

Annex 4: Stepwise approach PoMs development

Step 1: Comparative analysis of MSFD elements under Art. 8, 9, 10 and 11

The starting point for the programmes of measures are the environmental targets defined by Bulgaria and Romania, linking on their turn to the definitions of good environmental status addressing the predominant pressures.

As a first step the contractor will carry out a comparative analysis of Bulgarian and Romanian national MSFD reports (under Article 8, 9, 10 and 11) taking into account Article 12 report recommendations and the outcomes of the service contract (Phase 1).

Based on this analysis, a more in-depth assessment shall be carried out to be aware of all the necessary information which is the basis for the preparation of programmes and considering also the Black Sea Commission regional documents, available (Black Sea SAP (Strategic Action Plan) 2009) or under development (State of the Environment of the Black Sea 2008-2013, SAP implementation report) and any other relevant on-going work in the Black Sea Commission or related projects with a view to promoting consistence (including identifying possibilities for joint PoM).

The analysis will focus on, without being limited to:

- Overview of most relevant pressures and impacts at subregional level (BG, RO – Art. 8) and regional level (Black Sea);
- Overview of revised GES (Art.9) & targets (Art.10) by BG & RO;
- Overview of monitoring programmes & related indicators/parameters by BG & RO inclusive common indicators defined within the Black sea subregion (Art.11)/region;
- Overview of common indicators defined in regional action plans (RAP) of other regional seas (i.e. RAP on marine litter have been developed, some of them already approved, for the Mediterranean (UNEP/MAP), NE Atlantic (OSPAR), Baltic (HELCOM)).

It is important when developing PoMs, that measures can be linked to the implementation of Article 8-11 in the Member States and that it is clear to which descriptor(s) they are related. Only in this way the progress made towards a good environmental status by the implementation of measures can be evaluated. If necessary, the implementation of Art. 9 and 10 may need to be reviewed and updated in the light of the Article 12 report of the Commission and the needs for the monitoring programmes and the PoM.

Focusing on a joint or coordinated PoM, especially the link with transboundary pressures and impacts for BG & RO (and in the whole Black Sea region), and their GES & target definitions will be important. Close consideration will take place of the

work done by the Black Sea Commission. Some main policy questions assessed under the Black Sea Integrated Monitoring and Assessment Programme (BSIMAP), linking these pressures with potential measures, are:

- What is the level of eutrophication? Are the regional efforts to combat eutrophication effective and do we see them reflected in the concentrations of nutrients in the Sea?
- What are the priority pollutants in the Black Sea and their impact on ecosystem and human health? Does pollution reduction occur?
- Is the bathing water quality safe for human health?
- What is the response of biodiversity to main pollution and what is the level of habitats destruction/revitalization?
- Does pollution of biota exceed the human consumption safety limits?
- How does overfishing, pollution and eutrophication affect the major stocks of marine living resources?
- What is the impact of increasing oil/gas exploration activities in the Sea?
- What are the effects of sea-level changes and other climate change parameters?

The priority parameters in BSIMAP envisaged providing knowledge-based answers to the main policy questions, the recommended BSIMAP initial actions and the status of their implementation with improvements needed are listed in Annex 5 of the inception report.

Furthermore, candidate joint or coordinated measures could also refer to descriptors where there are additional, overarching commitments (such as marine litter), where considerable work has already been done and data are available (e.g. nutrients, contaminants). In this respect measures formulated under for example the regional action plans on Marine Litter by OSPAR or UNEP/MAP or mentioned in the Marine Litter report (2009) for the Black Sea region (<http://www.blacksea-commission.org/publ-ML-Authors.asp>) can serve as example, such as:

- Identify the options to address key waste items from the fishing industry and aquaculture, which could contribute to marine litter, including deposit schemes, voluntary agreements and extended producer responsibility (OSPAR)
- Seeking cooperation in the river and river basin authorities in order to include impacts of litter on the marine environment in river and river basin management plans (OSPAR)
- By the year 2019 implement adequate waste reducing/reusing/recycling measures in order to reduce the fraction of plastic packaging waste that goes to landfill or incineration without energy recovery (UNEP/MAP).

As a deliverable, an **overview table of this in-depth analysis** will be made summarizing and compiling the elements of Article 8, 9, 10 and 11 that Bulgaria

and Romania reported in 2012 - 2014 and comparing them with other related elements (such as indicators) used in the Black Sea or other MS/regions.

Step 2: Long-list of Measures

As a second step, a long-list of measures will be developed based on different sources and expertise. A distinction will be made between existing and new measures according to the definitions of the EC Recommendation on PoM.

Existing measures (Art 13.1 & 13.2) are:

- Category 1.a: Measures relevant for the maintenance and achievement of GES under the MSFD, that have been adopted under other policies and implemented;
- Category 1.b: Measures relevant for the maintenance and achievement of GES under the MSFD that have been adopted under other policies but that have not yet been implemented or fully implemented;

New measures (Art 13.3) are:

- Category 2.a: Additional measures to maintain and achieve GES which build on existing implementation processes regarding other EU legislation and international agreements but go beyond what is already required under these;
- Category 2.b: Additional measures to maintain and achieve GES which do not build on existing EU legislation or international agreements.

A. Existing measures and gap analysis

Firstly, **measures already in place** (existing measures) will be identified that contribute to addressing the predominant pressures and reaching MSFD environmental targets, as defined under step 1. This step will include :

- Measures linked to other European and international policy frameworks: an indicative list of relevant EU legislation (e.g. EU WFD, Natura 2000, MARPOL 73/78, Directive 200/59C, Nitrate Directive, Bathing Water Directive, UWWTP, etc)
- Measures that are subject of national procedures and legislation such as permit applications or EIA procedures;

Besides a desk top study to identify existing measures, a capacity building event with stakeholders (CBE) will be organised to validate the results of the study and to complement them where needed. The list will be structured according to the environmental targets defined by Bulgaria and Romania in step 1 (Table 1).

Table 1 : Description of the measure and reference to relevant legislation (where applicable)

	Contribution by existing measures	Contribution by new measures
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Environmental targets	Description of the measure	Cat. 1.a & b	Cat. 2.a & b
1.			
2.			

Secondly, a **gap analysis** will be conducted to assess how far these existing measures are sufficient to address the priority (transboundary) pressures and reach the MSFD GES & environmental targets set by BG & RO. It is important to distinguish between measures which are adopted and already implemented, and measures adopted but not yet implemented to ensure the robustness of this analysis. Both of these measures will be part of the baseline scenario and not subjected to additional analysis (CEA, CBA).

Considering the limited time frame of the service request, the gap analysis will be based on expert judgement (CBE event).

B. Identification of possible new measures

If gaps are identified, the next step consists of identifying **possible new measures** to meet the MSFD environmental targets. This step will include a desk top study of:

- Measures proposed in recently adopted EU legislation (e.g. new Common Fisheries Policy, revised waste legislation, Marine Spatial Planning) and in the recently adopted BSC documents (e.g. Marine Litter report);
- Spatial protection measures to improve Marine Protected Area (MPA) networks or to manage industrial or leisure activities;
- Measures applied or proposed in other regional seas;
- Measures given in the Arcadis study (2011) 'Economic analysis of policy measures for the implementation of MSFD'.

In addition to the desk study, a capacity building event will be organised with stakeholders and sectors to brainstorm on potential new measures to close the gaps towards the environmental targets.

The possible new measures will be added to the list of existing measures (Table 1) and structured according to the environmental targets defined by Bulgaria and Romania.

Step 3: Shortlist of Measures (proposed candidates for joint or coordinated PoM)

Within this service contract, the contractor shall propose candidates for joint or coordinated PoM as the basis of a "roof report" for Bulgaria and Romania.

Following definitions are proposed and should be agreed upon:

- A joint measure is a common action (in time, in place) taken by both MS (e.g. the implementation of a transboundary marine spatial plan, joint monitoring surveys).
- Coordinated measures are measures implemented separately in both MS, but which are fine-tuned with respect to methodology and/or procedures (e.g. harmonization of Environmental Impact Assessment procedures).

From the long-list of measures an initial selection of the existing and new measures will be made focusing on:

- Measures with a direct link with the common GES and environmental targets (overarching commitments) defined by Bulgaria and Romania;
- Measures which contribute significantly to a reduction of the most relevant, transboundary pressures and impacts;
- Measures that are also relevant within other European policy frameworks such as WFD, Natura 2000, MSP, and which need a coherent approach between Bulgaria and Romania;
- Etc.

To get maximal support for this shortlist of measures, the selected candidates for joint or coordinated measures will be presented and further discussed with the national focal contact points and with relevant stakeholders (CBE).

For the new measures (category 2b) of this short list, the next step will consist of identifying the technical feasibility followed by an cost-effectiveness and impact assessment including a cost-benefit analysis¹. This is further explained in the steps below.

Concerning Category 2.a measures, MS should determine on a case by case basis, the methods and responsibility to perform the impact assessment in order to avoid using different methods.

Step 4: Technical feasibility, cost-effectiveness and benefits

The new candidate joint or coordinated measures included in the short-list are further assessed in terms of technical feasibility, cost-effectiveness and benefits. Following sections briefly describe the proposed methodology.

¹ If private companies are implementing measures by themselves, paid for by themselves, because they think it is a good thing to do, and those measures can be enforced, the impacts of those measures should be assessed and these measures can be included as new measures, but since they are paid for by the sectors themselves, no economic analysis needs to be performed for this type of measures.

A. Technical feasibility

The new measures will be classified into the following categories that can be seen as an indicator of the technical feasibility:

Frequently applied, Best Available Technologies (BAT)
Frequently applied; extensive experience / evidence of good practice
Applied; limited experience / uncertainties
New development

Measures with only limited experience, or new developments, have currently a more limited technical feasibility than measures for which already exists some more experience. Such measures have a potentially lower risk of fluent and successful implementation. This does however not mean that the implementation of these measures is considered as impossible.

To verify that these measures are feasible (for example that existing measures adopted at a small scale or in the context of a pilot project could be applied at a larger scale or generalized) use will be made of expert judgement, inputs from RSCs or consultation with stakeholders.

B. Cost-effectiveness

The effects of a measure are related to the potential reduction of a pressure as a result of the measure, the importance of the pressure with respect to the descriptor, the geographical dimension of the effect and the sensitivity of the area. Studies in other regional seas (such as HOLAS, HARMONY) or performed by EU MS (Belgium, UK, Netherlands) will be used as a basis for this impact-descriptor/targets-activity table.

The costs will be given as total annual costs. Data will be obtained from cost assessments done in the Black Sea (e.g. TDA (2008), Halkos (2013)²) and in other regional seas (e.g. Reinhard *et al.*, 2012³, UNEP/MAP, 2013⁴). Cost data will also be obtained by direct contact with the sectors.

The evaluation of both the effects and the costs will be done on a semi-quantitative manner using size classes, which are converted into scores of 1 to 5, as shown in the table below (illustrative example). Also, the cost-effectiveness is scored from 1 to 5. The definition of the size classes will be the subject of a capacity building event and will be done in cooperation with relevant stakeholders.

² Halkos, George (2013): Cost-effectiveness analysis in reducing nutrient loading in Baltic and Black Seas: A review. <http://mpira.ub.uni-muenchen.de/52296/>

³ Reinhard, S., A. de Blaeij, M.-J. Bogaardt, A. Gaaff, M. Leopold, M. Scholl, D. Slijkerman, W.-J. Strietman and P. van der Wielen (2012). Cost-effectiveness and cost-benefit analysis for the MSFD – Framework for the Netherlands. Lei report.

⁴ UNEP/MAP (2013). Background Document on Marine Litter Regional Plan Measures and Indicative Cost Estimation of Measures Implementation

Score	Effectiveness	Annual cost	Cost-effectiveness
1	< 7	> € 1 million	very low
2	7 - 7.5	€ 200,000 - 1 million	low
3	7.5 - 9	€ 50,000 - 200,000	moderate
4	9 - 10	€ 10,000 - 50,000	high
5	> 10	< € 10,000	very high

As a result of the often limited data availability with respect to costs and effectiveness, the assessment of the cost-effectiveness will take place in a qualitative manner, using the matrix shown below. The combination of a cost score (1-5) with an effectiveness score (1-5) will result in a score for the cost-effectiveness (also falling within a range of 1 to 5). The most cost-effective measure has a score of 5 and the least cost-effective a score of 1.

		Effectiveness				
		5	4	3	2	1
Cost	1	3	3	2	1	1
	2	3	3	3	2	1
	3	4	4	3	2	2
	4	5	4	3	3	3
	5	5	5	4	3	3

C. Benefits

Art 13.3 of the MSFD states that Member States shall also carry out impact assessments, including cost-benefit analyses, prior to the introduction of any new measure. According to the EC Impact Assessment Guidelines⁵, a CBA can be done at various levels: it can be either a fully quantified and monetized CBA, however often in the cases at hand only a part of the costs and benefits can be quantified and monetised.

One of the current approaches of assessing benefits is based on the Ecosystem services framework. Ecosystem services are defined as the benefits of the ecosystem to society, or in other words, those aspects of the ecosystem that are consumed and/or can be used to increase prosperity. At present, a quantitative assessment of ecosystem services is still challenging⁶. Therefore, within this service request a qualitative illustration of the concept will be given, in which the benefits and/or the adverse effects of each new measure will be described qualitatively in relation to the various ecosystem services.

⁵ http://ec.europa.eu/smart-regulation/impact/commission_guidelines/docs/iag_2009_en.pdf

⁶ See also the outcomes of the "Background document summarizing experiences with respect to economic analysis to support member states with the development of their programme of measures for the marine strategy framework directive" (Arcadis, 2014, to be published by WG ESA)

D. Other evaluation criteria

In the final decision making process with respect to the selection or prioritization of measures also other evaluation criteria may play a role, such as financing opportunities, operational feasibility of coordinated measures and acceptance by stakeholders. The importance and selection of these other evaluation criteria will occur in collaboration with the NFCP and relevant stakeholders during a CBE.

A useful tool for presenting the full range of benefits could be Multi-Criteria Analysis (MCA). MCA applies cost-benefit thinking to cases where there is a need to present impacts that are a mixture of qualitative, quantitative and monetary data, and where there are varying degrees of certainty. This mixture of units in which impacts are expressed is a typical feature in the MSFD context.

Step 5: Description of proposed coordinated measures as input for PoM reporting

The joint or coordinated measures will be described using a standardized template according to the SMART principle. To start with, a template for such fact sheet needs to be developed and agreed building on the following guidance and experience discussed at EU level at the moment, in particular:

- Recommendation on Programme of Measures with specific attention to the Reporting sheet;
- Additional communication from the Working Group on Data, Information and Knowledge Exchange (WG DIKE) on reporting of PoM;
- Examples of such fact sheets developed in other EU MS or RSC. In this respect the work done under 'Support to the Black Sea Commission for harmonization with the EC Marine Strategy Framework Directive' will be followed up, with one of the main activities "Further development of the programme of measures, support the development of relevant legislation and policies and their enforcement in the Black Sea region within the framework of the Convention on the Protection of the Black Sea Against Pollution" (http://www.blacksea-commission.org/projects_BSCMSFD.asp)

A first draft of such a template is given in Annex 6 and will be further discussed during the inception meeting.

Once the template has been agreed, it shall be completed based on the input and information provided by BG and RO and using, where appropriate, input from related and relevant projects. The sheets will form the basis for the reporting of PoM by the national authorities of BG & RO, as described by the EC Recommendation on PoM. A distinction is hereby made in a general set of questions and in a set of specific questions for each measure.

The draft joint or coordinated PoM will be prepared in English and translated in BG and RO before public consultation (translation budget foreseen). The specific requirements regarding the extent of info and formats for consultation need to be confirmed during the inception meeting based on the latest info from WG DIKE.

Step 6: Consultation

Intensive consultation is a prerequisite for a successful implementation of the programme of measures (PoM) as it will affect several sectors, authorities, etc.

Consultation will take place at several levels:

- Sectoral/stakeholder consultation
- Consultation of authorities/ ministries
- Public consultation

Stakeholder consultation

During the course of the project, relevant stakeholders and authorities will be invited to take part in the interactive capacity building events to support the development of the proposed coordinated or joint PoM. By engaging key players from the start, the contractor wants to create maximum ownership for the proposed measures. The role of the participants to the CBEs will be amongst other to provide data (e.g. on costs), to give direct input on measures and support the assessment of potential gaps to meet GES with the existing measures. The majority of these meetings as a support for task 1.1 should take place before July 2015, to be in line with the deadlines set by the ToR.

Public consultation

Following the ToR, the proposed coordinated or joint PoM shall be consulted and agreed with BG and RO authorities by July 2015 as a basis for a coordinated public consultation exercise in accordance with Article 19. The public consultation will be carried out by the Member States' authorities and is not part of the contract. However, changes to these draft PoMs as a result of the public consultation shall be included by the contractor into the final version of the PoM to be submitted by the BG and RO authorities to the Commission as per Article 5(b) of MSFD.

In addition, it has been stated by the EC Recommendation on PoM that Member States shall notify the Commission and other relevant MS of their PoM within 3 months of their establishment (i.e. by 31 March 2016).

Considering the time frame of the service request (January 2015- October 2015), a detailed timeline of the PoM process (incl. public consultation (duration)) should be

further discussed with the national authorities of BG & RO and the EC during the start of the contract.

Step 7: Final draft joint or coordinated PoM

Based on the results of the public consultation (on the basis of input provided by the BG and RO authorities), a final version of the joint or coordinated PoM will be drafted by the end of the project (10 months). This document can then be submitted by the BG and RO authorities to the Commission as per Article 5(b) of MSFD.