



MEDITERRANEAN ACTION PLAN (MAP) REGIONAL MARINE POLLUTION EMERGENCY RESPONSE CENTRE FOR THE MEDITERRANEAN SEA (REMPEC)

Thirteenth Meeting of the Focal Points of the Regional
Marine Pollution Emergency Response Centre
for the Mediterranean Sea (REMPEC)

REMPEC/WG.45/11
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Agenda Item 11

EXAMINING THE POSSIBILITY OF DESIGNATING THE MEDITERRANEAN SEA, OR PARTS THEREOF, AS SO_x ECA(S) UNDER MARPOL ANNEX VI

Note by the Secretariat

SUMMARY

Executive Summary: This document provides information with regard to examining the possibility of designating the Mediterranean Sea, or parts thereof, as SO_x ECA(s) under MARPOL Annex VI, pursuant to Specific Objective 15 of the Regional Strategy (2016-2021).

Action to be taken: Paragraph 42

Related documents: UNEP(DEPI)/MED IG.22/28, UNEP(DEPI)/MED IG.23/23, MEPC 70/5/3, MEPC 70/INF.6, REMPEC/WG.44/8/Rev.1, REMPEC/WG.44/INF.3/Rev.1, REMPEC/WG.44/INF.4/Rev.1, REMPEC/WG.45/INF.9, REMPEC/WG.45/INF.10, REMPEC/WG.45/INF.11, REMPEC/WG.45/INF.12, REMPEC/WG.45/INF.15

Background

1 The Regional Strategy for Prevention of and Response to Marine Pollution from Ships (2016-2021)¹, hereinafter referred to as the Regional Strategy (2016-2021), which was adopted by the Nineteenth Ordinary Meeting of the Contracting Parties to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean ("the Barcelona Convention") and its Protocols (Athens, Greece, 9-12 February 2016), addresses the issue of the prevention of air pollution from ships in Specific Objectives 1 and 15.

2 The Twentieth Ordinary Meeting of the Contracting Parties to the Barcelona Convention and its Protocols (Tirana, Albania, 17-20 December 2017) agreed to include the following activity in the Programme of Work and Budget for 2018-2019² of the Mediterranean Action Plan (MAP) of the United Nations Environment Programme (UNEP), also referred to as UNEP/MAP:

- Examine the possibility of designating the Mediterranean Sea, or parts thereof, as sulphur oxides (SO_x) Emission Control Area(s) (ECA(s)) under Annex VI to the International Convention for the Prevention of Pollution from Ships (MARPOL) and effectively implement the existing energy efficiency measures.

¹ UNEP(DEPI)/MED IG.22/28, Decision IG.22/4.

² UNEP(DEPI)/MED IG.23/23, Decision IG.23/14.

3 The expected deliverables read, as follows: road map put in place for the preparation of a submission to the International Maritime Organization (IMO) to designate as a SO_x ECA in certain areas of the Mediterranean Sea requiring specific environmental protection as well as possible further steps explored.

4 In this context and, pursuant to Specific Objective 15 of the Regional Strategy (2016-2021), the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC) hired Energy and Environmental Research Associates, LLC. (EERA), hereinafter referred to as the Consultant, to provide consultancy services for the preparation of a technical and feasibility study to examine the possibility of designating the Mediterranean Sea, or parts thereof, as SO_x ECA(s) under MARPOL Annex VI, hereinafter referred to as the Technical and Feasibility Study.

5 The main objective of the Technical and Feasibility Study, which was financed by the Mediterranean Trust Fund (MTF) as well as the IMO's Integrated Technical Cooperation Programme (ITCP) and a voluntary contribution from the Government of Italy, was to examine if it is appropriate, at the current stage, to put in place a road map for preparation of a submission to the IMO to designate as a SO_x ECA in certain areas of the Mediterranean Sea requiring specific environmental protection and to explore possible further steps. In doing so, the Technical and Feasibility Study would also enable REMPEC to assist the Mediterranean coastal States, which so request, either individually or collectively, to prepare a submission to the IMO proposing the designation as a SO_x ECA of the area or areas of the Mediterranean Sea identified.

SO_x ECA(s) Technical Committee of Experts

6 Through REMPEC Circular Letters No. 08/2016 and 09/2016, dated 15 March 2016 and 15 April 2016, respectively, the Centre invited all REMPEC Governmental Focal Points to nominate jointly and, in consultation with REMPEC Prevention Focal Points, their representatives serving on the SO_x ECA(s) Technical Committee of Experts established pursuant to Specific Objective 15 of the Regional Strategy (2016-2021). To date, REMPEC has received nominations from twenty (20) out of the twenty-two (22) Contracting Parties to the Barcelona Convention.

7 Specific Objective 15 of the Regional Strategy (2016-2021) tasks the SO_x ECA(s) Technical Committee of Experts to carry out the Technical and Feasibility Study. With a view to facilitating the implementation of this activity, the SO_x ECA(s) Technical Committee of Experts was expected, through correspondence coordinated by the Secretariat (REMPEC), to:

- .1 **Phase 1a:** review the draft Terms of Reference (ToRs) for the provision of consultancy services for the preparation of the Technical and Feasibility Study, as prepared by the Secretariat;
- .2 **Phase 1b:** review a draft generic questionnaire in support of the Technical and Feasibility Study, as prepared by the Secretariat;
- .3 **Phase 2:** review the draft Technical and Feasibility Study, as prepared by the Secretariat; and
- .4 **Phase 3:** review the revised draft Technical and Feasibility Study together with draft recommendations, including a draft road map as well as an initial draft submission to the IMO, as prepared by the Secretariat.

8 Phase 1a, which enabled the SO_x ECA(s) Technical Committee of Experts to review and agree upon the ToRs, as set out in document REMPEC/WG.44/INF.3/Rev.1, was launched on 9 December 2017 and was completed on 1 February 2018.

9 Following the launch of a Call for Formal Tenders for the provision of consultancy services for the preparation of the Technical and Feasibility Study on 29 March 2018, through the IMO Procurement platform, the Consultant was recruited by REMPEC on 7 June 2018.

10 A kick-off meeting was held with the Consultant through video-conference on 13 June 2018 to discuss the contents of the reference documents to be analysed, the scope of the assignment, as well as to collect all required information for the completion of this consultancy and to agree on the method of work and communication channel.

11 Phase 1b was aimed at defining the geopolitical stands of the Contracting Parties to the Barcelona Convention on the ratification and implementation of MARPOL Annex VI as well as on the possibility of designating the Mediterranean Sea, or parts thereof, as SO_x ECA(s) under MARPOL Annex VI. In this regard, the Secretariat submitted a draft generic questionnaire to the SO_x ECA(s) Technical Committee of Experts, for its review, on 16 April 2016. However, one (1) representative serving on the SO_x ECA(s) Technical Committee of Experts considered that there was no added value for the questionnaire, as drafted, for consideration prior to carrying out the Technical and Feasibility Study. Therefore, the Secretariat decided to put the questionnaire on hold until further notice.

12 During Phase 2, the draft Technical and Feasibility Study prepared by the Secretariat, which was presented in Appendix II to document REMPEC/WG.44/8/Rev.1, was submitted to the SO_x ECA(s) Technical Committee of Experts on 1 October 2018 for review and comments by 5 November 2018. The Secretariat reminded the SO_x ECA(s) Technical Committee of Experts to have due regard for the ToRs, especially paragraph 9.3 (Assignment) thereof, when reviewing and providing general as well as specific comments. The deadline for comments was extended to 15 November 2018 with a view to allowing more time for the SO_x ECA(s) Technical Committee of Experts to review and provide comments accordingly. As of 7 December 2018, six (6) sets of comments were received through the SO_x ECA(s) Technical Committee of Experts, which were presented as appendices to document REMPEC/WG.44/INF.4/Rev.1.

13 Subsequently, REMPEC organised the Regional Workshop on Ratification and Effective Implementation of MARPOL Annex VI (Valletta, Malta, 11-13 December 2018), hereinafter referred to as the Regional Workshop on MARPOL Annex VI, pursuant to the UNEP/MAP Programme of Work and Budget for 2018-2019. It was financed by the IMO's ITCP as well as the MTF and a voluntary contribution from the Government of France.

14 As indicated in the report of the Regional Workshop on MARPOL Annex VI set out in the Appendix to document REMPEC/WG.45/INF.15, the principal objectives of the said meeting were:

- .1 to raise awareness on MARPOL Annex VI as well as to provide for a greater understanding and appreciation of the requirements for implementation and enforcement of the said annex, in order to be able to lead Governments' efforts towards ratification and more effective implementation, compliance and enforcement, both as a flag State and as a port State, over the first two days of the said meeting; and
- .2 to discuss the draft Technical and Feasibility Study, for its consideration, over the last day of the said meeting.

15 Participants from sixteen (16) Mediterranean coastal States (including six which have not yet ratified MARPOL Annex VI), the European Union (EU), IMO, HELCOM (Baltic Marine Environment Protection Commission - Helsinki Commission) and a local NGO identified the main obstacles to ratification and effective implementation, explored possibilities for (sub)regional application and enforcement of the provisions of MARPOL Annex VI in the Mediterranean as well as discussed the draft Technical and Feasibility Study.

16 Two other independent studies, respectively commissioned by the European Commission and France, namely the study entitled "The potential for cost-effective air emission reductions from international shipping through designation of further Emission Control Areas in EU waters with focus on the Mediterranean Sea" and the "Technical Feasibility Study for the implementation of an emission control area (ECA) in the Mediterranean Sea", were also presented during the said meeting and disseminated to the SO_x ECA(s) Technical Committee of Experts.

17 During Phase 3, the revised draft Technical and Feasibility Study together with draft recommendations, including a draft road map as well as an initial draft submission to the IMO, as prepared by the Secretariat, taking into consideration the comments made by the Contracting Parties to the Barcelona Convention, through the SO_x ECA(s) Technical Committee of Experts as well as during the Regional Workshop on MARPOL Annex VI, were submitted to the said committee on 16 April 2019 for review and comments by 29 April 2019. The Secretariat highlighted that the SO_x ECA(s) Technical Committee of Experts should solely focus on technical issues (the more political ones, if any, would be dealt with by the present meeting). As of 29 April 2019, one (1) set of comments was received through the SO_x ECA(s) Technical Committee of Experts.

Next steps

18 In this context, the Secretariat prepared the Technical and Feasibility Study, as presented in the Appendix to document REMPEC/WG.45/INF.9, taking into consideration the comments made by the Contracting Parties to the Barcelona Convention, through the SO_x ECA(s) Technical Committee of Experts.

19 On the basis of the outcome of the Technical and Feasibility Study, and following the consultations carried out with the SO_x ECA(s) Technical Committee of Experts, the Secretariat puts forward the following recommendations to the present meeting, for its review and consideration³:

- **To examine the possibility of designating the Mediterranean Sea area, [or parts thereof,] as an ECA for both sulphur oxides (SO_x) and particulate matter (PM) under MARPOL Annex VI**

20 SO_x is a precursor to fine Particulate Matter (PM) formation. Fuel-sulphur oxidises to form aerosols (small particles) that contribute substantially to PM_{2.5}. PM_{2.5} is formed as a by-product of combustion of fuels in marine engines and PM_{2.5} emissions reductions are achieved by reducing SO_x in combustion exhaust. When the sulphur content of fuels is reduced, the PM_{2.5} emissions are also reduced.

21 Lower-sulphur fuels required under an ECA result in lower emissions compared with global MARPOL Annex VI 2020 limits. SO_x reductions are directly proportion to the shift from 0.5% Sulphur (S) to 0.1% S fuel. PM reductions depend primarily on the fraction of ship-emitted PM that results from fuel-sulphur content.

22 Moreover, SO_x and PM are so closely associated that they come as a package in the context of MARPOL Annex VI. Regulation 14 thereof refers to SO_x and PM. Appendix III to MARPOL Annex VI (Criteria and procedures for designation of emission control areas) refers to three (3) types of emission(s) for control:

- .1 NO_x;
- .2 SO_x and PM; or
- .3 all three types of emissions.

23 In this context, the Secretariat proposes to examine the possibility of designating the Mediterranean Sea area, [or parts thereof,] as an ECA for SO_x and PM (rather than only SO_x) under MARPOL Annex VI.

- **To examine the possibility of designating the Mediterranean Sea area, instead of only parts thereof, as an ECA for SO_x [and PM] under MARPOL Annex VI**

24 Meteorological conditions in the Mediterranean Sea area transport a significant portion of emissions from ships at-sea and the resulting pollutants formed in the atmosphere to land. The emissions from ships of SO_x and their derivatives (including PM) can have lifetimes of about five to ten days before they are removed from the atmosphere (e.g., by deposition or chemical transformation). During the time from being emitted into and removed from the air, pollutants can be transported hundreds of nautical miles over water and can be transported hundreds of kilometres inland by the winds commonly observed in the Mediterranean Sea area. Because meteorology can vary from day-to-day and because some wind patterns are more common than others, the impact of air pollution from ships at-sea is larger on some areas than on others. The analysis conducted for the Technical and Feasibility Study indicates that winds frequently blow onshore in all areas of the Mediterranean Sea. Furthermore, SO_x and PM emitted from ships remain airborne long enough to be transported long distances and do not stop at national boundaries, adversely affecting large portions of the Mediterranean coastal States.

³ in particular, specific brackets or text in brackets may be removed, where appropriate, as may be agreed by the present meeting.

25 Moreover, when examining the possibility of designating the Mediterranean Sea area, [or parts thereof,] as an ECA for SO_x [and PM] under MARPOL Annex VI, hereinafter referred to as the proposed Med ECA, the Regional Workshop on MARPOL Annex VI noted the methodology and preliminary results of the Technical and Feasibility Study as well as the two other independent studies commissioned by the European Commission and France, as set out in documents REMPEC/WG.45/INF.11 and REMPEC/WG.45/INF.12, respectively, and discussed that:

- .1 all three studies suggested comparable scenarios for the proposed Med ECA;
- .2 costs to operate vessels in the proposed Med ECA were similar among the three studies;
- .3 the health benefits of the proposed Med ECA among the three studies were consistent with the in-study design and inputs; and
- .4 the choices of health modelling and benefits valuation were consistent in finding that benefits provided by the proposed Med ECA are greater than the costs to meet the related requirements.

26 Furthermore, the Regional Workshop on MARPOL Annex VI recognised the benefits of designating the whole of the Mediterranean Sea as a SO_x ECA and acknowledged that designating only parts of the Mediterranean Sea would compromise the achievement of the projected health and environment benefits and would have potential implications, *inter alia* on competitiveness. Most ships contributing to estimated damages – and expected benefits – operate across potential domains of partial ECA schemes; therefore, potential fuel cost savings may be offset by the costs arising from the complexity of operation on multiple fuels in a patchwork resulting from partial ECA.

27 In this context, the Secretariat proposes to examine the possibility of designating the Mediterranean Sea area, instead of only parts thereof, as an ECA for SO_x [and PM] under MARPOL Annex VI.

- **To complete knowledge gathering necessary to examine the possibility of designating the Mediterranean Sea area, [or parts thereof,] as an ECA for SO_x [and PM] under MARPOL Annex VI**

28 The initial draft submission to the IMO entitled “Proposal to Designate the Mediterranean Sea area, [or parts thereof,] as an Emission Control Area for Sulphur Oxides [and Particulate Matter]”, prepared by the Secretariat, as set out in document REMPEC/WG.45/INF.10, identified specific sections with placeholders for which additional information may be required to complete the said document, as follows:

- .1 synopsis of the assessment (Annex I, Section 3.1);
- .2 quantification of the impacts associated with deposition of PM_{2.5} and air toxics (Annex I, Section 5.3);
- .3 additional detail of land-based emissions controls of SO_x and PM in the Mediterranean coastal States (Annex I, Sections 8.1 and 8.2); and
- .4 additional elements on the economic impacts on shipping engaged in international trade (Annex I, Section 9.6).

29 The Secretariat considers that not all of the above-mentioned information necessarily requires new analysis, and these sections may actually be completed following the necessary compilation of existing data, studies, including the independent studies, respectively commissioned by the European Commission and France, as well as policy documents.

30 In this context, the Secretariat proposes to complete the above-mentioned knowledge gathering necessary to examine the possibility of designating the Mediterranean Sea area, [or parts thereof,] as an ECA for SO_x [and PM] under MARPOL Annex VI, during the implementation of the road map (see paragraph 41 below).

- **To carry out further studies to more fully address the criteria and procedures for designation of emission control areas laid down in Appendix III to MARPOL Annex VI when examining the possibility of designating the Mediterranean Sea area, [or parts thereof,] as an ECA for SO_x [and PM] under MARPOL Annex VI**

31 To formulate a comprehensive and tenable proposal for the designation of the proposed Med ECA, if any, it is necessary to abide by the criteria and procedures for designation of emission control areas laid down in Appendix III to MARPOL Annex VI.

32 The Technical and Feasibility Study has provided solid supporting evidence and analyses to illustrate the fulfilment of most of the criteria for designation of emission control areas laid down in Appendix III to MARPOL Annex VI, addressing them in a manner similar to previously successful ECA designation proposals.

33 However, some questions and concerns regarding certain criteria for designation of emission control areas laid down in Appendix III to MARPOL Annex VI remain either unanswered or obscure at the current stage and require further research, study, analyses and evaluation.

34 To more fully address the criteria and procedures for designation of emission control areas laid down in Appendix III to MARPOL Annex VI as well as to ensure the successful designation of the proposed Med ECA, if any, and the effective implementation of the related requirements, there is a practical need to identify further studies required, as detailed in paragraphs 35 to 37.

35 On the basis of the outcome of the work of the SO_x ECA(s) Technical Committee of Experts, the Secretariat considers that the following further studies, in terms of additional human health benefits analyses, are useful but not essential, given that each of these analyses is likely to demonstrate increased net human health benefits related to the designation of the proposed Med ECA:

- .1 expanded health analyses to evaluate "all causes" of disease;
- .2 expanded health analyses to include different age cohorts in the asthma morbidity analysis; and
- .3 expanded health analyses to specifically model communities within the modelling resolution of the Technical and Feasibility Study, such as Monaco as well as Bosnia and Herzegovina.

36 However, on the basis of the outcome of the work of the SO_x ECA(s) Technical Committee of Experts, the Secretariat considers that the following further studies, in terms of additional environmental benefits analyses, are necessary to demonstrate increased net environmental benefits related to the designation of the proposed Med ECA:

- .1 ocean chemistry analyses to quantify possible changes in Mediterranean Sea pH levels;
- .2 analyses of the impacts of the deposition of sulphates and PM on terrestrial ecosystems, aquatic biodiversity and areas of cultural significance; and
- .3 analyses of the environmental consequences of adopting scrubbers.

37 Furthermore, on the basis of the outcome of the work of the SO_x ECA(s) Technical Committee of Experts, the Secretariat considers that the following further studies are necessary to update estimated costs related to the designation of the proposed Med ECA:

- .1 additional economic impact evaluation:
 - analyses of the impacts on shipping engaged in international trade, short sea shipping activity, social and economic development for insular and remote areas, trade modal shift outside the Mediterranean as well as Mediterranean ports eligibility (if not sustainability); and
 - quantification of the economic impacts of changes in visibility relating to Mediterranean coastal communities, Mediterranean waters, and tourism.

- .2 additional fuel supply and technology analyses (regional fuel production, fuel availability, and alternative compliance technologies):
- more detailed or additional analyses for 0.1% S fuel used or sold in the Mediterranean region (fuels pricing and fuel supply chain economic analysis);
 - availability study of alternative fuels, including liquefied natural gas (LNG), and associated infrastructure (existing, in construction or planned) in the Mediterranean region;
 - further analyses of the macroeconomic effects arising from the use of 0.1% S fuel or alternative fuels in the Mediterranean region;
 - detailed analysis of the macroeconomic factors affecting the adoption of scrubbers; and
 - analysis of the costs of sulphur repurposing or disposal (macroeconomic impacts on fuel prices).

38 In particular, the additional supply and technology analyses may enable to:

- .1 confirm whether in-region and ex-region supply provide price effects within the ranges considered in the Technical and Feasibility Study and/or the independent studies respectively commissioned by the European Commission and France;
- .2 consider whether price effect anomalies differ in nature or magnitude from prior studies, including IMO report of the "Assessment of fuel oil availability" (MEPC 70/5/3 and MEPC 70/INF.6) and the Technical and Feasibility Study;
- .3 confirm that the Technical and Feasibility Study and/or the independent studies respectively commissioned by the European Commission and France adequately describe anticipated price effects on marine and other fuels, on related sulphur markets, on potential alternative advanced marine fuels, and on exhaust gas cleaning technologies that can be operated with safe discharge effluents into Mediterranean waters; and
- .4 assess the shift of price differentials due to availability and demand of products, including the cost of transport to the demand area (North America-Europe demand, quantity with transport costs).

39 In this context, the Secretariat proposes that the further studies identified as necessary in paragraphs 36 and 37 are carried out with a view to more fully addressing the criteria and procedures for designation of emission control areas laid down in Appendix III to MARPOL Annex VI when examining the possibility of designating the Mediterranean Sea area, [or parts thereof,] as an ECA for SO_x [and PM] under MARPOL Annex VI.

40 The Secretariat considers that the present meeting should assess whether the Technical and Feasibility Study as well as the independent studies respectively commissioned by the European Commission and France may provide the necessary information or not. Should the present meeting consider that further studies be needed, it will also be essential to identify who, either the Contracting Parties to the Barcelona Convention or REMPEC, will be in a best position, both technically and financially, to carry them out in an effective and timely manner.

- **To put in place a road map for the [possible] designation of the Mediterranean Sea area, [or parts thereof,] as an ECA for SO_x [and PM] under MARPOL Annex VI within the framework of the Barcelona Convention**

41 In order to build upon, and bring together, the various streams of activity that have already been taking place within the framework of the Barcelona Convention in relation to the prevention of air pollution from ships in the Mediterranean Sea, and various technical cooperation activities, the Secretariat proposes to put in place a road map for the [possible] designation of the Mediterranean Sea area, [or parts thereof,] as an ECA for SO_x [and PM] under MARPOL Annex VI, hereinafter referred to as the road map, as set out in the **Appendix** to the present document.

Actions requested by the Meeting

42 **The Meeting is invited to:**

- .1 **take note** of the information provided in the present document;
- .2 **consider** the proposals put forward by the Secretariat, as laid down in paragraphs 23, 27, 30, 39 and 41 of the present document; and
- .3 **agree upon** the road map, as set out in the **Appendix** to the present document, taking into account the above-mentioned proposals, and **request** the Secretariat to submit it for approval by the next Meeting of the UNEP/MAP Focal Points.

APPENDIX

Road map for the [possible] designation of the Mediterranean Sea area, [or parts thereof,] as an ECA for SO_x [and PM] under MARPOL Annex VI within the framework of the Barcelona Convention

1 Introduction

This road map outlines the process towards the [possible] designation of the Mediterranean Sea area, [or parts thereof,] as an ECA for SO_x [and PM] under MARPOL Annex VI within the framework of the Barcelona Convention, hereinafter referred to as the proposed Med ECA, elaborating the goals, steps, timetable, including milestones and actions, which serve this purpose.

2 Goals

The goals of the process are two-fold:

1. to reach consensus amongst the Contracting Parties to the Barcelona Convention with a view to formulating a joint and coordinated proposal on the designation of the proposed Med ECA to the International Maritime Organization (IMO); and
2. (*only if consensus is reached*) to submit the joint and coordinated proposal for the designation of the proposed Med ECA to the IMO in accordance with the rules and procedures established by the Organization, to have the proposal assessed and approved by the Organization that may consider, adopt and bring into force an amendment to regulation 14 of MARPOL Annex VI related to the designation of the proposed Med ECA, and to have the proposed Med ECA within a reasonable and practical timeframe, as defined by the Contracting Parties to the Barcelona Convention.

3 Steps

[Preliminary steps (2019)]⁴:

- Endorsement of the road map, if any, by the present meeting;
- Approval of a draft COP decision on the road map, if any, by the Meeting of the MAP Focal Points; and
- Adoption of the COP decision on the road map, if any, by the 21st Ordinary Meeting of the Contracting Parties to the Barcelona Convention and its Protocols (COP 21).]⁵

Main steps (2020-2021):

- Continued assistance provided for the ratification and effective implementation of MARPOL Annex VI to the Contracting Parties to the Barcelona Convention, which so request.
- Completion of the necessary knowledge gathering⁶;
- Carrying out of the further studies to more fully address the criteria and procedures for designation of emission control areas laid down in Appendix III to MARPOL Annex VI⁷;
- Updating of the initial draft submission to the IMO based on the completed knowledge gathering and the further studies carried out;
- Review of the outcome of the further studies by the SO_x ECA(s) Technical Committee of Experts;
- Review and validation of the draft IMO submission by the SO_x ECA(s) Technical Committee of Experts;
- Review, consideration and endorsement of a joint and coordinated proposal for the designation of the proposed Med ECA to the IMO, if any, by the 14th Meeting of the Focal Points of REMPEC;
- Approval of a draft COP decision on the joint and coordinated proposal for the designation of the proposed Med ECA to the IMO, if any, by the Meeting of the MAP Focal Points;

⁴ These preliminary steps are not part of the road map *per se* as the road map can only start being implemented once it is adopted by the Contracting Parties to the Barcelona Convention.

⁵ to be deleted for the draft COP decision on the road map, if any.

⁶ as [may have been] agreed upon by the present meeting.

⁷ as [may have been] agreed upon by the present meeting.

- Adoption of the COP decision on the joint and coordinated proposal for the designation of the proposed Med ECA to the IMO, if any, by the 22nd Ordinary Meeting of the Contracting Parties to the Barcelona Convention and its Protocols (COP 22).

Final steps (beyond 2021)⁸:

- Submission of the joint and coordinated proposal for the designation of the proposed Med ECA to the IMO in accordance with the rules and procedures established by the Organization;
- Assessment of and, agreement to, the said proposal by the IMO's MEPC, if any;
- Consideration and approval of a draft amendment to regulation 14 of MARPOL Annex VI related to the designation of the proposed Med ECA by the IMO's MEPC, if any, and request to the IMO Secretary-General to circulate it in accordance with MARPOL Article 16(2), with a view to adoption at the next session of the IMO's MEPC;
- Circulation of the draft amendment to regulation 14 of MARPOL Annex VI related to the designation of the proposed Med ECA by the IMO Secretary General to all Members of the Organization and all Parties at least six months prior to its consideration; and
- Consideration and adoption of the draft amendment to regulation 14 of MARPOL Annex VI related to the designation of the proposed Med ECA by the IMO's MEPC, if any;
- Determination of the date of bringing into force of the amendment to regulation 14 of MARPOL Annex VI related to the designation of the proposed Med ECA by the IMO's MEPC, if any, in accordance with article 16(2)(f)(iii) of MARPOL;
- Deemed acceptance of the amendment to regulation 14 of MARPOL Annex VI related to the designation of the proposed Med ECA, if any;
- Bringing into force of the amendment to regulation 14 of MARPOL Annex VI related to the designation of the proposed Med ECA, if any; and
- Effective entry into force of the Med ECA, if any.

⁸ only if consensus is reached amongst the Contracting Parties to the Barcelona Convention on the joint and coordinated proposal for the designation of the proposed Med ECA to the IMO.

4 Timetable

[Preliminary steps (2019):

Milestones	Actions
by 10 May 2019	<ul style="list-style-type: none"> Submission of the road map to the present meeting.
11-13 June 2019 13 th Meeting of the Focal Points of REMPEC	<ul style="list-style-type: none"> Review and consideration of the road map; Endorsement of the road map, if any.
by 10 July 2019	<ul style="list-style-type: none"> Submission of a draft COP decision on the road map to the Meeting of the MAP Focal Points. <p><i>(provided agreement is reached at the present meeting)</i></p>
10-13 September 2019 Meeting of the MAP Focal Points	<ul style="list-style-type: none"> Approval of the draft COP decision on the road map.
by 1 October 2019 ⁹	<ul style="list-style-type: none"> Submission of the draft COP decision on the road map to COP 21. <p><i>(provided agreement is reached at the Meeting of the MAP Focal Points)</i></p>
2-5 December 2019 21 st Ordinary Meeting of the Contracting Parties to the Barcelona Convention and its Protocols (COP 21)	<ul style="list-style-type: none"> Adoption of the COP decision on the road map.]¹⁰

Main steps (2020-2021):

- National actions

Milestones	Actions
2020-2021 biennium	<ul style="list-style-type: none"> Continued assistance provided for the ratification and effective implementation of MARPOL Annex VI to the Contracting Parties to the Barcelona Convention, which so request.

- Regional actions

Milestones	Actions
April – December 2020	<ul style="list-style-type: none"> Completion of the necessary knowledge gathering¹¹; Carrying out of the further studies to more fully address the criteria and procedures for designation of emission control areas laid down in Appendix III to MARPOL Annex VI¹²; Updating of the initial draft submission to the IMO based on the completed knowledge gathering and the further studies carried out; Discussion within the SO_x ECA(s) Technical Committee of Experts that will be tasked to: <ul style="list-style-type: none"> review the outcome of the further studies; and review and validate the draft IMO submission.

⁹ This deadline applies to the English version only. The deadline for the other languages is 10 November 2019.

¹⁰ to be deleted for the draft COP decision on the road map, if any.

¹¹ as [may have been] agreed upon by the present meeting.

¹² as [may have been] agreed upon by the present meeting.

by April 2021 (TBC)	<ul style="list-style-type: none"> Submission of a Note by the Secretariat, including draft IMO submission, to the 14th Meeting of the Focal Points of REMPEC.
May 2021 (TBC) 14 th Meeting of the Focal Points of REMPEC	<ul style="list-style-type: none"> Review and consideration of the Note by the Secretariat, including draft IMO submission; Discussion on: <ul style="list-style-type: none"> whether or not to submit a proposal to IMO for the designation of the proposed Med ECA; the most appropriate timing for such a submission, if any; and the effective date of entry into force of the proposed Med ECA, if any. Endorsement of a joint and coordinated proposal for the designation of the proposed Med ECA to the IMO, if any.
by July 2021 (TBC)	<ul style="list-style-type: none"> Submission of a draft COP decision on the joint and coordinated proposal for the designation of the proposed Med ECA to the IMO, to the Meeting of the MAP Focal Points. <p><i>(provided agreement was reached at the 14th Meeting of the Focal Points of REMPEC)</i></p>
September 2021 (TBC) Meeting of the MAP Focal Points	<ul style="list-style-type: none"> Approval of the draft COP decision on the joint and coordinated proposal for the designation of the proposed Med ECA to the IMO.
by October 2021 (TBC)	<ul style="list-style-type: none"> Submission of draft COP decision on the joint and coordinated proposal for the designation of the proposed Med ECA to the IMO, to COP 22. <p><i>(provided agreement was reached at the Meeting of the MAP Focal Points)</i></p>
December 2021 (TBC) 22 nd Ordinary Meeting of the Contracting Parties to the Barcelona Convention and its Protocols (COP 22)	<ul style="list-style-type: none"> Adoption of COP decision on the joint and coordinated proposal for the designation of the proposed Med ECA to the IMO.

- Global actions

Milestones	Actions
27 December 2019 (TBC) <i>(13-week deadline for the submission of documents (including information documents) containing more than six pages of text (bulky documents) to the 75th session of the IMO's Marine Environment Protection Committee (MEPC 75))</i>	<ul style="list-style-type: none"> Submission of an information document, prepared by REMPEC, related to the adoption of the COP decision on the road map, to the IMO. <p><i>(provided agreement was reached at COP 21)</i></p>
30 March – 3 April 2020 (TBC) 75 th session of the IMO's Marine Environment Protection Committee (MEPC 75)	<ul style="list-style-type: none"> Presentation by REMPEC of the information document related to the adoption of the COP decision on the road map.

Final steps (beyond 2021)¹³:

- Global actions

Milestones	Actions
<p>by January 2022 (TBC)</p> <p><i>(13-week deadline for the submission of documents (including information documents) containing more than six pages of text (bulky documents) to the 78th session of the IMO's Marine Environment Protection Committee (MEPC 78))</i></p>	<ul style="list-style-type: none"> • Submission of the joint and coordinated proposal for the designation of the proposed Med ECA to the IMO (along with a proposed amendment to MARPOL Annex VI). <p><i>(provided agreement was reached at COP 22)</i></p>
<p>April 2022 (TBC)</p> <p>78th session of the IMO's Marine Environment Protection Committee (MEPC 78)</p>	<ul style="list-style-type: none"> • Presentation of the joint and coordinated proposal for the designation of the proposed Med ECA to the IMO (along with a proposed amendment to MARPOL Annex VI); • Assessment of and, agreement to, the said proposal, if any; and • Consideration and approval of a draft amendment to regulation 14 of MARPOL Annex VI related to the designation of the proposed Med ECA, if any, and request to the IMO Secretary-General to circulate it in accordance with MARPOL Article 16(2), with a view to adoption at the next session of the IMO's MEPC, if any.
<p>by April 2022 (TBC)</p> <p><i>(at least six months prior to its consideration)</i></p>	<ul style="list-style-type: none"> • Circulation of the draft amendment to regulation 14 of MARPOL Annex VI related to the designation of the proposed Med ECA by the IMO Secretary General to all Members of the Organization and all Parties. <p><i>(provided agreement was reached at MEPC 78)</i></p>
<p>October 2022 (TBC)</p> <p>79th session of the IMO's Marine Environment Protection Committee (MEPC 79)</p>	<ul style="list-style-type: none"> • Consideration and adoption of the draft amendment to regulation 14 of MARPOL Annex VI related to the designation of the proposed Med ECA, if any; and • Determination of the date of bringing into force of the amendment to regulation 14 of MARPOL Annex VI related to the designation of the proposed Med ECA, if any, in accordance with article 16(2)(f)(iii) of MARPOL.
<p>not earlier than 1 September 2023 (TBC)</p> <p><i>(in accordance with article 16(2)(f)(iii) of MARPOL: "period shall be not less than ten months")</i></p>	<ul style="list-style-type: none"> • Deemed acceptance of the amendment to regulation 14 of MARPOL Annex VI related to the designation of the proposed Med ECA, if any. <p><i>(provided agreement was reached at MEPC 79, and unless prior to the proposed date, not less than one third of the Parties or Parties the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant fleet, have communicated to the Organization their objection to the amendment)</i></p>
<p>not earlier than 1 March 2024 (TBC)</p> <p><i>(in accordance with article 16(2)(g)(ii) of MARPOL: "six months after its acceptance")</i></p>	<ul style="list-style-type: none"> • Bringing into force of the amendment to regulation 14 of MARPOL Annex VI related to the designation of the proposed Med ECA, if any.
<p>TBC¹⁴</p>	<ul style="list-style-type: none"> • Effective entry into force of the Med ECA, if any.

¹³ only if consensus is reached amongst the Contracting Parties to the Barcelona Convention on the joint and coordinated proposal for the designation of the proposed Med ECA to the IMO.

¹⁴ to be determined by the Contracting Parties to the Barcelona Convention.