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Convention for the Protection of the Marine Environment
and the Coastal Region of the Mediterranean and its Protocols

Naples, Italy, 2-5 December 2019

Agenda Item 3: Thematic Decisions

Draft Decision IG.24/10: Main Elements of the Six Regional Plans to Reduce/Prevent Marine Pollution from Land-Based Sources; Updating the Annexes to the LBS and Dumping Protocols of the Barcelona Convention

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UNEP/MAP
Athens, 2019

Note by the Secretariat

In accordance with the United Nations Environment Programme/Mediterranean Action Plan (UNEP/MAP)'s 2018-2019 Programme of Work Activity 2.2.2.1: "Develop the main elements of six Pollution Reduction Regional Plans", the Secretariat (MED POL), mandated by the 20th Meeting of the Contracting Parties (COP 20) (Tirana, Albania, 17-20 December 2017), embarked on a process for development of the main elements for six Regional Plans, namely: Municipal wastewater Treatment Plants; Sewage Sludge Management; Agriculture nutrients Management; Aquaculture nutrients Management; Urban Storm water Management; and Marine Litter (upgrade).

The Secretariat presented the main elements of the six Pollution Reduction Regional Plans to two Meetings of Regional Experts organized and held in November 2018 and May 2019. The revised main elements were subsequently discussed by the Meeting of the MED POL Focal Points in May 2019. The latter agreed on their final version and recommended their submission to the Meeting of the MAP Focal Points to be held in September 2019 for their approval prior to submission to the 21st Meeting of the Contracting Parties (COP 21) (Naples, Italy, 2-5 December 2019) for adoption. The revised main elements for the six Regional Plans are presented in Annex I to this Draft Decision.

In developing the main elements for the new Regional Plans, the following aspects were taken into consideration:

- a. National and Regional priorities as outlined in the National Action Plans (NAPs)/Programmes of Measures and relevant Decisions of the Contracting Parties: focus on achieving and maintaining Good Environmental Status (GES);
- b. The evaluation processes of the status of the implementation of the Regional Plans and the LBS Protocol;
- c. The need to use a combined approach to build the Regional Plans' measures around sectors rather than individual pollutants, as it was the case so far;
- d. Possible options of the relationship between the existing Regional Plans and the new/updated Regional Plans and relevant Regional Guidelines adopted by the Contracting Parties, particularly in the past 10 years;
- e. The need for a realistic timeframe for the development of Regional Plans and their implementation that should contribute to the achievement the GES as decided by the Contracting Parties and the 2030 Sustainable Development Goal (SDG) targets;
- f. Multiple benefits derived from preventing and managing marine pollution, including socio economic aspects and circular economy; and
- g. The need for cross-cutting actions across the pollution dimension, including actions on climate change, and economic instruments/ cost benefit approaches.

The new Regional Plans will advance the work of UNEP/MAP and the Contracting Parties in terms of legal tools and instruments for combating marine pollution; achieving and/or maintaining GES; contributing to SDGs; and fostering and leading the regional cooperation in the Mediterranean.

The new Regional Plans will be modeled on the contents and provisions of the ten existing Regional Plans, including scope and objectives. Each Regional Plan will include legally binding measures of regulatory, technical and institutional nature. The Regional Plans will include timetables for implementation; anticipated support to be provided to the Contracting Parties; provisions for entry into force; and related annexes.

The new Regional Plans will be allocated a budget of Euro 170,000 under Option 2 of the UNEP/MAP's 2020-2021 Programme of Work (Euro 120,000 dedicated to meetings, and Euro 50,000 for undertaking necessary assessments). Under Option 1, funding is expected to be secured from MTF and mostly non-secured external sources.

With regards to "Updating the Annexes of the LBS, Hazardous Waste and Dumping Protocols", and in line with UNEP/MAP's 2018-2019 Programme of Work Activity 2.2.1.1: "Prepare a proposal to

update the annexes to the LBS and Hazardous Waste Protocols to enhance synergies with the relevant regional and global developments”, and based on the work undertaken during 2016-2017 biennium, the Secretariat (MED POL) undertook an in-depth analysis of recent regional and global developments (i.e. Basel Convention, London Protocol, Stockholm Conventions, EU-MSFD, etc.), and submitted proposed possible updates of the Annexes of the LBS, Dumping and Hazardous Waste Protocols for review by the MED POL Focal Points Meeting in May 2019. The proposals were developed keeping in mind the need for harmonization and mutual support to the extent possible with the work of the Contracting Parties under other international and regional obligations.

Preliminary possible updates were presented to the MED POL Focal Points Meeting of May 2019 (see the document of that meeting: UNEP/MED WG.473/5). The MED POL Focal Points Meeting reviewed them and agreed to seek a mandate by the MAP Focal Points Meeting (Athens, Greece, 10-13 September 2019) and the 21st Meeting of the Contracting Parties (COP 21) (Naples, Italy, 2-5 December 2019), as appropriate. This mandate will lead to the delivery of the proposed amendments as appropriate during next biennium, in line with the established procedure of Article 23 of the Barcelona Convention, and with a particular focus on the annexes of the LBS and Dumping Protocols. The MAP Focal Points Meeting decided not to include in this mandate the amendment of the Hazardous Waste Protocol Annexes.

To this aim, the draft 2020-2021 Programme of Work already includes activities and deliverables related to the proposed updates of the annexes of the pollution-related Protocols. Accordingly, the Secretariat is requesting through this Draft Decision a mandate from the Contracting Parties for reviewing the annexes of these pollution-related Protocols and for making proposals as appropriate through the establishment of designated working groups.

The proposed Draft Decision and its Annex have been reviewed by the MAP Focal Points Meeting (Athens, Greece, 10-13 September 2019) and have been revised accordingly and endorsed for submission to and consideration by COP 21 as contained in the present document.

Draft Decision IG.24/10

Main Elements of the Six Regional Plans to Reduce/Prevent Marine Pollution from Land-Based Sources; Updating the Annexes to the LBS and Dumping Protocols of the Barcelona Convention

The Contracting Parties to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean and its Protocols at their 21st Meeting,

Recalling the outcome document of the United Nations Conference on Sustainable Development, entitled “The future we want”, endorsed by the General Assembly in its resolution 66/288 of 27 July 2012,

Recalling also United Nations General Assembly resolution 70/1 of 25 September 2015, entitled “Transforming our world: the 2030 Agenda for Sustainable Development”,

Recalling further the United Nations Environment Assembly resolution of 15 March 2019 UNEP/EA.4/Res.21, entitled “Towards a pollution-free planet”,

Having regard to the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources and Activities (1996), in particular article 15 thereof on adoption of action plans, programmes and measures; the Protocol for the Prevention and Elimination of Pollution of the Mediterranean Sea by Dumping from Seas and Aircraft or Incineration at Sea (1995),

Recalling decision IG.21/7, adopted by the Contracting Parties at their 18th Meeting (COP 18) (Istanbul, Turkey, 3-6 December 2013) on the Regional Plan on Marine Litter Management,

Emphasizing the need to use a combined approach to build the Regional Plans’ measures around sectors rather than individual pollutants, and the need for cross-cutting actions across the pollution dimension, including actions on climate change and economic instruments/cost benefit approaches, for an enhanced implementation of the Regional Plans,

Committed to further streamlining the national and regional priorities as outlined in the National Action Plans (NAPs) into the existing Regional Plans,

Taking note of important developments addressing pollution reduction and prevention within United Nations bodies, other international and regional intergovernmental organizations and multilateral environmental agreements,

Having considered the report of the MED POL Focal Points Meeting (Istanbul, Turkey, 29-31 May 2019),

1. *Endorse* the main elements and the timeline for the development of six Regional Plans to reduce/prevent marine pollution from land-based sources as set out in Annex I to the present Decision;
2. *Establish* Working Groups composed of experts designated by the Contracting Parties to develop the following, on the basis of the main elements described above, and report to the 22nd Meeting of the Contracting Parties (COP 22), on the basis of Terms of Reference and timeline prepared by the Secretariat and endorsed by the Bureau at its first meeting of the biennium 2020-2021:
 - a) To upgrade the Regional plan on the reduction of BOD₅ from urban wastewater in the framework of the implementation of article 15 of the Land-based Sources Protocol (Decision IG.19/7);

- b) To develop a new Regional Plan for Sewage Sludge Management and its technical annexes; and,
- c) To upgrade the Regional Plan on Marine Litter Management in the Mediterranean (Decision IG.21/7);

3. *Request* the Secretariat to launch the formal process for updating the annexes of the LBS and Dumping Protocols, for consideration at the 22nd Meeting of the Contracting Parties;

4. *Establish* Working Group[s] composed of experts designated by the Contracting Parties to review the annexes and make proposals for consideration of the 22nd Meeting of the Contracting Parties (COP 22), on the basis of Terms of Reference and timeline prepared by the Secretariat and endorsed by the Bureau at its first meeting of the biennium 2020-2021;

5. *Request* the Contracting Parties and Partners to contribute to this process through the timely nomination of experts with adequate competencies for the working groups by this Decision.

ANNEX

Proposed Draft Main Elements of the Six Pollution Reduction Regional Plans

Table of Contents

1.	Outline of the Elements of the six Regional Plans.....	6
2.	Possible Elements of the Regional Plan on Municipal Wastewater Treatment	7
3.	Possible Elements of the Regional Plan on Sewage Sludge Management.....	9
4.	Possible Elements of the Regional Plan on Agriculture Nutrients Management.....	10
5.	Possible Elements of the Regional Plan on Aquaculture Nutrients Management.....	12
6.	Possible Elements of the Regional Plan on Urban Storm Water Management.....	14
7.	Possible Elements of the Regional Plan on Marine Litter (upgraded)	15
8.	Way forward.....	17

List of Abbreviations/Acronyms

BAT	Best Available Technique
BEP	Best Environmental Practice
BOD5	Biochemical Oxygen Demand
COP	Conference of the Parties
ELV	Emission Limit Value
GES	Good Environmental Status
LBS Protocol	Land-Based Sources Protocol
MAP	Mediterranean Action Plan
MED POL	Programme for the Assessment and Control of Marine Pollution in the Mediterranean Sea
NAPs	National Action Plans
PoW	Programme of Work
SCP	Sustainable Consumption and Production
SPAMI	Special Protected Areas of Mediterranean Importance
WWTP	Wastewater Treatment Plant

1. Outline of the Elements of the six Regional Plans

1. Based on the approach already in place for the development of the 10 existing Regional Plans, the table of contents and provisions for the six Regional Plans may replicate the same outline, as follows:

- a. Definition of terms
- b. Scope and objectives of the Regional Plan
- c. Proposed measures including:
 - i. Regulatory measures (including where appropriate economic incentives):
 - ii. Technical measures (including efficient use of resources and energy): and
 - iii. Other type of measures (including monitoring, reporting and enforcement).
- d. Timetable for implementation of measures
- e. Support to implementation which may include:
 - i. Technical and financial assistance;
 - ii. Scientific cooperation and research;
 - iii. Guidelines; and
 - iv. Stakeholders participation.
- f. Entry into force
- g. Annexes including:
 - i. Reporting templates¹; and
 - ii. Other technical matters.

2. With regards to the geographical scope of the Regional Plans and taking into consideration that the legal basis for their development is the LBS Protocol (Art. 5 and 15), the geographical extent of the Regional Plans will apply to the area defined by Article 3 of the LBS Protocol, namely:

- a. The Mediterranean Sea Area as defined in Article 1 of the Convention;
- b. The hydrologic basin of the Mediterranean Sea Area;
- c. Waters on the landward side of the baselines from which the breadth of the territorial sea is measured and extending, in the case of watercourses, up to the freshwater limit;
- d. Brackish waters, coastal salt waters including marshes and coastal lagoons; and ground waters communicating with the Mediterranean Sea.

¹ The Meeting recommended to avoid double reporting while considering the strong linkages to the Barcelona Convention Reporting System and the NAP Follow-up Indicators/NBB

2. Possible Elements of the Regional Plan on Municipal Wastewater Treatment²

3. The existing Regional Plan on the Reduction of BOD5 from Urban Wastewater may be expanded in scope/ upgraded in view of integrating the newly identified measures related to municipal wastewater treatment needed to ensure the achievement and/or maintaining of GES and addressing additional pressures and new elements, such as multiple benefits approach and stricter standards.

4. The scope of the Regional Plan covers “collection, treatment, reuse and discharge of municipal wastewaters and the treatment, reuse and discharges of biodegradable industrial wastewater from certain industrial sectors.”

5. The objective of the Regional Plan is to “protect the coastal and marine environment and health from the adverse effects of the above-mentioned waste water direct and or indirect discharges, in particular regarding adverse effects on the oxygen content of the coastal and marine environment and eutrophication phenomena as well as promote resource efficiency.”

6. The upgraded Regional Plan should address priority substances identified in Annex I-C of the LBS Protocol (Categories of substances) with a particular focus on the list of priority substances, indicated in Annex I to the Decision IG.21/3³ adopted by COP 18 (Istanbul, Turkey, 3-6 December 2013).

7. The proposed measures may include:
- a. Reuse treated municipal wastewater in agriculture (reclaiming nutrients as appropriate) or industry;
 - b. Reuse/recycle treated wastewater to address regional water scarcity (e.g. aquifer recharge);
 - c. Set appropriate quality standards for water reuse in agriculture irrigation, aquifer recharge or other uses;
 - d. Apply BAT and BEP, including energy saving or renewable/ alternative energy sources in operating wastewater treatment plants (WWTP);
 - e. Promote nature-based solutions (e.g. constructed wetlands) in small agglomerations as appropriate;
 - f. Set Emission Limit Values (ELVs) for BOD, COD, TOC, TN, TP, pathogenic microorganisms as indicated in IMAP and other priority substances/emerging contaminants including microplastics, as appropriate, based on sensitivity and related EQS of the receiving environment, as need be;
 - g. Set pre-treatment ELVs for industries to discharge their effluents to collection systems that can be treated in municipal wastewater treatment plants, particularly for small industries located in urban areas;
 - h. Set timeframe(s) for implementation of technologies to reach ELVs (BOD, COD, TOC, TN, TP, pathogenic microorganisms as indicated in IMAP, and other priority substances/emerging contaminants, including microplastics, as appropriate; fully considering the need for developing respective sampling and analysis protocols with regards to emerging contaminants and other guidance documents.
 - i. Ensure that reuse of wastewater from urban wastewater treatment plants is subject to prior regulations and/or specific authorization by competent authorities or appropriate bodies;
 - j. Ensure that competent authorities or appropriate bodies monitor reclaimed water to verify compliance with these quality requirements taking into account the minimum frequencies included;

² Discussion is ongoing on the need to develop a separate regional plan addressing the wastewater treatment from industrial facilities

³ The Meeting recommended to include this Annex to the Regional Plan.

- k. Ensure that urban wastewater collection and treatment is subject to appropriate monitoring and reporting systems;
- l. Ensure that the discharge of industrial wastewater into collecting systems and urban wastewater treatment plants are subject to prior regulations and/or specific authorizations by competent authorities or appropriate bodies.
- m. Ensure that operators and competent authorities or appropriate bodies monitor and control discharges from municipal WWTP to verify compliance with ELV;
- n. Set Environmental Impact Assessment procedures prior to issuing discharge permits considering specific biodiversity species and ecosystems;
- o. Establish specific and periodic measures to manage the collection and treatment of urban wastewater in tourist destination cities.

8. Support to measures' implementation:

- a. Guidance and standards on the application of BAT and BEP in municipal wastewater treatment (including sewage sludge management) that support reduced cost of energy and water saving, specifically addressing:
 - i. Energy performance.
 - ii. Water consumption.
 - iii. Wastewater treatment efficiencies.
 - iv. Treatment efficiency of flue gas treatment.
- b. Technical guidance for water reuse, specifically addressing:
 - i. Uses of reclaimed water.
 - ii. Health and environment risk analysis for water reuse in agricultural irrigation and aquifer recharge.
 - iii. Disinfection and filtration techniques.
 - iv. Classes of reclaimed water quality and allowed agricultural use and irrigation method.
 - v. Optimal treatment stages/technologies necessary to reuse wastewater.
 - vi. Minimum quality requirements.
- c. Provision of support to Countries in technology transfer and related capacity building.

9. In preparation for the development of this Regional Plan, the following assessments may be undertaken:

- a. Assessment of level of collection and treatment of agglomerations of more than 2,000 inhabitants in the Mediterranean coastal zone as defined in line with the ICZM Protocol or using River Basin Management approach, including wastewater characterization;
- b. Assessment of the state of play of existing WWTP in agglomerations of more than 2,000 inhabitants in the Mediterranean coastal zone as defined in line with the ICZM Protocol or using River Basin Management approach.

3. Possible Elements of the Regional Plan on Sewage Sludge Management

1. The scope of the Regional Plan covers “management of sewage sludge from municipal wastewater treatment plants”
2. The objective of the Regional Plan is to “ensure maximum effective use of valuable substances and energy potential from sewage sludge, while preventing harmful effects on human health and the marine environment.”
3. The proposed measures may include:
 - a. Prioritize management alternatives for sewage sludge with a view to minimizing landfilling and limiting it only in cases where the following options are not feasible:
 - vii. Reuse/valorization of treated sludge as fertilizer
 - viii. Energy recovery (incineration)
 - b. Set ELVs for the use of sewage sludge as fertilizer and soil conditioner, as well other potential uses (e.g. concrete), including pathogenic microorganisms and microplastics pollution where appropriate.
 - c. Ensure that sewage sludge is treated/stabilized before using in agriculture or as a source of energy.
 - d. Ensure that maximum limit values for heavy metal concentration in sludge for use in agriculture or as a source of energy are met (further to specific standards)
 - e. Provide for measures addressing the whole chain of the sludge treatment, including dewatering, digestion, stabilization, microbiological disinfection, and energy recovery, taking into account the necessary stages that need to be adopted in the WWTP in order to allow the reuse of the sludge;
 - f. Provide for enforcement measures, i.e. control, inspection, sanctions;
 - g. Set conditions for the temporary/permanent storage for sludge and measures to prohibit their discharge to the sea
4. Support to measures’ implementation:
 - a. Technical guidelines for sewage sludge use in agriculture:
 - i. Characteristics of sewage sludge
 - ii. Characteristics of soil
 - iii. Sludge treatment
 - iv. Sludge application
 - v. Effects of sludge on soils and crops
 - vi. Planting, grazing and harvesting constraints
 - vii. Environmental protection
 - b. Guidance and standards on the application of BAT and BEP on municipal wastewater treatment (including sewage sludge management) that support reduced cost of energy and water saving, specifically addressing:⁴
 - i. Energy performance.
 - ii. Water consumption.
 - iii. Wastewater treatment efficiencies.
 - iv. Treatment efficiency of flue gas treatment.
5. In preparation for the development of this Regional Plan, an assessment may be undertaken of the state of play of existing sludge treatment, reuse and disposal facilities in municipal wastewater treatment facilities around the Mediterranean.

⁴ Common guidance document recommended for use in the preparation of the Regional Plan for Municipal Wastewater Treatment Plants

4. Possible Elements of the Regional Plan on the prevention and reduction of pollutant releases in the Mediterranean Sea from agriculture

1. The scope of the Regional Plan covers the agricultural sector in the coastal regions or hydrologic basins discharging pollutants into the Mediterranean Sea.
2. The objective of the Regional Plan is to “minimize water pollution caused or induced by the agricultural sector, and promote various aspects related to circular economy, resource efficiency and nature-based solutions.”
3. The proposed measures may include:
 - a. Minimize/ prevent agricultural runoff, which can include the following measures:
 - i. Apply irrigation BAT (drip irrigation, humidity sensors);
 - ii. Apply buffer zones and irrigation depending on cultivation patterns, land surface, geomorphology and climate (to minimize runoff impacts on water bodies). Transition to appropriate irrigation systems in economically irrigable areas, especially for sensitive areas and hotspots.
 - iii. Identify waters which could be affected or have been affected by pollution (vulnerable zones) in accordance with set criteria.
 - iv. Establish and implement action programmes in order to reduce water pollution from nitrogen compounds in vulnerable zones including:
 1. Periods when the land application of certain types of fertilizer is prohibited;
 2. The capacity of storage vessels for livestock manure;
 3. Limitation of the land application of fertilizers, consistent with good agricultural practice and taking into account the characteristics of the vulnerable zone concerned;
 4. Transition to appropriate irrigation systems in economically irrigable areas.
 - b. Fertilizers management, which may include the following measures:
 - i. Set standards on the use of fertilizers depending on type of plants, nitrogen needs, soil properties, quality and quantity of irrigation water, and climate conditions;
 - ii. Set restrictions to the use of fertilizers near water bodies, or seasonal bans
 - iii. Set requirements for proper storage of fertilizers (addressing distance from water bodies, packaging, waterproof storages, etc.);
 - iv. Enforce the maintenance of records of purchases by farmers of fertilizers;
 - v. Apply catch crops/ nitrogen fixing crops under specific conditions; and
 - vi. Apply organic farming under specific conditions.
 - c. Pesticides management, which may include the following measures:
 - i. Provide training to farmers on pesticides labelling instructions and when/ how to apply pesticides in line with good agricultural practices (GAP);
 - a) Relevant legislation regarding pesticides and their use;
 - b) Risks of illegal plant protection products;
 - c) The hazards and risks associated with pesticides;
 - d) Integrated pest management strategies and techniques;
 - e) Procedures for preparing pesticide application equipment for work and its maintenance;
 - f) Safe working practices for storing, handling and mixing pesticides, and disposing of empty packaging;
 - g) Record keeping of any use of pesticides;
 - h) Special care in vulnerable zones;
 - i) Emergency action in case of accidental spillage.

- ii. Provide for marketing and sale of pesticides to professional organizations (conditional to training/ certification);
 - iii. Restrict the use of pesticides during rainfall;
 - iv. Set targets and timetables for reduction of pesticides use;
 - v. Conduct regular inspection of farmers' equipment;
 - vi. Ban/restrict ⁵ the use of pesticides through aircrafts, with strictly regulated exemptions;
 - vii. Monitor drinking water sources, protected areas and public spaces close to agricultural areas where pesticides are applied;
 - viii. Apply integrated pest management.
 - ix. Ensure that appropriate monitoring programmes related to the above measures are established in line with criteria to be set for that purpose.
- d. Manure management (livestock breeding), which may include the following measures:
- i. Apply adequate management techniques for cattle breeding, digestion and manure reuse;
 - ii. Apply BAT for large farms including anaerobic digestion and bio-energy production, followed by separation of liquid and solid fractions;
 - iii. Apply aerobic digestion for liquids, followed by evaporation lagoons or usage for soil improvement.
 - iv. Take the necessary measures to provide that livestock breeding installations are operated in accordance with the Best Available Techniques (BAT), e.g. through permits for those livestock breeding installations exceeding certain threshold capacities.
4. BAT and BEP for the agriculture sector (farm and land management):
- a) BEP for product groups and farm types.
 - b) Sustainable management: Land, energy, water and waste.
 - c) Soil quality management.
 - d) Nutrient management.
 - e) Soil preparation and crop planning.
 - f) Grass and grazing management.
 - g) Animal husbandry.
 - h) Manure management: anaerobic digestion and bio-energy production
 - i) BAT and BEP for irrigation practices in arid regions.
 - j) Crop protection products.
 - k) Protected horticulture (greenhouses).

5. In preparation for the development of this Regional Plan, an assessment may be undertaken of the state of play of agricultural practices and discharged pollutants reaching the Mediterranean marine environment.

⁵ Further assessment is required to decide during the negotiation process on this measure

5. Possible Elements of the Regional Plan on Aquaculture Management

1. The scope of the Regional Plan covers aquaculture activities in the Mediterranean.
2. The objective of the Regional Plan is to “minimize water pollution caused or induced by aquaculture sector.”
3. The proposed measures may include:
 - a. Minimization of impacts from onshore (including hatcheries) aquaculture, which may include the following measures:
 - i. Alternative efficient feeding practices (this shall be based on a study in the field)
 - ii. Provide for installation of settlement tanks (to collect suspended soils) and filters (drum filters); and
 - iii. Optimize discharge systems, including:
 - Development of submarine pipeline systems.
 - Definition of appropriate sea depth.
 - Installment of diffusers at the end of the pipelines and pumps.
 - Improved abatement measures for the collection of oily residue.
 - iv. Establish monitoring programmes based on local oceanographic conditions both in discharge areas and on the end of the settlement tank taking into account acceptable nutrients ELVs⁶.
 - v. Establish recirculating closed systems (allowing for cleaning and recycling of the same water).
 - vi. Plant blue catch crops (e.g. mussels).
 - vii. Reuse/recycle of water for irrigation purposes (possible treatment requirement).
 - viii. Establish treatment of nutrients from effluents
 - ix. Adopt all measures necessary to ensure that, before development consent is given, aquaculture projects likely to have significant effects on the environment by virtue, inter alia, of their nature, size or location are made subject to environmental impact assessment.
 - x. Ensure that the competent authority grants a permit for aquaculture installations and takes the necessary measures to provide that installations are operated in accordance with the following principles:
 - a) all the appropriate preventive measures are taken against pollution
 - b) the best available techniques (BAT) are applied
 - c) no significant pollution is caused affecting the maintenance or achievement of GES.
 - b. Minimize impacts from offshore aquaculture, which may include the following measures:
 - i. Establish criteria to be met in the selection of aquaculture site, including carrying capacity, appropriate species, and pollution baseline. and Environmental Impact Assessment (where applicable),
 - ii. Apply Marine Spatial Planning for the identification of the appropriate zones for establishment of aquaculture plants;
 - iii. Implement permitting schemes setting operational conditions;
 - iv. Alternative efficient feeding practices (this shall be based on a study in the field)

⁶ The Meeting recommended taking into account the reporting mechanism: IMAP NBB, etc.

- v. Control discharges through monitoring based on local oceanographic conditions
 - a) Sediments: phosphorus, carbon and nitrogen content, redox potential
 - b) Water column: oxygen, nutrients (inorganic nitrogen and phosphorus, total nitrogen and phosphorus), dissolved and particulate organic matter, chlorophyll a, TRIX index, etc.
 - vi. Establish Multitrophic Aquaculture Systems;
 - vii. Control escapes for prevention of harmful aquatic organisms, including Invasive Alien Species and pathogens introduction;
 - viii. Use new environmentally friendly antifouling agents (TBT-free, preferably also copper free);
 - ix. Ensure regular movement of cages in aquaculture sites to avoid development of anoxic zones if needed; and
 - x. Promote alternative disposal/ re-use of offal.
 - xi. Ensure that appropriate monitoring programmes are established.
4. Guidance on BAT and BEP for the aquaculture sector (onshore and offshore).
- a. Benthic impacts and nutrients: efficient feeding practices, settlement tanks (to collect suspended soils) and filters (drum filters), regular movement of cages, optimization of discharge systems, blue catch crops (e.g. mussels);
 - b. Water: recirculating closed systems and reuse/recycle of water for irrigation purposes in onshore aquaculture;
 - c. Disease and parasites;
 - d. Chemical discharges: use of environmentally benign antifouling agents;
 - e. Escapees and prevention of Invasive Alien Species (IAS);
 - f. Physical impacts, disturbance and predator control;
 - g. Alternative disposal/ re-use of offal.

5. In preparation for the development of this Regional Plan, an assessment may be undertaken of the state of play of aquaculture practices in the Mediterranean and their impact on the marine environment. If decided to be undertaken, this assessment should build on existing work undertaken by the Contracting Parties and relevant Regional Organizations.

6. Possible Elements of the Regional Plan on Urban Storm Water Management

1. The scope of the Regional Plan covers “management of urban storm water in urban agglomerations in the coastal areas.”
2. The objective of the Regional Plan is to “minimize input of suspended solids, contaminants and marine litter into receiving waters due to storm water.”
3. The proposed measures may include:
 - a) Develop storm water management plans, including risk management also including information on the location of land-based activities, e.g. industrial installations and civil infrastructures such as municipal wastewater treatment plants and landfills, potentially discharging contaminated run-off or wastewater to waterways so as to minimize their discharges and to protect the quality of ground and surface water including rivers, streams, wetlands, estuaries and the marine environment;
 - b) Establish separate collection systems for run-off water under specific conditions;
 - c) In case of combined collections system, install storm water treatment tanks which include decantation and filtering;
 - d) Promote Sustainable Urban Drainage Systems (SUDS) such as green infrastructure for small medium cities, such as wetlands, retention ponds, recharge of aquifers, etc.;
 - e) Incorporate management schemes of storm water run-off into the integrated coastal zone management (ICZM) plans;
 - f) Set technical standards for drainage of storm water to outlets on the beach; and
 - g) Ensure that storm water systems are kept clean and functioning correctly to prevent flooding during rain events.
4. Development of a Manual/Guidance on Stormwater Management including:
 - a) Integrating Stormwater Management;
 - b) Stormwater management plans;
 - c) Recommended structural controls: storage, use, infiltration; and
 - d) Recommended non-structural best management practices: maintenance, awareness.
5. In preparation for the development of this Regional Plan, various studies and assessments may be undertaken at national level to:
 - a) Evaluate the locations of effluent points of storm water sewers along the coastline; and
 - b) Prepare drainage features plans to illustrate the broad geographic pattern of key drainage features.

7. Possible Elements of the Regional Plan on Marine Litter (upgraded)

1. The ongoing evaluation of the status of implementation of the existing Regional Plan on Marine Litter Management in the Mediterranean (Decision IG.21/7), adopted by COP 18 (Istanbul, Turkey, 3-6 December 2013) is expected to provide substantive evidence that should be taken into account while defining the need for additional measures, as described above.

2. The main objectives of the Regional Plan are to:

- a) Prevent and reduce to the minimum marine litter pollution in the Mediterranean and its impact on ecosystem services, habitats, species in particular the endangered species, public health and safety;
- b) Enhance knowledge on marine litter;
- c) Achieve that the management of marine litter in the Mediterranean is performed in accordance with accepted international standards and approaches as well as those of relevant regional organizations and as appropriate in harmony with programmes and measures applied in other seas; and
- d) Facilitate and promote sustainable production and consumption patterns, in particular, circular economy models which consider the whole lifecycle of products, increase resource efficiency, facilitate recycling and avoid waste release into the environment.⁷

3. Principle related to the Sustainable Consumption and Production of the Regional Plan to consider the following:

Sustainable Consumption and Production by virtue of which current unsustainable patterns of consumption and production must be transformed to sustainable ones that decouple human development from environmental degradation, **with particular attention to circular economy models.**⁸

4. The proposed measures may include:

- a) Phase out single use plastic items most found in the Region;
- b) Set targets for plastic recycling and other waste items to avoid ending-up as marine litter in the marine and coastal environment;
- c) Introduce environmental taxes, e.g. plastic tax on virgin plastic, extended producer responsibility schemes, refund schemes;
- d) Promote new technologies for the removal of marine litter from the marine and coastal environment in an environmentally sound way, particularly the retrieval, recycling and reuse of ghost gears;
- e) Strengthen sanctions in case of non-compliance with the respective national regulations;
- f) Include in the SPAMIs measures to combat marine litter and related monitoring;⁹
- g) Reduce packaging;
- h) Promote voluntary agreements with industry at national and regional levels in line with international practices and standards;
- i) Strengthen measures related to SCP programmes to raise awareness and enhance education;
- j) Introduce a concrete measure on microplastics reduction, e.g.

⁷ This proposal further strengthens circular economy dimension of the objectives of the Regional Plan

⁸ This proposal strengthens the circular economy dimension at the level of the principles of the Regional Plan

⁹ Any measure related to SPAMI management and monitoring should be consulted with and reviewed by the National Focal Points of SPA/RAC

- i. Promote research and identification of the different sources of primary and secondary microplastics (industrial pellets and micro litter particles related to personal care products, fibers from clothing,).
 - ii. [Restrict/]¹⁰Ban on microplastics addition to certain products, e.g. cosmetics and promoting the use by industries of environmentally friendly alternatives.
 - iii. Assess if primary and secondary microplastics are covered or not by legislation, and act, if appropriate, to influence the legal framework, or identify other necessary measures such as the promotion of voluntary commitment (e.g. Assess potential of certification schemes)
- k) Set targets for plastic waste collection;
 - l) Encourage and promote the replacement of plastics in accordance with national waste management systems, i.e. taking into consideration availability of composting facilities in the case of substituting with biodegradable plastics’;
 - m) Investigate and promote with appropriate industries the use of Best Available Techniques (BAT) and Best Environmental Practice (BEP) to develop sustainable and cost-effective solutions to reduce and prevent sewage and storm water related waste and entering the marine environment, including micro particles as well as improving current management in waste water treatment plants.
 - n) Include measures addressing and accelerating safer material innovation and less toxic plastic additives, promoting industry collaboration and increasing access to information on chemical composition of plastic articles.
 - o) Explore methodologies to monitor and assess riverine inputs of marine litter in the Mediterranean and identify specific relevant measures upstream in order to minimize these inputs.
 - p) Consider the application of regulatory measures including incentives and circular economy approaches to combat/ the existing informal/illegal recycling networks around the basin and promote their transformation to formal/legal waste management schemes.

¹⁰ Additional assessment is required to define the respective measure

Way forward

1. The process of development, negotiation and adoption may take two to three years for each of the six Regional Plans, although aggregated in terms of substance; and some may even require a specific thematic assessment prior to elaboration. In this respect, several approaches may be followed to set priorities in view of their timely and differentiated development and negotiations.

2. The time required for the implementation of the technical measures at national level is a crucial consideration and key factor taking into account that the implementation of some measures may require important investments and long processes for both public and private sectors.

3. Based on the conclusions of the present Regional Meeting of Experts, the Secretariat will continue the work to define and finalize the main elements of the technical measures and related timetable for their implementation. It is safe to anticipate an overall assessment, to the extent possible, of the potential impacts (GES and SDG targets related) of their implementation in a time frame extending between 2024 and 2030. This maybe an approach for setting priorities in terms of development and negotiation timing for each Regional Plan.

4. There are several existing Regional Guidelines related to the management of obsolete chemicals, hazardous waste and environmental management of industrial sectors already adopted by the Contracting Parties. A possible approach would be to start developing the Regional Plans that address issues not yet covered by the existing Guidelines already adopted by the Contracting Parties.

5. Another approach would be to start upgrading the existing Regional Plans with the new elements/measures and/or to transform, modify, and upgrade the provisions of the existing Regional Guidelines to fulfill the requirements of the relevant Regional Plans.

6. The Table below proposes possible scenarios regarding the time frame for the development, negotiation and adoption of the Regional Plans for a first preliminary exchange of views with the Contracting Parties:

Regional Plan	2018-2019 COP 21	2020-2021 COP 22	2022-2023 COP 23	2024-2025 COP 24
<i>Municipal Wastewater Treatment</i>	Develop the main elements of the Regional Plan. Mandate to upgrade the BOD Regional Plan.	Upgraded Regional Plan developed and submitted to COP 22.		
<i>Sewage Sludge Management</i>	Develop the main elements of the Regional Plan. Mandate to develop the new Regional Plan. Mandate to develop technical annexes (2020 - 2023).	Regional Plan developed and submitted to COP 22 (without technical annexes). Work ongoing to finalize the technical annexes.	Technical annexes of the Regional Plan finalized and submitted to COP 23.	
<i>Agriculture Nutrients Management</i>	Develop the main elements of the Regional Plan.	Mandate to develop the Regional Plan/Guidelines.	Regional Plan/Guidelines developed and	

Regional Plan	2018-2019 COP 21	2020-2021 COP 22	2022-2023 COP 23	2024-2025 COP 24
	Mandate to undertake an Overall Assessment.		submitted to COP 23	
<i>Aquaculture Nutrients Management</i>	Develop the main elements of the Regional Plan. Overall Assessment and mandate to develop technical standards for Aquaculture.	Mandate to develop the Regional Plan. Work ongoing on technical standards.	Regional Plan and its technical standards developed and submitted to COP 23.	
<i>Urban Storm Water Management</i>	Develop the main elements of the Regional Plan. Sharing of best practices ongoing. State of play report and exchange of best practices; capacity building activities.	Mandate to develop the Regional Plan.	Regional Plan developed and submitted to COP 23.	
<i>Marine Litter (upgraded)</i>	Preparations of relevant Guidelines as provided for in the existing Marine Litter Regional Plan ongoing. Mandate to upgrade the Marine Litter Regional Plan or to add technical annexes to incorporate the new elements.	Upgraded Marine Litter Regional Plan or technical annexes to the existing Regional Plan submitted to COP 22.		