region, in which societies enjoy a high quality of life within healthy marine and coastal ecosystems. MED 2050, as a strategic participatory foresight exercise will bring a necessary light on those critical steps.

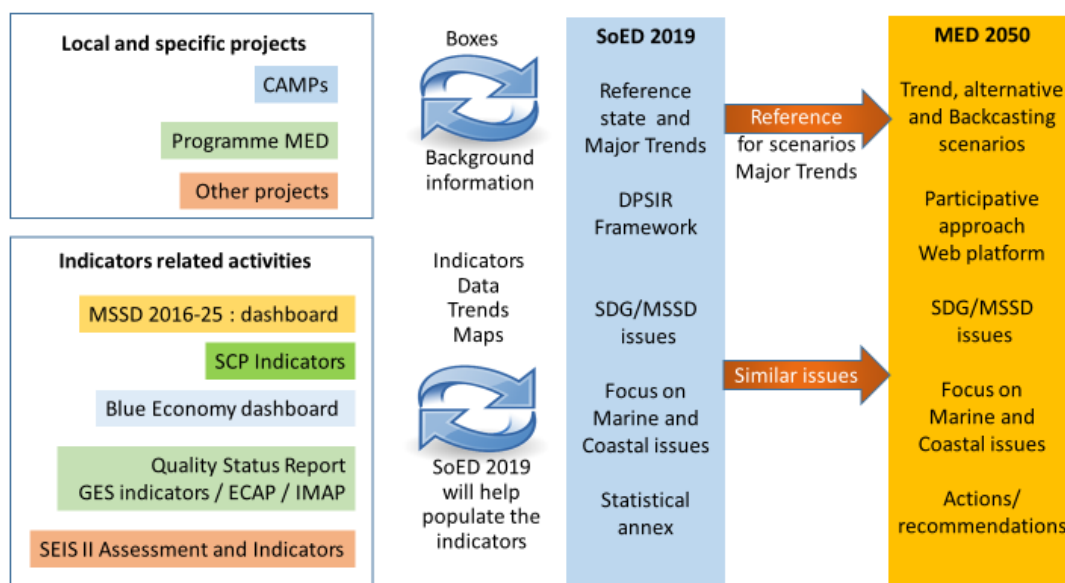
Annex 1: Proposed components for the MED 2050 exercise



Annex 2: Tentative timeline for the MED 2050 exercise

Foresight exercise Med2050 - TENTATIVE TIMELINE											
Timing			Consultation & transfer - MAP system	Dialogue Workshop or Webinars		Synergy building Resource mobilization	Networking	Publication Commu- nication		Dissemination Technical assistance	
Actual	2016	T3				Benchmark Mapping of existing programs & outputs	Identification of key actors				
		T4		Foresight workshop 1					Workshop Report		
	2017	T1									
		T2	Plan Bleu focal points								
		T3	MCSD						Benchmark		
		T4	COP 20	Foresight workshop 2					Workshop Report		
	Potential	2018	T1						Resource mobilization Technical, institutional & financial partnerships	Setting up the network	
T2			Consultation -								
T3			Invitation to participate	Work. or Web. 3 Network building							
T4											
2019		T1					Newsletters ; thematic booklets	Chap. Trends	Dissemination through the MAP network, institutional partners, general public media...	Capacity building; technical assistance (if funded)	
		T2	Plan Bleu focal points	Work. or Web. 4 Trends & retroactions							
		T3	MCSD								
		T4	COP 21								
2020		T1		Work. or Web. 5 - Sea and marine ecosystems	Thematic & subregional or national workshops (if funded)		Network coordination	Report chapters			
		T2	Consultation on futures scenarios								
		T3									
		T4		Work. or Web. 6 Towards a shared vision							
2021		T1									
		T2	Plan Bleu focal points								
		T3	MCSD	Work. or Web. 7 Final report			Final report				
		T4	COP 22								

Annex 3: Synergies with other MAP initiatives and activities



Annex 4: References of the benchmark study described in Section III

	Fore-casting	Back-casting	Horizon	Geographical differentiation	Decision-makers involved	Sea & Marine ecosystems	Climate change
Economy, Society, International Relations							
Labor and migration in the EuroMed region: issues and perspectives - Université d'Orléans (2007)		X	literature				
Migrants et migrations dans le bassin Méditerranéen - IPEMED (2009)	X		2020	limited	no	no	no
Géopolitique du bassin méditerranéen - CIHEAM (2010)	X		2030	no			
EuroMed 2030 (2011)	X		2030	limited	no	no	X
Demain la Méditerranée - IPEMED (2011)	X	X	2030	X	limited	no	X
Macroeconomic Scenarios for the Euro-Mediterranean Area - European Commission (EC) (2013)	X		2030	X	no	no	X
Scenarios Assessment and Transitions towards a Sustainable Euro-Mediterranean in 2030 - EC (2013)		X	2030	X	no	no	X
Population scenarios and policy implications for Southern Mediterranean countries - EC (2013)	X		2050	X	no	no	X
Sustainable Development							
Les perspectives du Plan Bleu en Méditerranée - Plan Bleu (2005)	X		2025	X	limited	X	X
Méditerranée 2030, 4 scénarios pour les territoires méditerranéens - Institut de la Méditerranée (2010)	X		2030	X	limited	very limited	limited
What scenarios for the Euro-Mediterranean in 2030 in the wake of the Arab Spring - EC (2011)	X		2030	limited	limited	no	X
Possible European Territorial Futures: expert consultation on key foresight topics - EC (2016)	X		opinions	no	no	no	X
Environment							
Demain la Méditerranée : scénarios et projections à 2030 - IPEMED (2009)	X		2030	X	X	no	X
SESAME (Southern European Seas: Assessing and Modelling Ecosystem Changes) - HCMR (2011)				X	no	X	X
La pollution de la Méditerranée: état et perspectives à l'horizon 2030 - French Senate (2011)	X		2030	limited	limited	X	X
MedTrends - WWF (2015)	X		2030	X	no	X	X
BlueMed: Understanding and Forecasting the Mediterranean Sea dynamics				Strategic research and innovation goal			
Climate change							
Région méditerranéenne & changement climatique une nécessaire anticipation - IPEMED (2008)	X	X	2100	limited	limited	very limited	X
The Climate of the Mediterranean Region: From the Past to the Future - University of Salento (2012)	X		articles	X	no	X	X
Adaptation to Climate Change in the Southern Mediterranean - EC (2013)	X		2030	X	no	limited	X
Mediterranean Experts on Climate and Environmental Changes First Report & 3 thematic reports	X		in project				

Food & Agriculture							
Panorama stratégique et prospectif de la situation agricole et agroalimentaire en Méditerranée - CIHEAM (2006)	X		articles	limited	no	no	limited
Comportements et sécurité alimentaire en Méditerranée Etat des lieux et prospective - CIHEAM (2009)	X		2050	limited	no	no	no
Mediterra 2008 : Les futurs agricoles et alimentaires en Méditerranée - CIHEAM (2009)	X		2020				
Agrimonde: agricultures et alimentations du monde en 2050 - INRA CIRAD (2009; 2011)	X	X	2050	limited	limited	no	no
Le système agricole et alimentaire de la région Afrique du nord – Moyen-Orient à l’horizon 2050 : Projections de tendance et analyse de sensibilité - INRA (2015)	X		2050	X	no	no	X
Prospective Agrimonde-Terra : usage des terres et sécurité alimentaire mondiale en 2050 - INRA CIRAD (2016)	X	X	2050	limited	no	no	X
Forest							
Rapport sous-régional Afrique du nord. Etude prospective du secteur forestier en Afrique - ADB EC FAO (2003)	X		2023	limited	limited	no	no
Water							
Visions méditerranéenne sur l'eau, la population et l'environnement au XXIème Siècle - Plan Bleu (1999)	X		2010-25	X	no	limited	limited
L'eau et les milieux aquatiques: enjeux de société et défis pour la recherche - INRA CEMAGREF (2003)	X		2020-25	X	limited	limited	no
Managing Water Scarcity in north Africa ; Trends and future prospects - Futures Studies Forum for Africa and the Middle East (2015)	X	X	literature	limited	no	no	X
Energy							
Changement climatique et énergie en Méditerranée - Plan Bleu (2008)		X	2025	X	limited	X	X
Le secteur énergétique dans le bassin méditerranéen : situation et perspective - Plan Bleu (2009)	X		2025	limited	no	no	X
Mediterranean Energy Perspectives 2015 - OME (2015)	X		2040	limited	no	no	X
Mediterranean Energy Transition: 2040 Scenario - ADEME OME MedENER (2016)		X	2040	limited	no	no	X
Transport							
Les transports maritimes de marchandises en méditerranée: perspectives 2025 - Plan Bleu (2010)	X	X	2025	limited	no	X	limited
Tourisme							
Le tourisme littoral en Méditerranée. Tendances et perspectives face au changement climatique - IDDRI (2009)		X	literature	limited	no	X	X