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**MEDITERRANEAN ACTION PLAN  
MED POL**

Meeting of the Working Group to review the long-term implementation of  
National Action Plans to address pollution from land-based activities

Barcelona, (Spain), 1-2 March 2007

**REVISED STRATEGY FOR THE  
LONG-TERM IMPLEMENTATION OF THE NAPS**

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## 1. Introduction

The Contracting Parties to the Barcelona Convention committed themselves to a regional effort to reduce land-based inputs of polluting substances into the Mediterranean sea that are likely to cause serious disruption of the marine ecosystem. To that end, pollution reduction targets up to the year 2025 adopted in the framework of the Strategic Action Programme (SAP) to address Land Based Activities. In order to concretely meet their commitments, the Mediterranean Countries prepared National Action Plan (NAPs) through an effective multistakeholder participatory process. NAPs were based on National Diagnostic Analyses (NDAs), National Baseline Budgets (NBBs) of pollution emissions and releases for the year 2003 and Sectoral Plans (SPs). The NAPs, prepared and endorsed in 2005, describe in concrete terms the ways and means through which each Contracting Party is planning to meet its SAP commitments through short-term priority actions (2010) and long-term actions (2025).

The process of implementation of the NAPs by the countries is to date based on the decision of the 12th meeting of the Parties in Monaco in 2001 to apply the "flat rate" methodology to achieve the pollution reductions and fulfill the SAP targets (i.e. same responsibility and same reduction targets for all countries). The decision derived from the fact that at that time (i.e. in 2001) not enough data and information on pollution sources and inputs was available to possibly consider other approaches than the "flat rate". While entering in the phase of concrete implementation of the expected pollution reductions, and considering that with the expected entry into force of the LBS Protocol a new text based on the present SAP will become legally binding, the Contracting Parties, noting that a large amount of data and information on pollution sources had become available through the preparation of NDAs, NBBs and NAPs, recommended to the Secretariat to review and analyze the possible application of different approaches for achieving pollution reductions based on the burden sharing concept and differentiation principles (see ref. Doc. UNEP (DEPI)/MED IG.16/13).

In June 2006 the MED POL Coordinators, as a result of consultation meeting held in Durres, Albania, reviewed a proposal by the Secretariat for a new strategy for the implementation of NAPs to address Land Based Sources of Pollution which was based on the reclassification of the pollutants targeted by the SAP into three categories and the use of "the cost of abatement" as the main criterium to develop a differentiation mechanism coupled with a set of regional flexibility criteria. As a result of the discussion, the MED POL Coordinators decided to establish an *ad hoc* Working Group to review and discuss additional possible criteria to be used as the basis for a differentiation mechanism (see ref. Doc. UNEP(DEPI)/MED WG. 289/4).

To facilitate the work of the Working Group, the Secretariat prepared with the assistance of a group of regional expert a review document which identifies and describes a number of potential criteria and mechanisms which could be useful to be examined by the group (see doc. UNEP(DEPI)/MED WG.307/inf.3). The criteria and mechanisms were selected on the basis of the relevant literature, MEAs experiences, Mediterranean socio economic conditions and the availability of data and information. The Secretariat considers that the review document is exhaustive enough as to enable the Group to provide guidance on the relevant criteria to be considered and prepare the ground for the identification of a feasible, fair and concrete differentiation mechanism which would be the corner stone of the new legally-binding SAP according to Art. 15 of the LBS Protocol.

The present document describes a revised strategy for the long-term implementation of the NAPs based on the information provided in the review document.

## 2. Elements of the strategy

### 2.1 Identify the targets-grouping the substances

The review and analysis of the NDAs, NBBs and NAPs made by MED POL indicated that only a selected number of substances out of the exhaustive list included in the SAP could be successfully addressed in a short-term pollution reduction process in view of the availability of reliable data and the capacity and the capability of the countries to address those issues (see ref. Doc. UNEP(DEPI)/MED WG 289/inf.3).

#### 2.1.1 Until 2010

On the basis of the MED POL analysis and taking into consideration the recent regional and international developments in the field of management of chemicals and pollution in general, such as those occurring in the POPs, Basel and PIC Conventions, it is proposed that in the period until the year 2010 NAPs would target pollution reductions of only a limited number of substances. The substances could include:

##### Liquid releases:

BOD from Industrial sources

BOD from urban waste

Total nitrogen

Total Phosphorus

Mercury

Cadmium

Lead

Hydrocarbons

Oils and greases

Phenols

Hazardous waste (luboil, obsolete chemicals including POPs and batteries)

##### Gaseous emissions:

TSP

VOC

PCDD/PCDF

Nitrogen oxides

NH<sub>3</sub>

#### 2.1.2 Until 2015

Concerning the targets to set for the year 2015, the following substances are proposed:

Other air pollutants as indicated in the SAP

PAHs

Organometallic compounds of Mercury, Lead and Tin

Zinc, Copper, Chrome

Halogenated Aromatic compounds

Chlorinated Phenolic Compounds

Organohalogenated pesticides

Halogenated Aliphatic Hydrocarbons

Chlorinated Paraffins

Hazardous wastes (except batteries, lubeoil and obsolete chemicals)  
Substances from agriculture activities (nutrients, pesticides)

As to the above substances, it is proposed to rely on the data and information deriving from future updating of the NBBs and from future assessment reports which will allow an evaluation of their importance and relevance. A decision on their inclusion in the list of targets for pollution reduction (including possible deadlines) will be therefore postponed to a later date and appropriate proposals will be submitted to Contracting Parties for approval.

### 2.1.3 Until 2025

Concerning long-term targets (i.e. for the year 2025), it is proposed that the MED POL Programme, throughout its biannual programme of activities, would develop criteria (similar to criteria adopted by OSPAR) to identify and prioritize an additional list of substances of possible concern to be addressed by specific control programmes to prevent and/or reduce and/or eliminate their inputs into the marine environment. The identification and prioritization of substances of possible concerns will be based on a multistakeholder consultation process and on the best available information related to their:

toxicity,  
persistence, and  
liability to bioaccumulate.

## 2.2 Continuing working on the basis of the "flat rate"

As mentioned earlier, the Contracting Parties to the Barcelona Convention at their meeting held in Monaco in 2001 decided to apply the "flat rate" for all Mediterranean Countries as their strategy for the implementation of the SAP pollution reduction targets. The approach included an internal (national) flexibility criterion for which each country would reduce by (x%) its aggregate releases of a targeted pollutant by the year (y) with a baseline budget of emissions and releases for each targeted pollutant as reference. This approach was meant to ensure that equity between Parties would govern the long-term implementation of the SAP commitments.

In order to apply this approach it was agreed that:

1. each Party would set up its own national "baseline budget" of pollution releases and emissions for the year 2003 for each of the targeted pollutants;
2. the "national baseline budget" for a SAP targeted pollutant would be the sum of the individual releases;
3. any Party may transfer internally release reduction targets between different activities generating the same targeted pollutants according to the socio-economic and environmental priorities prevailing in the country.

The Secretariat believes that the adoption of the "flat rate" was fully justified at the time of the launch of the SAP as the most convenient strategy for its implementation, mostly in view of a generalized lack of data and information on pollution sources and inputs that did not allow any other option. In practice, the "flat rate" reductions resulting, from a wider perspective and from similar international experiences, neither efficient, nor environmentally effective and feasible as a means of achieving concrete results. In fact, in the case of the Mediterranean countries, the analysis of the recent and reliable data and information included in the NDAs, NBBs and NAPs showed that most of the countries, because of socio economic constrains, would not be able to

implement in full the actions described in the NAPs. In addition to that, countries would face very different costs of reduction.

The table here below, elaborated on the basis of the information contained in the NAPs, shows a rough financial analysis of the minimum cost of priority actions that countries would need to implement in order to meet the SAP commitments, on the basis of the “flat rate”.

<b>Country</b>	<b>WWTP* M. Euros</b>	<b>Solid waste M. Euros</b>	<b>Industrial Treatment M. Euros</b>	<b>Total M. Euros</b>
Albania	209	30	19	258
Algeria			143	143
Turkey	310	-	343	653
Lybia	143	56	56	255
Malta	82	14	25	121
Morocco	200	7,4	35,8	243,2
Croatia	357			357
Egypt	142		30	172
France	357			357
Greece	2	0.076700	30,2	32,27
Israel	1874	378		2252
Lebanon	120,7	18		138,7
Serbia- Montenegro	280	31		311
Slovenia	165	53	6.5	224,5
Syria	40	2	51	93
Tunisia	129	20,4	303	452,4

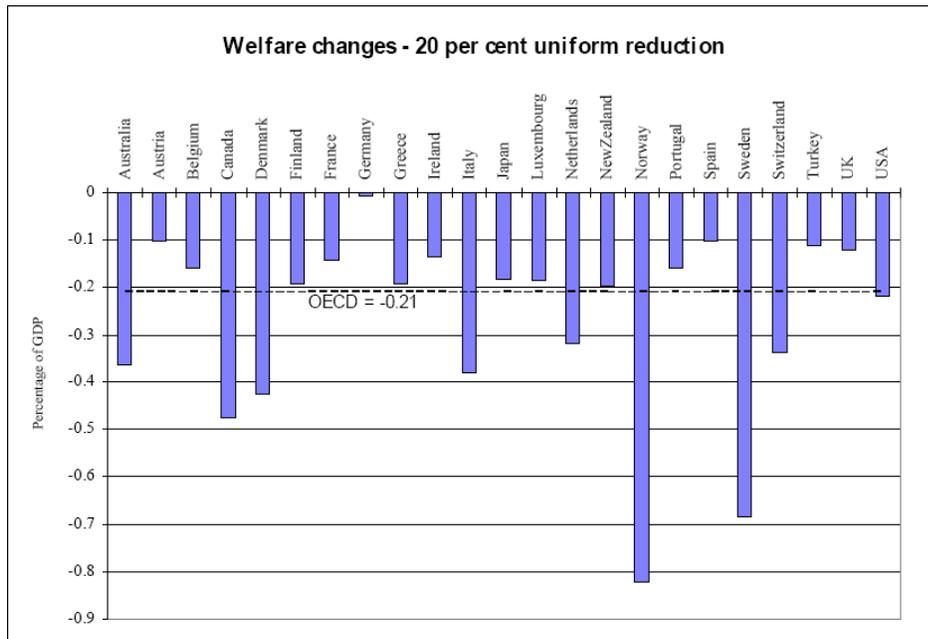
\*WWTP: Wastewater Treatment Plant

The data exhibited in the table clearly indicate the unfairness of the financial efforts needed to be deployed by Mediterranean countries for investments aiming at complying with the SAP commitments by the year 2010, if the “flat rate” is retained.

In order to illustrate the problems argued with the flat rate approach, a figure is reproduced here below from” Torvanger et al (1996)”\* showing a calculation of the costs to some OECD countries under a flat rate agreement of 20% reduction of CO2 emissions relative to 1993 levels. As it is shown in the figure the welfare effect on the GDP is always negative for all OECD countries. Obviously, the effect changes from one country to another.

\* Torvanger et al(1996): Exploring distribution of commitments. A follow –up of Berlin Mandate. Report 1996:3.CICERO

**Welfare effects of a uniform 20 per cent reduction in CO2 emissions.**



Source: Torvanger et al (1996)

In fact, besides fairness debate, it has also been widely observed that the flat rate approach is not cost-effective.

**2.3 Applying the differentiated approach to implement the NAPs and meet the SAP commitments**

**Definition of the principle**

The principle of ‘common but differentiated responsibility’ evolved from the notion of the ‘common heritage of mankind’ and is a manifestation of general principles of equity in international law. The principle includes two fundamental elements. The first concerns the common responsibility of States for the protection of the environment, or parts of it, at the national, regional and global levels. The second concerns the need to take into account the different circumstances, particularly each State’s contribution to the evolution of a particular problem and its ability to prevent, reduce and control the threat.

Thus, the principle recognizes historical differences in the contributions of developed and developing States to global environmental problems, and differences in their respective economic and technical capacity to tackle these problems. The principle n. 7. of the Rio Declaration states: “In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The states acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.” Similar language exists in the Framework Convention on Climate Change; parties should act to protect the climate system “on the basis of equality and in accordance with their common but differentiated responsibilities and respective capabilities.”

In the framework of the Barcelona Convention, the "sustainable development", the "equity" and the "cooperation between Parties" concepts are embedded in the text of both the Convention and the Protocols.

#### Implications of the principle

In practical terms, the principle has at least two consequences. First, it entitles, or may require, all concerned States to participate in international response criteria aimed at addressing environmental problems. Second, it leads to environmental targets or standards that impose differing obligations on States.

Common responsibility describes the shared obligations of two or more States towards the protection of a particular environmental resource. Common responsibility is likely to apply where the resource is shared, under the control of no state, or under the sovereign control of a state, but subject to a common legal interest (such as biodiversity).

Differentiated responsibility of States for the protection of the environment is widely accepted in treaty and other State practices. It translates into differentiated environmental targets or standards set on the basis of a range of factors, including special needs and circumstances, future economic development of countries, and historic contributions to the creation of an environmental problem. In the Rio Declaration, states agreed that "environmental standards, management objectives and priorities should reflect the environmental and developmental context to which they apply".

Differential responsibility therefore aims to promote substantive equality between States within a regime, rather than mere formal equality. The aim is to ensure that they can come into compliance with particular legal rules over time – thereby strengthening the regime in the long term. The techniques available in differentiated responsibility include 'grace periods' or delayed implementation and less stringent commitments.

A particularly important aspect of the principle is international assistance, including financial aid and technology transfer. In addition to moving toward sustainable development on their own, states are expected to provide financial, technological, and other assistance to help each other to fulfill their sustainable development responsibilities.

The principle therefore provides for asymmetrical rights and obligations regarding environmental targets and standards, and aims to induce broad State acceptance of treaty obligations, while avoiding the type of problems typically associated with a lowest common denominator approach. The principle also reflects the core elements of equity, placing more responsibility on wealthier countries and those more responsible for causing specific global problems. The principle also presents a conceptual framework for compromise and co-operation in effectively meeting environmental challenges.

In the case of its application to pollution reduction and according to MEAs experiences, the differentiated approach is commonly associated to a set of flexibility mechanisms and transfer of technology and know how including capacity building programmes which could facilitate the implementation of the reduction actions, mobilize cooperation throughout the region and between parties and ensure equity, fairness, flexibility, efficiency and treacability of the process.

During the last five years MED POL produced several reports on the state of the Mediterranean marine environment and its pressures that led to the identification of pollution hot spots and

sensitive areas. A comprehensive Transboundary Diagnostic Analysis (TDA) was also prepared and, recently, NDAs, NBBs and NAPs including Sectoral Plans provided additional and reliable data and information directly from the countries. The Secretariat believes that the above now provide the basic information which will help the development of a differentiation mechanism to target reduction actions.

Moreover, the review document UNEP(DEPI)MED WG.387/inf.3 provides an important benchmark which would enable the secretariat to develop and propose for the consideration of the Parties the most appropriate differentiation mechanism.

### 3. Analysis of the potential differentiation criteria/mechanisms

#### 3.1. Differentiation mechanism based on load reduction

Under this chapter, four possible differentiation criteria based on load reduction will be examined.

##### *A- Nature of substances and nature of sources*

Nature of substance:

The nature of substance can help prioritize and choose the most adequate pollution reduction action for each pollutant. For example, as shown in the following table, persistent and toxic compounds could be approached through reduction in total loads, especially air emissions with transboundary effects in the region. However, other substances not so toxic or persistent can equally be of concern because of their effects at the local environment, like BOD or nutrients causing eutrophication.

##### **Nature of substance as a criterion to orientate nature of action – some examples**

<b>Nature of substance</b>	<b>Nature of action</b>	<b>Examples</b>
Persistent and Toxic	Reduction of total loads	Organohalogen, heavy metals, dioxins,...
Local effects	Emission Limit Values	BOD, Nutrients, TSS
Hazardous wastes	Intervention on hot spots	Stockpiles of pesticides

Nature of sources:

The characteristics of the sources of pollution can also orientate the nature of criterion, but especially the scope of action. If a pollutant is released widespread over the Mediterranean region and by several industrial sectors, all countries should undertake actions to abate emissions (see examples in the following table). In other cases some pollutants will be mostly released in a certain area of the region, or by a few countries, in both cases just involving a limited group of countries. Pollutants can also be released widespread over the region, but

clustered in a few sectors or even a single sector. Sources may be very concentrated, as for the case of hot spots, where action will be needed at the local scale. Finally, releases can also be those which are located close to priority areas, such as protected areas, where actions will be focused at local level, but at the same time in all protected areas threatened by pollution in the region.

**Nature of sources as a criterion to orientate the scope of action – some examples**

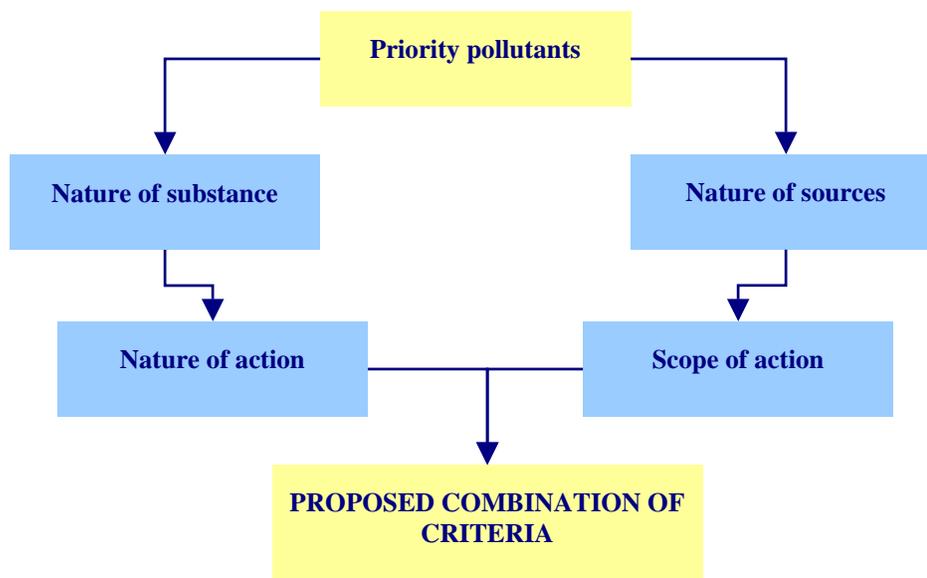
<b>Nature of sources</b>	<b>Scope of action</b>	<b>Examples</b>
Widespread over the Med region	All countries	BOD, nutrients, dioxins, mineral oils
Clustered in a group of countries or sub-region	Group of countries	Chemicals-NW Med? ; Pesticides-SE Med?
Clustered in a sector	Sectors	N,P-Agro-faming?; PAH-oil sector?; Zn-Metal?
Hot spots	Local	Oil terminals, petrochemical sites
Vicinity to protected areas	Local	To be identified by geographical analysis

In order to analyze the nature of sources and relate it with the scope of action, accurate data on the amount of pollutants released and the geographic distribution of sources is required. These data are currently available in hot spot reports, NDAs and NBBs. The assessment of the state of the environment itself is another very important criterion to be taken into account when defining the scope of action, as the level of pollutants in different media, their trends and geographical distribution can provide information on the priorities and the potential sources. National monitoring programmes could be valuable sources of information to complement the sources data.

The two grouping and differentiation criteria could be combined in different manner. As it was shown in Doc. UNEP(DEPI)MED WG.307/inf.3, it is possible to combine the nature of substances and of sources. As an example, persistence and toxicity could be used to approach the most adequate nature of action, whereas the nature of sources of pollutants (regional, clustered in sub-regions or sectors, etc.) can suggest where to implement each action.

The different criteria can be then combined to finally identify a set of action that can be proposed for each pollutant or group of pollutants (see figure below).

**Figure. A procedure to determine possible combination of criteria.**



These options are exclusively based on environmental factors. For this reason, unless the Contracting Parties show a very strong willingness to improve the quality of the marine environment regardless the socio economic burdens that might come out of its implementation, these criteria are considered by the Secretariat at the same level as the “flat rate”: very costly and non meeting the fairness and the equity conditions.

#### *B- Cost of abatement*

The second criterion that could be proposed to implement a grouping and differentiation process is based on an analysis of the costs of reduction according to which the regional reduction targets can be met if achieved in selected countries where the costs are lower. The application of this methodology could also provide opportunities both for promoting exchanges of assistance and cooperation, transfer of technology and know how.

It should be noted in fact that industrial facilities could abate pollution by scaling back polluting activities through implementation of cleaner technology or by diverting resources to cleanup through treatment process. In either case, pollution reduction will entail costs. Hence the Marginal Abatement Cost (MAC) function slopes upward from right to left as pollution falls. The position and slope of (MAC) are affected by factors such as the scale and sectoral composition of production, the average operating efficiency of the firm, the available process technologies and the efficiency of waste treatment technology. For any given level of pollution, more costly pollution control is associated with rightward movement of the MAC function.

Conceptually, abatement cost functions are dual to abatement functions which relate to inputs of capital, labor, energy and materials to pollution reduction. The abatement process frequently reduces more than one air or water pollutant, so joint function estimation is appropriate. For example BOD, COD and TSS can all be reduced by treatment in common facilities.

The Table here below shows that the impacts of the sector and the size of the industry on marginal abatement cost is significant within sectors at constant abatement rates, the MAC ratio between small and large facilities being as high as 40:1. Across sectors, MAC ratios at the same size scale can be as high as 1:15.

In addition to this analysis, the MCA could highly vary from one country to another.

**Table: Sectoral marginal abatement cost (\$US/ton) of industrial BOD**

Sector	Abatement Rate %	Small size	Medium size	Large size
Food processing	10	0.86	0.05	0.02
	30	1.2	0.07	0.03
	60	2.53	0.15	0.07
	90	15	0.93	0.44
Textiles	10	1.01	0.52	0.41
	30	1.41	0.72	0.57
	60	2.97	1.52	1.19
	90	18.76	9.6	7.54

In addition, an economic analysis of mine water pollution abatement on a catchment scale study performed in 2003 in the framework of EU ERMITE project showed that the marginal cost of abatement of Zinc, Cadmium and Copper in one country is highly dependant on several factors such as: the geographical location, the level of abatement targeted and the technology. A multi parameter analysis is always necessary to reach the appropriate decision on the cost effectiveness of the criteria. ([www.minewater.net/ermite/ERMITE\\_D5.pdf](http://www.minewater.net/ermite/ERMITE_D5.pdf))

Therefore, the conclusion is that the methodology based on cost of abatement is realistic since very large regional savings could be realized through its implementation.

#### *C- Socio-economic criteria*

Different Burden Sharing Rules (BSR), based on different principles, can be applied to determine the relative position of countries against an overall load reduction target. To do so, a process of normalization of releases against socio economic criteria could be performed. The most relevant criteria in this exercise are the national GDP, the industrial share of the national GDP, the population, coastal population, wealth index and many others.

With reference to Doc UNEP(DEPI)/MED WG.307/inf.3 and in spite of the fact that no real data have been used in the analysis (only fictitious countries with those differentiated profiles expected in the Mediterranean region), methodologically speaking some preliminary findings could be advanced for the case of applying a differentiated approach to an overall load reduction target.

Several rules representing different principles for burden sharing can be used and combined to identify the fairest distribution of the effort to reduce pollution. In principle, the more criteria are considered, the more national circumstances are reflected in the final distribution of the

expected contribution. However, at the same time, the more complexity is added to the methodology, the more data is needed.

Possibilities for identifying and combining different criteria and indicators are certainly diverse, but a limited group of criteria is in fact expected to be used in practice. These are basically related to wealth indicators (capacity, need) and release intensity indicators (responsibility, opportunity). The availability of data and its homogeneity can also be a constraint to the use of certain indicators.

From the testing exercise of rules presented in Doc UNEP(DEPI)MED WG.307/inf.3, it can be observed how in many cases countries not only would have to abate 100% of their emissions, but would even have to contribute to reductions in other countries. As countries currently contribute in a very different way to total discharges, but the target is calculated as a fixed 50% reduction of baseline overall discharges in the region, small emitters will face in most cases 'unfair' contributions to the overall reduction target, unless the aggregate responsibility is predominantly taken into account. However, it is also true that release intensity needs to be taken into consideration, because it would be unfeasible to propose 50% reductions to a country where its industry and pollution preventions systems are already operating close to standards derived from Best Available Techniques. This issue is very well considered in the estimation of NBB.

Since reliable socio economic data related to the Mediterranean countries are periodically published by national authorities, it would be feasible to make use of them to develop differentiation scenarios based on multi criteria analysis. The Secretariat believes that this exercise decoupled with a multi-criteria approaches that include indicators linked to different principles (responsibility, opportunity, capacity, etc.) might provide a valid outcome where the different national circumstances would be properly addressed.

#### *D- Best Available Techniques – Emission Factor (BAT EF)*

The BAT EF criteria address reduction of pollution loads by targeting the reduction of release intensity indicators against an 'optimum' or desirable relative level of emissions. Considering that the scope of this work basically addresses discharges from industrial sources, it is reasonable to focus on industrial release intensity indicators and determine 'optimum' release intensity on a sector basis, by estimating the expected emission factors of the Best Available Techniques (BAT). Furthermore, actions will eventually be needed to be implemented and monitored on a sector basis.

Under this scenario, and assuming that it is not feasible for all industries to adopt BATs (at least in the short/medium-term), the target has been suggested as a % reduction of releases above the BAT derived emission factor (BAT EF).

Potential mechanisms for differentiation are apparently more limited than in the case of burden sharing of a fixed overall reduction target. The differentiated expected contribution to reduction of discharges will need to be based on the current emission factors of sectors in the different countries, comparing to the 'optimum' or BAT emission factor, thus leading to a process of convergence of emission factors among countries. Accordingly, this approach would focus on the 'opportunity' principle of sectors to abate emissions, but in some way also in the relative 'responsibility' of sectors. However, MEAs experience has indicated that, when proposing its multi-sector approach to globally abate GHG emissions, other indicators should be taken into account in order to ensure an 'equitable' distribution of the effort to mitigate emissions, such as

per capita GDP (ability to pay), as not all countries are equally able to introduce low-emitting techniques.

The use of BAT EF criteria seems to be very promising to develop a comprehensive differentiation mechanism. Nevertheless, data and information related the BAT EF are only and partly available for a selected technology and sectors in the framework of the EU IPCC directive. The difficulty in the establishment of a region-wide harmonized BAT EF resides in the diversification of technology which does exist in the region and the willingness of the national partner to implement a selected BAT where EF is available.

### 3.2 Differentiation mechanism based on Quality of the environment

Under this chapter, two possible differentiation criteria based on the quality of the environment will be examined.

#### *A- Emission Limit Values (ELVs)*

Emission Limit Values (ELV), also known as emission standards, refers to the maximum allowable release of a substance from an industrial operation to air, water or land. Usually it is formulated as a concentration limit (e.g. 'x' gr of Hg/m<sup>3</sup> of wastewater or air emitted). ELV can be determined taking into consideration BAT or BATNEEC (Best Available Technique Not Entailing Excessive Costs) and/or the Environmental Quality Standards (EQS) to be achieved in the receiving environment. Other factors like characteristics of the discharge (e.g. direct to or to sewage system) the de-pollution or treatment systems (e.g. primary or secondary wastewater treatment plants) need also to be considered to determine ELV in each case.

The criterion would consist in setting and recommending reference ELV for the different substances and industrial sectors in the Mediterranean region, which would be transposed to national legislations and enforced at national level. In fact, this criterion is already practiced in most countries, but an harmonization effort would be required. In this sense, it is expected to apply the same ELV to all industrial operations included in the NBBs in the Mediterranean region.

It is to keep in mind that total loads of pollutants at national or regional level may increase regardless the compliance of ELV, as loads will depend on the trends in the development of industrial activity though the industrial sites newly commissioned are complying with the ELVs. However, ELV are expected to avoid local damage to the environment provided they are determined taking into consideration the capacity of the receiving media to absorb pollution.

ELVs are widely available either at national level in the frame work of national legislation related to emissions and effluents standards or at regional level such as ELVs developed in the framework of EU IPCC directive. The secretariat believes that an effort should be made by the Mediterranean Countries either to reach an agreement on common ELVs which could be acceptable by all the countries or a mutual agreement on the national ELVs under consideration.

#### *B- Environmental Quality Objectives (EQOs)*

EQOs are those values which specify the maximum allowable concentration of a potentially hazardous chemical in an environmental sample (water, sediment, biota), e.g. 'x' ng of pollutant 'X' / gr (dw) of sediment. The criterion would be to ensure that levels of pollutants in the ecosystem are close to Environmental Quality Objectives (EQO) in the overall Mediterranean

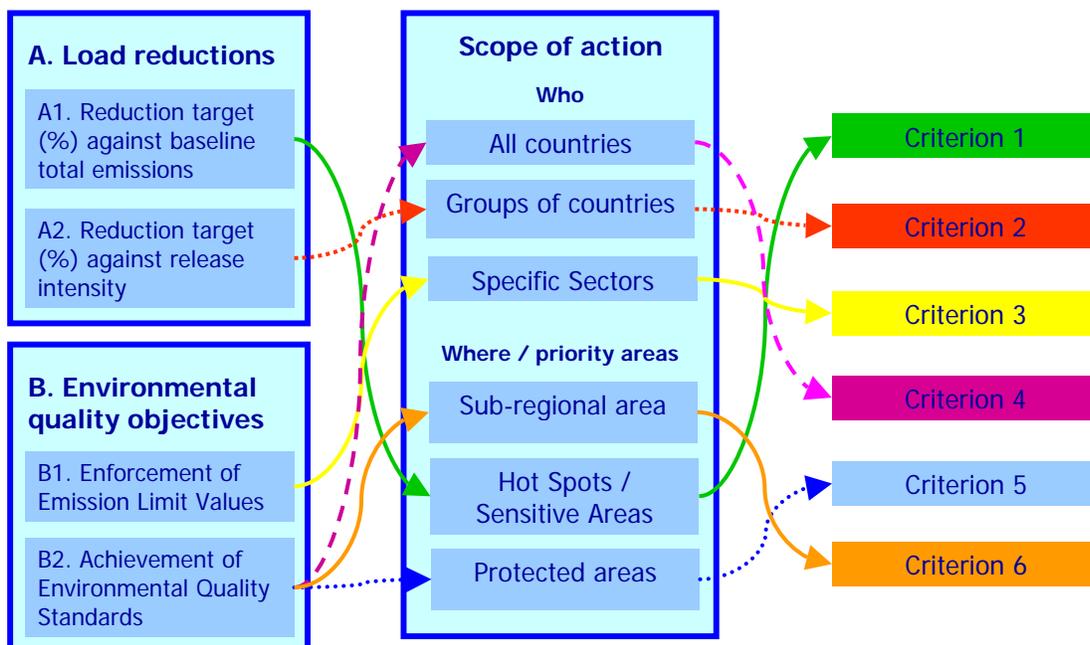
region. As shown in Doc. UNEP(DEPI)/MED WG.307/inf.3, those samples with levels above EQS would be above the target, so actions should be undertaken at the pollution sources with high levels of pollution. As indicated before, these actions can be in fact the enforcement of more stringent ELV, specific load reductions in polluted areas, promotion of the adoption of BAT, etc. In this sense, the target is focused directly on the quality of the environment, but countries might have the flexibility to undertake the set of criteria more convenient in each case.

EQOs are the most reliable criteria to be used to develop a comprehensive differentiation mechanism. One of the main drawbacks of this criterion is that values for EQO are hardly available for the marine environment and have not been developed for the Mediterranean region. Unfortunately, the development of EQOs would need to invest in a) improving the knowledge of the Mediterranean marine ecosystem, b) improving the results of monitoring programmes such as trends monitoring and c) ensuring effective stakeholders participation. MAP, in the framework of the implementation of ecosystem approach and in the coming 10 years, would develop EQOs to be agreed upon by the Mediterranean countries. Once EQOs are adopted, a differentiation mechanism could be consequently developed.

### 3.3. Differentiation mechanisms based on a combination of criteria

Combining criteria could be a useful exercise when attempting to establish an appropriate grouping and differentiation mechanism. In fact, the criteria identified as the most appropriate for each priority pollutant can be further defined when combined with the scope of action. Many combinations are possible, as represented in the Figure below.

**Figure. Possible combinations of the nature of the criterion and the scope of action.**



Total load reductions could be targeted in the overall region, in a certain sector, or even just in hot spots (Criterion 1). Reduction of the release intensity could be targeted at sector level or by a group of countries (Criterion 2). Emission Limit Values could be enforced by all countries but only in specific sectors (Criterion 3). Achievement of Environmental Quality Standards could be

targeted with a major priority at regional level (Criterion 4), in a certain area (Criterion 5), or basically in protected areas (Criterion 6).

Although combination of criteria is a potential procedure to develop a differentiation mechanism through clustering the Mediterranean Countries or sector in groups with complementary commitments to comply with the SAP targets, the Secretariat is convinced that, from a scientific point of view, the combination between quantitative and qualitative data and information and the diversity of measures which could be proposed, would bring the negotiations into a dead end due to the possible unfairness and unfeasibility of the implementation.

### 3.4. Data availability

The main information needed for the implementation of the differentiated mechanisms which could be feasible in this exercise is summarized here below. An estimation of the time framework (on the short and long term) to make data available is also indicated, although this would depend on a variety of factors (e.g. resources available to collect, elaborate and assess data). Data gaps are a common issue for all options, and in all cases significant technical difficulties are expected (besides potential economic or legal implications).

Summary of required information and availability of data for the implementation of the differentiated approach.

	Criterion	Major technical / information requirements	Expected time framework for availability of data
A	Reduction target (%) against baseline total emissions	Emission data (kg/yr) for all targeted substances, homogenously collected from all countries. Socio-economic data. Monitoring of real emissions to track reductions	Emissions: short term, depending on process of validation of NBB. Socioeconomic data: short term (depending on the indicator)
	Reduction target (%) against release intensity (convergence)	Determination of actual Emission Factors and BAT EF per substances / per (sub)/sector. Monitoring of real emissions	Short/Medium-term, to determine actual EF in priority sectors. Medium-term, to elaborate a first set of BAT EF for priority sectors
B	Enforcement of Emission Limit Values (ELV)	Setting of reference values for enforceable ELV at regional level	Short-term, for review of current ELV in all countries Medium/long-term for deriving new ELV
	Achievement of Environmental Quality Standards (EQS)	Determination of EQS per substance / per media. Monitoring	Short-term, for compilation of available EQS. Medium/long-term: to elaborate EQS for the Mediterranean. Short/long-term; for monitoring data (depending on country)

Short-term: 1-2 years

Medium-term: 2-3 years

Long-term: > 3 years

#### 4. Conclusions and recommendations

The process initiated at the 12<sup>th</sup> Meeting of the Contracting Parties held in Monaco 2001 where” the operational document for the implementation of the SAP” was adopted could possibly culminate at the Contracting Parties Meeting in December 2007 with the endorsement of a new and innovative strategy for the concrete implementation of the SAP and the NAPs. In any event, it is evident that the Parties have made extraordinary achievements in the process of pollution reduction. A process which was based on good sciences and policy development as well as on concrete willingness by the Parties to make steps forward. The Secretariat believes that the negotiations on the new strategy have reached an important milestone and that shared views and positions on the application of the differentiated approach could be strategic for the ultimate success of the pollution reduction process.

This document represents the first attempt by the Secretariat to review ways, means and implications of a possible adoption by the Parties of a differentiation mechanism in the pollution reduction process of the SAP and the NAPs. The Meeting is expected to review the document and provide the Secretariat guidance on:

- which criterion or set of criteria should be considered;
- which differentiation mechanism should be considered;
- how to go forward in this exercise.

The Secretariat has worked with the help of regional experts to design different scenarios related to the application of the “flat rate” and of a number of selected differentiation mechanisms considered appropriate for the region, taken from a basket of widely used criteria.

The opinion of the Secretariat is that to continue to work on the “flat rate” would not be adequate nor effective and it would not result in the achievement of the expected pollution reductions. In addition, the application of the differentiation mechanism based on nature of substances and sources is questionable though the data might be available; it is not cost effective and it would hardly reach the objectives of the LBS Protocol, the SAP and NAPs since it does not take into account the prevailing regional socio-economic constraints.

As a result, three mechanisms are proposed to be considered and discussed:

- Reduction of loads based on two criteria namely NBB and BAT EF.
- Quality of the environment based on ELVs and/or EQOs
- Combinations of mechanisms.

Furthermore, in the opinion of the Secretariat three basic facts should be taken into account. First of all, the availability of data seems to be the control factor of any differentiation mechanism which could be considered. Secondly, the existing legal commitments of the Mediterranean countries (e.g. Basel and Stockholm Conventions, EU Directives and decisions, EU marine strategy and initiatives such as the Horizon 2020) appear to have similar objectives and deadlines to the LBS Protocol and the SAP. Thirdly, the reduction of loads against baseline emissions appears to be as the mechanism with the best potentiality in the short and medium term.

As a result, if the above is accepted by the Working Group, the proposed two-step road map described here below could be discussed, amended and approved as appropriate.

**Step-1-**

-2008-2009: Elaboration of a differentiation mechanism based on reduction of loads making use the best available set of data of the NBB and socio economic data coupled with a grouping process to be developed and a set of voluntary flexibility measures to ensure the feasibility and the cost effectiveness of the mechanism, e.g. joint implementation;

-2009: Adoption by the Contracting Parties of a differentiation mechanism based on reduction of loads;

- 2009-2020: Implementation of the differentiated mechanism based on reduction of pollution;

**Step-2-**

-2009-2020: Development of a differentiation mechanism based on quality of the marine environment: ELV or EQOs;

-2020: Application of a differentiation mechanism based on quality of marine environment.