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DRAFT INTERMEDIARY REPORT ON THE EVALUATION OF THE NAP/SAP INVESTMENT PORTFOLIO

Delegates are kindly requested to bring their documents to the meeting

UNEP/MAP
Athens, 2013

Update Priority Investment Projects for Protecting the Mediterranean Sea from Pollution

INTERMEDIARY REPORT

MAY 2013

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TABLE OF CONTENTS

Project Title:	Update of priority investment projects for the de-pollution of the Mediterranean Sea from pollution
Project Ref. Number:	HORIZON 2020 – UFMS /NP/0102/2012
Report Title:	Intermediary Report
Issue Number	2

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Report Coverage page

Project Title:	Update of priority investment projects for the de-pollution of the Mediterranean Sea from pollution
Project Ref. Number:	HORIZON 2020 – UFMS /NP/0102/2012
Country:	The countries involved in the Euro-Med Horizon 2020 Initiative with a particular focus on the non-EU countries, mainly on the Southern and Eastern parts of the Mediterranean, and on Adriatic Balkans countries to a lesser extent.
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LIST OF ABBREVIATIONS

ASEP	Adriatic Sea Environment Program
BIL	Billion
CA	Contracting Authority
CB/MED	Capacity Building Mediterranean project
EC	European Commission
EEA	European Environment Agency
EIB	European Investment Bank
EOP	Environmental Operational Programme
EU MS	Member States of EU
H2020	Horizon 2020 Initiative
HS	Hot Spot
ICZM	Integrated Coastal Zone Management
IPA	Instrument for Pre-Accession
KE	Key Experts
LBS	Land-Based Sources Protocol
MAP	Mediterranean Action Plan
MED POL	Programme for the Assessment and Control of Pollution in the Mediterranean region
MeHSIP-PPIF	Mediterranean Hot Spot Investment Programme – Project Preparation & Implementation Facility
NAP(s)	National Action Plan(s)
NEAPs	National Environmental Action Programmes
NIPAC	National IPA Coordinators
NKEs	Non-key Experts
oPt	Occupied Palestinian territory
PEIP	Priority Environmental Investment Programme
RENA	Regional Environmental Network for Accession
SAP	Strategic Action Programme
SAP-BIO	Strategic Action Programme for Specifically Protected Areas & Biological Diversity Protocol
SEE	South-East Europe
SC	Steering Committee
SG	Steering Group
ToR	Terms of Reference
UfM	Union for the Mediterranean
UfMS	Secretariat of the Union for the Mediterranean
UNEP	United Nations Environment Programme
WB	World Bank

1 INTRODUCTION

1.1 Project Background

The main purpose of the project is to identify a de-pollution investment portfolio necessary to achieve UNEP/MAP 2025 targets, starting from existing plans such as national de-pollution or environmental plans, UNEP NAPs or H2020 lists, but including also new projects or needs that have recently risen because (i) during the last 3 years regional plans have set more ambitious objectives and (ii) new feasibility studies have been developed for the final projects since the year 2025 is getting nearer.

The project will result in the following outcomes which will be achieved while fully taking into account the results from the other two studies being undertaken in parallel (MeHSIP and UNEP/ MAP):

(i) the state of play of investment projects (with secured and unsecured funding);

(ii) the identification of the contribution of the investment projects with secured funding and/or under implementation to achieve pollution reduction targets (which will be expressed by group of substances to be identified and agreed upon with UfMS and UNEP/MAP);

(iii) investment projects and needs[1] coherent with the achievement of UNEP/MAP 2025 targets in a more forward looking vision for the period up to 2020 – 2025 and propositions to the countries of an updated list of pollution hotspots;

(iv) recommendations on the way forward taking into account the need for coherence, synergy and joint effective action among different actors and their respective programmes and initiatives in this field.

Both MeHSIP and UNEP/MAP studies have their own objectives and expected results. A brief description of each study and expected results are provided in the following session:

- **MeHSIP-PPIF**

The primary aim of this project is to develop a pipeline of priority projects addressing key pollution sources and make the link between the financial viability/ownership of projects and their regional environmental significance. The initial idea was first to identify regionally significant and bankable projects and then to give these projects strategic priority in order to push them forward for implementation. MeHSIP is identifying projects in the Southern region with environmental benefits within a certain minimum scale that can be approached by the EIB to support its execution.

MeHSIP-PPIF is responsible for updating the Horizon 2020 Pipeline, which includes projects yet to secure funding in the target sectors. The Horizon 2020 Pipeline currently contains 38 investment projects to be funded with an estimated value of €2,82bn, demonstrating a significant demand for additional funding to allow these projects to be implemented, and thereby reduce the pollution load currently going into the Mediterranean Sea. Since the establishment in 2009 by MeHSIP-PPIF of the H2020 Pipeline as the common reference point, the estimated value of identified investment projects has almost doubled.

At the last H2020 Steering Committee meeting and the "Pollution Reduction Core Group" held in parallel (Barcelona, 18-19 April 2012) MeHSIP-PPIF was given an extended mandate to improve reporting also on the projects on the Horizon 2020 Project List, which have secured funding (currently 50 projects). MeHSIP-PPIF has prepared specific TORs that were approved and subsequently prepared a methodology that the validation mechanism will be based upon.

[1] The UFM study defines a ''project'' as an on-going or planned de-pollution project with an available pre-feasibility and/or feasibility study. An ''investment need'' is a de-pollution investment needed to meet the UNEP/MAP 2025 de-pollution targets, investment which is related to a sector or a bundle of projects, but has not yet been technically studied and formulated.

- **UNEP/MAP**

UNEP/MAP is currently conducting a consultancy with the main target of enhancing the sustainability of the NAPs/SAP implementation based on an assessment of the status of implementation of SAP/NAP and achievement of their targets, and provide specific recommendations on ways and means to integrate in NAP/SAP process the ecosystem approach, the use of economic instruments as appropriate and the implementation of the legally binding measures adopted by the Contracting parties. This consultancy will make policy recommendations on the need to link the NAP/SAP process with the ecosystem approach outcome (goal, vision, ecological objectives, operational objectives, indicators approved by the Contracting parties as well as the ongoing work on GES and targets), global agenda (UNEP/GPA) as well as the legally binding measures adopted by the Contracting Parties to the Barcelona Convention and the LBS Protocol in 2009 and 2012, review the NAP guidelines agreed in 2003 with a view to suggest any necessary update, analyse NBB pollutant loads available data per sector/subsector/region/sub region/national/ sub-national levels, review based on NBB data assessment and other available data as appropriate, the achievement of the NAP/SAP respective targets. Analysis should cover all SAP/NAP targets as appropriate, review and list the current NAP hot spots/projects according to their potential contribution to pollution reduction and hot spot elimination criteria and NBB data analysis, review the existing tools for tracking progress of SAP/NAP implementation/pollution reduction at regional and national levels (established within MAP and outside MAP system), and analyse the level of their compatibility and coherence from the substantive and frequency points of view as well as from quality assurance systems applied in data submission

Also at this point it is worth mentioning another parallel study, under the umbrella of H2020 Initiative. The European Environment Agency (EEA) is responsible for the monitoring component of the H2020 initiative and is also carrying out gradual extension of the Shared Environment Information System (SEIS) principles to the European Neighbourhood Policy (ENP) South and East neighbours and the Russian Federation. The ENPI-SEIS project aims to improve environmental monitoring and data and information sharing by gradually extending the SEIS principles to the European neighbourhood. The main outcomes of the ENPI-SEIS project will address the three SEIS components — cooperation, content and infrastructure — through enhanced networking with the national capacities on environmental information. Furthermore, it will promote open, public access to information through compatible and freely available exchange tools. Within this context, the EEA will in particular deliver by mid-2013 six indicators related to H2020 initiative.

The various assignments are conducted in a synergistic way because a high level of coordination and cross-fertilization between them is ensured thanks to the following mechanisms:

- A joint steering committee has been set up and provides the needed communication and coordination platform amongst the various partners involved.
- Regular working sessions, email exchange and planning arrangements for country visits and information collection are held between the consultants. This will be translated in the second phase into joint missions to be conducted in the Southern Countries by MeHSIP, UNEP/MAP, H2020, EEA/SEIS and LDK-IME;
- An internal website (FTP server) to share, review and produce documents in a collaborative manner has been created and is now operational. A password has been given to consultants and collaborating partners.

The project will update the information on the implementation of investment projects and needs aiming at de-polluting the Mediterranean: what has been done during the 2005 -2012 period regarding the initial objectives of SAP/NAP and what should be done during the following period up to 2020 or 2025 regarding the revised objectives. This updated information will be based on sound environmental and other relevant criteria in order to be used in the evaluation or planning processes of:

- the UfM Secretariat concerning possible projects for UfM labelling, but also
- UNEP/MAP and its Contracting Parties concerning commitments under the Barcelona Convention and its Protocols or the 5 year Programme of Work of UNEP/MAP;

- the European Commission concerning H2020 2nd phase or pre-accession programmes in the Region; and
- other bilateral or international Financing Institutions concerning projects' funding.

1.2 Update of the Assumptions and Risks

The consortium's technical proposal provided a comprehensive list of the risks, assumptions and constraints involved in the implementation of the project. These will not be repeated for the purposes of the Intermediary Report. It is the aim of project team to take a proactive approach exhausting all possibilities for creating a favourable environment for the project's assumptions to materialise and for the risks to be eliminated or minimised to the extent possible. In case the project team detects significant causes for concern regarding the assumptions and risks, these will be promptly communicated to the CA along with suggestions and recommendations for rectification. There are however, two major risks identified, which are:

(i) Recurrence of political instability in some of the beneficiary countries. This risk is beyond the control of the project, and could adversely affect its implementation according to the set timeframe.

(ii) Unwillingness and inability of national organisations and stakeholders to provide updated and reliable information, or gaps in data availability thus resulting in incomplete or inconsistency of projects and/or hotspots lists.

The main assumption is that national level institutions through the designated MEDPOL focal points in the beneficiary countries will actively participate, provide information and in general support the project. It is also assumed that the project team will be provided with information from the various stakeholders in the targeted countries. In addition, the team proposes in its methodology for the second phase of the project several measures to further mitigate this risk, including the use of national Non-Key Experts in the Southern Mediterranean and Adriatic countries to help with gathering and updating the necessary information and following up with government counterparts on the status and description of each existing or new investment project.

2 PROJECT PROGRESS TO DATE (First Phase: 7th of Jan to 7th of April 2013)

2.1 Project Management arrangements

- ***Mobilisation of Project Team***

The Project Team was deployed and mobilised starting with the first SC meeting held with the CA and the other members of SC (MAP/UNEP, EIB and EC) on 24 January 2013, in Brussels. The meeting provided the Project Team with valuable information and guidance on how to structure the main project activities.

- ***Establishment of project management functions and mechanisms, definition of modalities, and start up of the project office***

- **Steering Committee:** A Steering Committee (SC) has been formed and is composed of representatives from the CA and MAP/UNEP, EIB, EC and EEA. Main tasks of the SC are to monitor and evaluate the project, to provide overall guidance and identify coordination modalities. The latter is of outmost importance as the parallel studies being carried out should avoid overlapping and share results. The SC has already met twice (1st SC meeting was held in Brussels on 24/1/2013 and the 2nd SC meeting in Athens on 17/4/2013) and is anticipated that it will meet a third time in September.
- **Project Board Committee:** The Project's Board Committee (PBC) has been established upon contract signature, including representatives of the two consortium partners and the Project Team.

- **Head Project Office:** A fully equipped and staffed project office has been established in Athens (headquarters of LDK Consultants). In addition, recruitment, introduction and installation of logistical, programme management, report writing and knowledge management support (administrative backstopping) was accomplished.
- **Backstopping:** Backstopping includes both technical and administrative support, described in the following paragraphs:

  Technical Backstopping: The main task for the Key Experts during the project's first phase has been to review related documents and collect up-to-date information in order to have a thorough review of each country's environmental situation and compile a list of de-pollution investment projects for each country. As the technical backstopping during the first phase was quite limited (only one NKE was used), it is expected that technical backstopping will be further solicited during the next phases of the project. The consultant will also take advantage of the in-house capacity and knowledge of both consortium members.

  Administrative Backstopping: Following the contract signature and the first SC meeting, the setting-up of the administrative backstopping infrastructure was immediately initiated, with an emphasis placed on putting in place the financial and logistical services, which will ensure the transparent and smooth operation of the project.
- **Establishing contacts to run the project effectively:** The first crucial step for establishing good and solid contacts has been accomplished thanks to the assistance of UfMS and UNEP/MAP who have already informed their focal points about the project. During the project's first phase contacts have been established with MeHSIP-PPIF team, RENA team, CB/MED team and EEA. Apart from information provided, EEA also provided the project with GIS files to be used as common reference maps for geographic information.

  A side-by-side working approach between the Project Team and beneficiaries will be followed during the country visits, which is expected to boost project effectiveness and credibility.
- **Database:** We have created a searchable project database, which contains vital information on the projects as well as the contacts that were made during the project's first phase and those that will be made during the country visits. The database is continuously updated.
- **Knowledge Management and Information sharing:** The consultant has established a platform (FTP server) for information sharing amongst all members of the SC and any other interested party in order to ensure the smooth operation of the project. This internal server also hosts the information collected from the field, such as minutes of meetings, studies and other relevant material.
- **Update the Log Frame:** The Log frame has been validated and the project indicators revised and included in the Inception Report.
- **Budgeting and sound financial management arrangements** are in place. LDK employs an experienced financial administrator that takes care of the project's financial matters on a daily basis, and is responsible for reporting to project collaborators and the CA.
- **Monitoring and Evaluation:** Monitoring and evaluation (M&E) is carried out at two levels in order to (a) determine the progress of the project's implementation; and (b) monitor the achievement of the project's objectives. Indicators to assess the project's achievements and impact have been identified and included in the Log Frame, which will be followed-up closely and updated as needed during the implementation period.

The Project Director monitors the progress on regular basis and reports the results to the Team Leader. The Team Leader discusses the progress with the other Key Experts and in case of discrepancies between the planning and project implementation corrective actions are put in place immediately as appropriate. Should the achievement of an expected result fall short of expectations, either in terms of quantity, quality or timeliness, the project will identify the causes and propose corrective measures to avoid their recurrence.

An example is the launching workshop, where although the participation of IFIs and representatives from RENA was not possible, bilateral contacts were developed.

2.2 Meetings

A number of meetings took place during the first phase of the project, apart from those of the Steering Committee. However, the most important meeting was the Regional Launching Workshop, which was held on 22 February 2013 at Barcelona at UFMS's premises. The objectives of this meeting was to enhance coordination between the 3 studies (present, UNEP/MAP's and MeHSIP), to present the objectives, preliminary findings and main activities of the three studies, and to identify complementarities and synergies with relevant on-going projects and initiatives towards best collection of information. The agenda, MoMs and list of participants are presented in Annex IV.

2.3 Activities and outputs during Intermediary phase

The project's first phase has mainly focused on gathering and analysing information on environmental investments affecting the Mediterranean basin.

In general, activities accomplished during the project's first phase included:

1. Participation in the 1st SC meeting in Brussels, which was held on 24 January 2013.

2. Participation in meetings as described in section 2.2 above.

3. Establishment of contacts (please refer to section 3.3 "Coordination and synergies with relevant institutions").

4. Initiate the process of gathering and analysing existing data and information from various sources, including regional reports, national policy and strategic documents, project documentation as well as preliminary contacts with government officials, especially in Egypt and Lebanon. The objective is to establish a preliminary list of hotspots linked to de-pollution infrastructure projects and investment needs in the Mediterranean that have affected or may affect directly and indirectly the marine and coastal environment. This was mainly accomplished through an initial screening of NAP of each country against later pipelines. The preliminary outputs of this exercise for all the Mediterranean countries are presented in Annex I, whereas the key findings of this exercise are presented in section 2.4 below. The attached country reports in Annex I are presented in a draft form and country reports may not include the same type of contents depending on the level and quality of information that was available and reviewed during the reporting period for each country.

5. Develop a Project Fact Sheet (Annex II) for on-going and planned new investment needs and projects based on existing examples e.g. MeHSIP. A hotspot assessment sheet, which will be used as a baseline during country visits was also developed (Annex II).

6. Preparation of ToRs for the country visits and information checklist included in Annex III. The latter includes the main questions the team will raise and what is the basic information that is required to be obtained during the meetings with officials at country visits.

7. Preparation of a draft list of pollutants (please see paragraph 3.1), which will be used during the 2nd phase of the project. The list with pollutants will be used in order to assess the potential impact of the NAPs and H2020 projects with secured and non-secured funding to the elimination of the UNEP/MAP Mediterranean hotspots and achievements of UNEP/MAP SAP targets.

8. Assist CA in preparing the agenda of the Barcelona Regional Launching Workshop, which was held on 22 February 2013 at UfMS's premises. Assist CA in compiling a tentative list of participants for the Workshop. Both items are presented in Annex IV. The MoMs for the Launching Workshop are attached in Annex IV.

9. Documents reviewed for the 3 groups of countries: All reports mentioned in the Terms of Reference have been consulted and some additional reference documents were collected and analysed. Particular emphasis was laid on the review on the following reports:

All countries:

1. Transboundary Diagnostic Analysis, UNEP/MAP 2005
2. Guidelines for preparation of NAPs, UNEP/MAP March 2004
3. Identification of Priority Hot Spots and Sensitive Areas in the Mediterranean, UNEP/MAP 1999
4. SAP MED, UNEP/MAP 1999
5. UNEP/EEA, Priority issues in the Mediterranean Environment, 2006
6. Mediterranean Action Plan, Inventory of Municipal Wastewater Treatment Plants of Coastal Mediterranean Cities with More than 2,000 Inhabitants (2010), UNEP/MAP, 2010
7. UNEP/MAP National Actions Plans, 2004-2006 and synopsis of UNEP/MAP
8. Critical Ecosystem Partnership Fund, Mediterranean Basin Biodiversity Hotspot, 2010.
9. National policies, strategies and actions plans related to pollution reduction in the liquid, waste and industrial sectors and protection of the water and marine environments
10. http://www.themedpartnership.org/med/pfpublish/p/Library/Articles/
11. http://www.themedpartnership.org/med/pfpublish/p/doc/ef0de1181e589046cafa4cedac9ddf23

EU MS countries:

1. EEA Country reports, 2010
2. Various project technical and progress reports

Adriatic countries & Turkey:

1. Hotspot inventory for the West Balkans and Turkey, H2020 June 2011
2. World Bank, Final Report of the project "Adriatic Sea Environment program: Rapid Assessment of Pollution Hotspots for the Adriatic Sea" , 2011
3. Regional Environmental Network for Accession (RENA), Investments project list, 2012
4. Priority Environmental Investment Programme for South Eastern Europe (PEIP), 2009
5. http://www.wbif.eu
6. www.renanetwork.org .

Southern Countries:

1. H2020, SEIS Country reports, 2011-2012
2. H2020 project lists
3. MeHSIP progress reports, H2020 2009-2012
4. MeHSIP Country Fact Sheets, 2011

2.4 Main conclusions derived from the desk review study

- **Gaps in data and information**

The Mediterranean countries (in addition to Jordan) were clustered in three groups: EU Member States (EU MS), Adriatic countries and Turkey and Southern Mediterranean countries. From this exercise the main gaps in data and information are identified as follows:

- An updated and conclusive list of ongoing projects.

- Investment needs and Projects to meet 2025 targets, average investments in recent years.
- Number or percentage of the population connected to the sewage network.
- Number or percentage of the population being provided by solid waste services.
- Projections regarding quantities or volume of solid and liquid waste estimated to be generated from the different sectors (household, municipal, industry, agriculture, tourism, and construction).
- List of main pollutants and their impact on health and the environment.
- Technical information on performance of de-pollution facilities and their impact on the environment.
- Information on the links between projects and national hotspots, and links between the list of projects and the reaching of 2025 de-pollution objectives.
- Confusion on the names of projects between those listed in the NAPs and those contained in other documentation sources (H2020 project lists, National programming documents, etc.)
- Exact location of projects within or outside coastal administrative units.
- Actual implementation and operational status of projects and de-pollution facilities.

During the 2nd phase, attempts will be made during the country visits and further contacts with the administrations at the countries to search for this data and information through feasibility studies, national strategies, national reports, etc.

- **Southern Mediterranean countries**

Countries Covered: Algeria, Egypt, Jordan, Israel, Libya, Lebanon, Morocco, oPt, Tunisia, and Syria.

Main Common Pollution Problems: The main pollution problems facing the southern countries are those related to the disposal of solid waste and wastewater collection and treatment. In situations where sewage collection systems are available, wastewater is either discharged directly into the Mediterranean Sea or after preliminary treatment that included initial screening and pumping. From available information, it was noted that very few WWTPs were constructed and are properly operational. Solid waste landfills are more common in the southern countries, however several open dumpsites continue to cause serious pollution problems.

Cities in the southern countries are continuously expanding and environmental impacts continue to pose a problem. In some countries, WWTPs were constructed without connections.

Most of the southern countries lack strong legislations for the protection of the environment especially to address pollution generated by the industrial sector. In case where legislation is available, monitoring and enforcement are usually very weak or non-existent.

For some countries (specifically oPt, Algeria, Libya and Syria), not much information was found regarding the updates on the projects. Therefore, during the second phase of the study, this issue will be addressed in more details during country visits (country visit to Syria is not scheduled).

Preliminary investment Needs: The desk review of southern countries was mainly based on the NAPs of 2005 taking into consideration available information/documentation to provide updates on the status of the projects. The potential investment needs for the southern countries are:

(i) Construction of wastewater treatment plants

(ii) Construction and/or rehabilitation sewerage networks and connection to the WWTPs

(iii) Construction of waste treatment and disposal facilities

(iv) Construction of waste to energy facilities

(v) Construction of industrial waste treatment facilities

(vi) Rehabilitation of solid waste treatment facilities

(vii) Construction of wastewater to organic compost facilities

(viii) Provision of renewable energy units to industrial installations in order to reduce use of fossil fuel and the negative impacts resulting from CO_2 emissions

These projected investment needs are identified in terms of types of projects but not in terms of specific capacities or size, which can only be determined on the basis of sufficient data; the technological solutions or package of solutions would have to be determined on the basis of a feasibility study.

The southern countries' projects were cross-checked against the list of projects identified by H2020 list / MeHSIP project.

Overall, lists of projects are identified that mainly relate to wastewater and solid waste. Projects related to industrial pollution were identified for some countries. However, it should be noted that in most cases these are related to the private sector. Projects related to air pollution were not clearly identified although NAPs do address the sector and describe its problems. Similarly, agricultural projects were not identified in the NAPs, although pollution caused by agriculture is addressed in the regional plans of UNEP/MAP. In general, it should be noted that there is a great discrepancies between the number of projects included in the NAPs as compared to the MeHSIP pipeline due to the following:

- Some projects listed in the NAPs are not infrastructure projects but are more of a 'soft nature', such as capacity building, that are not considered by MeHSIP.
- Budget for many projects is less than 25 million Euros, and as such these are not of interest to MeHSIP as per the requirements of EIB.

- **Adriatic countries and Turkey**

Countries Covered: Albania, Bosnia & Herzegovina, Croatia, Montenegro and Turkey.

Main Common Pollution Problems: A common pollution problem in the Adriatic countries is the lack and insufficient sewerage network systems and wastewater treatment plants. Moreover, in many instances existing wastewater treatment plants are inefficient requiring refurbishing and upgrading to enhance their capacities to treat current and future increases in the volume of wastewater and for treatment of nutrients or disinfection.

This has resulted in the discharge of large quantities of untreated wastewater in the Mediterranean Sea by the Adriatic countries. Solid waste management represents another major pollution problem in the sub region. It is mainly characterised by lack or inadequate sanitary landfills and solid waste treatment facilities, and lack of waste to compost and waste to energy facilities. Countries of the sub-region face the challenge of increased generation of wastewater and solid waste due to increased population growth, tourism, industrial, agricultural, and construction activity.

Preliminary investment Needs: Based on the preliminary desk study, the following are the potential investment needs and projects for the Adriatic countries:

(i) Refurbishing and upgrading of existing wastewater treatment plants.

(ii) Connecting households to sewerage networks.

(iii) Construction of wastewater treatment plants.

(iv) Construction of new sanitary landfills.

(v) Closure of open dumpsites.

(vi) Construction of waste to compost facilities.

(vii) Construction of waste to energy facilities.

(viii) Provision of renewable energy units to industrial installations.

It is anticipated that, as these countries are acceding (Croatia whose accession is expected in July 2013), candidate (Montenegro, Turkey) or potential candidate counties (Albania, Bosnia & Herzegovina) to the EU, they face the pressing challenge to fill important investment gaps due to their harmonisation with and implementation of EU acquis.

- **EU MS countries**

Countries Covered: Cyprus, France, Greece, Italy, Malta, Monaco[2], Slovenia, and Spain[3].
It should be noted that Monaco does not have any hotspot and is already 100% in conformity with Medpol targets.

Main Common Pollution Problems

Mediterranean countries of the European Union have made noticeable progress towards addressing land-based sources of pollution, particularly as a result of the gradual establishment of the EU environmental Directives[4], which together with national legislation create a comprehensive legal framework to tackle environmental problems.

Most European countries benefit from advanced regulations, prevention mechanisms and de-pollution technologies to deal with urban and industrial wastewater collection and treatment, environmentally sound disposal and recovery of solid waste and safe management of hazardous and radioactive substances.

However, additional efforts are still needed to accelerate compliance of national sanitation systems and solid waste management with EU environmental standards, especially as it concerns the Landfill Directive, Water Framework Directive, IPPC and Urban Waste Water Treatment Directive. Similarly, sustained efforts are required to address the problems posed by the use of chemicals and to fully enforce environmental regulations, particularly in the industrial and agriculture sectors.

It should be noted that no projects were identified at this stage for Italy and Spain, while the NAP of Italy outlined a list of interventions and programmes. This issue will be further researched in the coming phase in an attempt to identify a list of investment needs.

Preliminary investment needs

EU MS countries had identified in their NAPs a long list of projects covering the different SAP sectors, with a clear focus on wastewater and solid waste. To the greatest extent possible, these projects were cross-checked during the review against the information available in the documentation. It appears that most projects identified in the NAPs have made good progress with a majority of them being completed or under construction (see Annex VI for more information on the status of each project). However, some additional investments are needed and are being identified by countries in order to reach the desired status for water and marine environments; however, projects that are identified to achieve higher than the MEDPOL targets will not be included in the list. The second phase of the study will provide more clarity on these investments. Based on the preliminary desk study, the following is what was tentatively identified as potential investment needs for the European countries to meet MedPOL targets:

- Refurbishing and upgrading of existing wastewater treatment plants to comply with EU water-related Directives.
- Reduction and treatment of industrial pollution
- Reduction of chemicals and pesticides used in agriculture

[2] Even though Monaco is not an EU MS country, EU relations with Monaco are governed by a number of agreements, covering selective areas of the EU acquis and policies.
[3] Spain could not be studied in the first phase because the relevant documentation, including UNEP/MAP National Action Plan, was only available in Spanish. Although the Spanish version of NAP was given for translation due to time limitations it was not possible to be studied. However, further contacts with government counterparts and national focal points will be made in the second phase so as to obtain English version of the official documentation upon which a proper country report and list of projects will be prepared.
[4] A clear table comparing the requirements of EU Directives to the MEDPOL targets will be drafted during the 2nd phase of the project

- Rehabilitation of closed landfills and extension of Waste Management Centres
- Enhancement of solid waste separation and recovery systems
- Safe collection and disposal of hazardous wastes

3 PROGRAMMING

3.1 Methodology proposed for the 2nd phase of the project

The main objective of the proposed methodology is to have a conclusive and update list of on-going de-pollution investment projects for each country, their description and contribution to de-pollution, among other data. It also aims at identifying investment needs and new projects as reported by the national authorities, donors and IFIs in order to meet the 2025 UNEP/MAP de-pollution objectives for the Mediterranean basin. Furthermore, this study provides an estimation of pollutant loads reduction per project or investment need. In the following paragraphs a methodology for country visits as well as for estimating the pollution loads per project is presented.

1. Methodology for country visits

The countries of the Mediterranean have been clustered in three groups and a methodology is proposed for each group of countries.

- **South Mediterranean Countries**

Regarding Southern Mediterranean countries, it is envisaged to undertake country visits for each country. It is anticipated that the UfM and MEDPOL focal points will facilitate and/or set appointments for the LDK-IME team visiting the country well in advance of the visit. In case of Jordan, the country report will be updated based on the work undertaken by MeHSIP and no visit is envisaged as Jordan does not have a NAP. As for Syria, local officials will be contacted in order to obtain updated information to be included in the country report.

It is proposed that a communication is sent to the UfM and MEDPOL focal points at least two weeks before the country visit along with a simplified list of projects already compiled for each country (the name, sector, location and status of projects). A questionnaire with information required will be sent to the MEDPOL focal points together with the draft country report and list of projects, at least one month before the MEDPOL focal point meeting in Barcelona on the 18th of June (see below).

The two focal points would be requested to contact the national relevant entities informing them about the mission, its objectives, and its expected outcome. H2020 focal points will also be contacted before the country visit. In addition, the LDK-IME team will make every effort to identify the most appropriate persons in the relevant Ministries (Environment, Water & Irrigation, Water companies, Interior, etc.), EU Delegations, IFIs and donors in order to come in contact with them. Once identified, again a communication will be sent to them well in advance together with a simplified list of projects already compiled for each country (the name, sector, location and status of projects).

In order to be able to secure the necessary information on ongoing projects and future investment needs, a period of between 3-5 days will be devoted for each country visit. Thenceforth, Non Key Experts will be hired to follow up on the gathering of data.

It should be emphasised that local experts will be mobilised to follow-up on the visits and help obtain any remaining required information, under the strict guidance of the key experts. The synthesis of obtained data (e.g pollution loads quantification) will be carried-out by the key experts. The mobilisation process of NKEs has already started and is being carried out with support from IME.

It may be easier and effective in some instances to call for an informal meeting at national level inviting the relevant government officials in order to obtain the required information. This will depend on the practicality of convening such a meeting depending on the country in question. If needed, a second visit to the country may be undertaken to finalise and refine the collected information.

Moreover, the MeHSIP team is expected to undertake in some countries additional country visits within the timeframe of the study (e.g. in Morocco and Tunisia). MeHSIP colleagues have already confirmed their willingness and availability to take advantage of these visits for ensuring further follow-up and assistance in maintaining the momentum, gathering missing data and making sure that any gaps in information are properly addressed.

An updated list of de-pollution investment projects, investment needs and new projects for each country will be compiled after the country visits. In order to verify the draft version of list of projects, it will be sent to the UfM and MEDPOL Focal Points for secondary feedback from the ministries of environment and/or other relevant ministries. Comments and feedback will be incorporated in the final draft list of projects and investment needs.

All gathered information will be analysed during the 3rd phase in order to provide an assessment of the situation in each country leading to the achievement of the 2025 targets to date, and the necessary investments required to meet those targets.

- **Adriatic Countries and Turkey**

In order to update the de-pollution projects and identify investment needs for the Adriatic countries and Turkey it is proposed to follow a two-pronged approach:

During the Barcelona MEDPOL Focal Point meeting (18-21 June, 2013) a session is devoted to inform the MEDPOL focal point on the updating of NAPs. During this session the LDK-IME team will present the UfM Project. The intention is to organise this meeting during the first day in order to have more opportunities to have side bilateral meetings with MEDPOL FPs during the subsequent days of the Barcelona meeting. The meetings will be used to assist in verifying and updating the list of on-going projects and identifying investment needs and new projects as well as collecting information on the pollution loads and de-pollution status.

The meetings will also contribute to building the necessary momentum and buy-in from countries on the process of formulating, designing, and executing projects.

The second complementary proposed option is to use national NKEs for the purpose of updating and verifying the status of the de-pollution projects and identify the potential investment needs to meet the set targets. In this case the team will contact each MEDPOL focal points prior to the intervention of the NKEs.

Data collection, verification and validation process will follow the same approach as outlined above for the southern Mediterranean countries.

The feasibility of having a regional seminar for the Balkan countries will be assessed after the Barcelona meeting in June. Similarly, after the meeting, a decision will be made regarding whether a visit to Turkey should be undertaken.

- **European Mediterranean Countries**

Additional documents (such as the 6th UWWTD implementation report and cost of UWWTD) will be consulted and key focal points and resource persons within the ministries and government agencies will be contacted to provide updates on the existing list of projects and the identification of potential investment needs.

During the Barcelona meeting, bilateral meetings will be conducted with EU focal points to request additional information or discuss specific subjects.

Contact persons from EC shall be identified and contacted to search for available and needed information.

2. Methodology for calculating pollution loads

The following table summarises the main pollutants that will be addressed during the second phase of the project subject to the availability of information or theoretical approach for its estimation.

Families & types of pollutants	Pollutants selected for loads estimation in the UfM study	Formula / name	Agreement mentioning (1)	Reduction treatment	Origin (2)
Solid	Total Suspended Solid	TSS		decantation	CAU
Organic pollution	Biological Oxygen Demand	BOD5		Primary chemical or biological	RB
	Chemical Oxygen Demand	COD			
	Ammonia Nitrogen	NH4			
	Total Organic Carbon	TOC			
Nutrients	Nitrate	NO3	WFD, MAP	Nitrification, agricultural practices	RB
	Phosphorus	P	WFD, MAP	dephosphatation	
Bacteriology	Fecal Coliforms		WFD, MAP	Disinfection	CAU
Metals, Hg, Cd, Pb, Cr, Ni, Zn, Cu, As	Mercury	Hg	HELCOM	Activated carbon or reduction at source	RB
	Cadmium	Cd	WFD, HELCOM		
	Chrome	Cr	HELCOM		
	Lead	Pb	WFD, HELCOM		
Hydrocarbons, PAHs, Benzo(a)pyrene	Polycyclic Aromatic Hydrocarbons	PAHs	SC		RB
	Benzo(a)pyrene		WFD, OSPAR		
Phenols	Nonylphenols-4		WFD, OSPAR, HELCOM		RB
Organohalogen compounds PCBs, DCM, Chloform, Trichloro-ethylene, penta-chlorobenzen, PBDE, HBB, PCDD/PCDF	Dichloromethane	DCM	WFD, HELCOM		RB
	Trichloromethane	chloroform	WFD, HELCOM		
	Trichloro-ethylene		WFD, HELCOM		
	Pentachlorobenzene		SC, WFD, MAP 2012		
	Polychlorobiphenyls	PCBs	SC, OSPAR, HELCOM		
	Polibrominated diphenylether	PBDE	SC, WFD, MAP 2012	Suppression at source in chemicals	
	Hexabromobiphenyl	HBB	SC, MAP 2012, OSPAR		
	Dioxins/Furans	PCDD/PCDF	SC		air
Organohalogen pesticides and biocides	Aldrin, Chlordane, Dieldrin, Endrin, Heptachlor, Mirex, Toxaphene		SC, WFD, MAP 2009, OSPAR, HELCOM	Prohibition of use, collection and elimination of residues, agricultural good practices	RB
	Hexachlorobenzene	HCB	SC, WFD, OSPAR, HELCOM		
	Hexachlorocyclohexane, Chlordecone, Endosulfan	α, β, γ-HCH C10Cl10O etc.	SC, WFD, MAP 2012, OSPAR, HELCOM		
	Hexachlorobutadiene	HCBD	OSPAR, HELCOM	Stripping, incineration	RB
Organometallic compounds TBT, PFOs and others SO2	Tributyltin cation	TBT	WFD, OSPAR, HELCOM		
	Perfluorooctane sulfonyl fluoride or sulfonic acid and its salts	PFOs	WFD, MAP 2012		RB
Others	Sulphur dioxide	SO2		Smoke treatment	air

Legend:

compulsory information for all projects

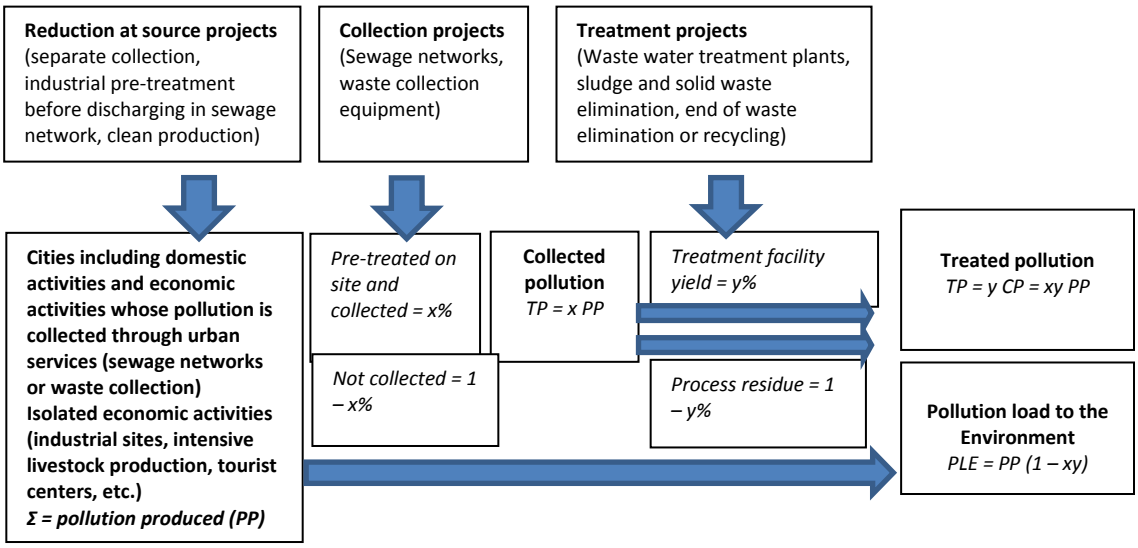
compulsory information only for industrial and hazardous substances projects likely to tackle the substances

if available but facultative

SC= Stockholm convention on POPs; WFD= Water Framework Directive; MAP= UNEP Mediterranean Action Plan, regional plans; OSPAR= N-E Atlantic Sea protection; HELCOM= Baltic Sea protection (2) CAU= coastal administrative unit; RB= aquifer or river basin; air= area depending on regular wind influence

To the fullest extent possible, the calculation will be done following a project-based approach (applying certain criteria for selecting the sites and related projects. Assessment will mainly focus on the performance of the selected projects in terms of pollution reduction for the agreed set of priority pollutants (see above). Following this approach, it will then be possible to assess the efficiency of each existing, on-going and planned measures by comparing the pollution loads with and without the project(s).

The diagram below describes the methodological approach proposed for the loads estimation:



The detailed calculation and analysis will focus on point-sources of pollution in the municipal waste, solid waste and the industrial emission sectors.

Air emissions and pollutions from agriculture will be reported at the national or basin levels when data and information are available. The 2008 NBB or more recent accounts available in the countries will be used in that regard.

The gathering of information shall be done in accordance with the following procrdure:

1. In case of an existing facility: monitoring data (if available).
2. In case of an existing study: planned figures of the pre-feasibility study (if available).
3. In case the above information is not available, attempts should be made to find estimates based on the following information :
    - Driving forces giving PP: for urban sources, urban **population** (permanent, seasonal) and for each economic activity, **characteristic variable** describing the level of activity and specific **ratio per site** describing on-site pre-treatment and clean production measures.
    - Ratio transforming driving forces into PP per pollutant: **annual pollutant load per inhabitant** or **per characteristic variable** of economic activities; **average daily flow of effluents or production of solid waste per inhabitant.**
    - Each type of collection project has its **collection yield per pollutant** (x%) and each type of treatment project has its average **treatment yield per pollutant** (y%).

3. Project Fact Sheets

As agreed upon after the 2nd Steering Committee meeting in Athens, information on investment projects would be divided into two categories:

- "projects" fact sheet (4-5 factsheets per country) will be prepared for investments with a pre-feasibility study and a significant size (to be defined per type of project and per country, for example 10 to 20,000 habitants for sewerage) and
- "investment needs" factsheet (one factsheet per country), gathering the description per type of investment or sector of all de-pollution investments needed by the same country which are not yet projects of the above category, excluding as well studies, training, on-site sanitation or diffuse pollution measures without investments.

Regarding the on-going projects, these will be selected based on their significance (4-5 fact sheets per country). The significance is mainly the size and impact of the project on the de-pollution of the Mediterranean.

Regarding the new projects (one factsheet per project) and investment needs (one factsheet per sector and per country) theset will identified during the country visits for southern countries and during the meetings/workshops that will be conducted during the second phase.

3.2 Criteria for the identification of investment needs and projects

The 2nd phase will identify all projects which are necessary to reach MedPOL targets as set in the regional plans and the SAP 2025; these targets are summarized[5] below, for the same family of pollutants as described in the pollutants table:

Reduction targets for selected LBS Protocol pollutants

Families and types of pollutants	Pollutants selected for loads estimation in the UfM study	Name / sector		Targets	
				Regional Plans (ELVs)	SAP 2025
Solid	Total Suspended Solid	TSS	Urban waste water and air emissions		Eliminate to the fullest extent possible
Organic pollution	Biological Oxygen Demand	BOD_5	Urban waste water	**By 2015:** <50 mg/l O_2 for every single WWTP effluents <200 mg/l O_2 every marine outfall (if primary treatment)	Eliminate to the fullest extent possible
			Industrial food plants (> 4,000 p.e.)	**By 2014 :** <30 mg/l effluent	Eliminate to the fullest extent possible
			Other industries		
	Chemical Oxygen Demand	COD	Industrial food plants (>4,000 p.e.)	**By 2014:** <160 mg/l effluent	Eliminate to the fullest extent possible
	Ammonia Nitrogen	NH4	All sectors		Eliminate to the fullest extent possible
	Total Organic Carbon	TOC	Industrial food plants (>4,000 p.e.)	**By 2014:** <55 mg/l effluent	Eliminate to the fullest extent possible
			Other industries		
Nutrients	Nitrate	NO_3	Urban solid or liquid waste, industriy, agriculture		Eliminate to the fullest extent possible
	Phosphorus	P			Eliminate to the fullest extent possible
Bacteriology	Fecal Coliforms		Urban waste water		Eliminate to the fullest extent possible

[5] This table is a pedagogical presentation, not as exhaustive as UNEP/MAP detailed documents that could be included in a specific annex if need ed.

Metals Hg, Cd, Pb, Cr, Ni, Zn, Cu, As …	Mercury	Hg	Chlor alkali industry	**By 2020 :**→ Cessation of total releases →<1 g/metric tonne of installed chlorine production in each plant → Air emission: 0,9g/metric tonne of installed chlorine production in each plant	Phase out discharges emissions & losses
			Non Chlor alkali industry	**By 2015:** <50 µg/l effluent**By 2019:** <5 µg/l effluent	Phase out discharges emissions & losses
			Other sources		
	Cadmium	Cd			Phase out discharges emissions & losses
Hydrocarbons PAHs, Benzo(a)pyrene…	Polycyclic Aromatic Hydrocarbons	PAHs			Phase out to the fullest possible extent
Phenols	Nonylphenols-4				Eliminate to the fullest possible extent
Organohalogen compounds PCBs, DCM, Chloroform, Trichloro-ethylene, pentachlorobenzene, PBDE, HBB, PCDD/PCDF…	Polychlorobiphenyls	PCBs			Phase out of PCBs
Organohalogen pesticides and biocides	Hexachlorobutadiene	HCBD	Industries, agriculture		Phase out (100% reduction) of PCBs
Organometallic compounds TBT, PFOs, etc. and others SO2..	Sulphur dioxide	SO2	Air emissions		To give priority to the phasing out of toxic

A set of criteria will be used by the team when prioritising new projects during the third phase. Tentative criteria are proposed to be as follows:

- Potential in meeting the 2025 de-pollution targets.
- Effectiveness in addressing the source of pollution at the optimum cost in location and beyond.
- Impacts on health and the ecosystem.
- Appropriateness of selected technology used to existing conditions, easy to operate and maintain.
- Available expertise to operate, and maintain facility and technology/equipment provided.
- Potential for funding by multilateral and bilateral donors.
- Availability of government counterpart funds.

3.3 Coordination and synergies with relevant institutions

As already mentioned in the Inception Report, there are a number of various international cooperation initiatives, projects and programmes producing priority investment projects which are currently on-going in the Mediterranean basin. One of the priorities of the present project is to ensure complementarities and synergy with regional and national initiatives, programmes and projects and capitalise on their outputs. Further to that emphasis was made at the 1st Steering Committee meeting held in Brussels in January to ensure proper coordination with relevant institutions involved in the project's activities.

- **MeHSIP**

On 19 March the Team Leader (Hussein Abaza) together with Tim Young (Team Leader of the MeHSIP) and two of his colleagues visited the National Authority for Potable Water and Wastewater (NAPW) as well the Egyptian Environmental Affairs Agency (EEAA) to obtain updates on current projects and potential investment needs to meet the UNEP/MAP 2025 de-pollution targets. Although some preliminary information was obtained, the team requested for more detailed information.

Moreover, a coordination meeting with Tim Young and George Akl (Team Leader and Key Expert of MeHSIP) was held on the 27 March in Athens and a tentative time schedule for the country visits was proposed. In order to ensure proper coordination of the missions, it was emphasised that contact with the officials in the countries where MeHSIP is active (prior to visits) will be done either by the LDK-IME team or by MeHSIP. A list of projects (simplified to the name and location of projects) will be sent to countries ahead of time. The possibility of using the MeHSIP local support may be possible and MeHSIP will introduce the LDK team to their local experts. Otherwise, local experts may be mobilised to follow up with local visits in cases where the required information was not possible to be obtained due to time limitations.

Early April, MeHSIP and LDK-IME undertook a joint mission to Morocco leading to a first update of on-going and planned de-pollution projects and preliminary analysis of main reasons for delay or unsecured funding. Several priority topics for future investment projects have been identified and information on de-pollution impacts and pollution loads requested to be provided through Ministries of Environment and Interior and ONEE. The report of this mission is available in Annex VII.

- **RENA**

Contact was established with Mr. Mihail Dimovski, (Key Expert, RENA Working Group I, Strategic Planning and Investments, Regional Environmental Network for Accession) where he expressed RENA's interest to cooperate and continue to be updated of progress on the project.

The LDK team was informed that the current RENA project has ended on the 18th of March 2013, with an expected extension of the project to focus on climate protection. The extended project will be called Environment and Climate Regional Accession Network (ECRAN). Currently, the European Commission DG ENV and the project beneficiary countries are developing the project detailed plan of activities and implementation modalities (all RENA activities, are on the RENA website: www.renanetwork.org.).

The main objective of the RENA sub-group on Investment Planning was to increase capacities and ensure regional cooperation in the identification and preparation of environmental investment needs. The work programme for this sub-group included mainly training and experience exchange workshops. Main findings of their work are the following:

- Environmental projects should be identified in close consultation with countries.
- The identification of regional projects was rather difficult both in terms of preparation, organisation, implementation, and funding.
- Emphasis was laid on identifying national environment investment projects.

The methodology RENA followed in updating of list of projects was through direct contacts and through national workshops. Local coordinators assisted in completing the forms they prepared for the purpose. This is in addition to consulting a series of documents that included some indication of country needs. Regional workshops were also convened to identify and agree on regional priorities. Emphasis was made in their training session to the need to have the list of environmental projects reflecting the EU directives.

In addition, established contacts with Ms. Madalina Ivanica, Desk Officer for Serbia, Bosnia and Herzegovina, and Coordinator for RENA, IPA, REC for CEE, NGOs Forum, (DG ENV Unit E1- International relations and Enlargement European Commission).

Ms. Daiva Semeniene provided a brief on the status of their activities with respect to the identification of regional environmental investment projects for the Adriatic countries, including Turkey. Although they were required, as indicated in their ToR, to identify regional project needs, the beneficiary countries during the first Steering Committee meeting of RENA indicated that they did not need any additional regional project, as the situation since PEIP time had not changed significantly. Country representatives stressed that their investment processes were directed by the EU requirements and the main work was carried out at national level. During the RENA project, in addition to Turkey, fYR of Macedonia and Croatia two more RENA countries - Serbia and Montenegro - have received the candidate status.

List of projects for Serbia, Macedonia, Kosovo, Albania, and BiH were provided by Ms Semeniene.

- **H2020 CB Med**

Established contact with Dr. Michael Scoullos, Team Leader of the project H2020 CB/MED. The project deals with the capacity building component of Horizon 2020. He referred the team to the following documents:

- Summary Record of the 5th H2020 Steering Group Meeting: http://www.h2020.net/en/resources/meeting-documents/finish/171/1749.html
- Horizon 2020 Hot Spot Inventory for the Western Balkans and Turkey (completed in 2011) and summarised: http://www.h2020.net/en/pollution-reduction-investments/h2020-hot-spots-inventory-for-western-balkans-and-turkey.html

- **EEA**

Established contacts with the European Environment Agency (EEA) Ms.Cecile Roddier-Quefelec, Project Coordinator for the EEA, who attended the Barcelona Launching Workshop and Ms. Claudette Spiteri, Senior Advisor, Water Quality and Ecology.

The EEA, in the framework of the ENPI-SEIS EU funded project and as chair of the H2020 Review, Monitoring and Research sub-group, is currently preparing with the ENP-South Partner countries the first assessment report of H2020 progress as called for by the road-map of the Cairo declaration.

To support this process, a selection of 6 key indicators has been made (detailed indicator factsheets are available on: http://enpi-seis.ew.eea.europa.eu/project-activities/data-and-indicators/working-group-environmental-indicators-south/factsheet-consultation) and countries are currently in the phase of populating these indicators in view of producing a regional indicator based assessment. In order to achieve this end, specific country level assistance is provided, and in particular coordination at national level of the different data providers and thematic experts. A series of national workshop is planned to take place in each ENP-South Partner countries over the period March-May.

3.4 Preliminary schedule of country visits

The table below provides the latest schedule for planned workshops by EEA at the country level

Country	Dates proposed	Status	Workshop
EGYPT	27-28/03	Done	28-Mar
PALESTINE	7-9 April	Done	08-Apr
LEBANON	15-17 April	Done	16-Apr
JORDAN	17-19/04	Done	18-Apr
ISRAEL	30/04 – 2/05	Done	1 May
ALGERIA	3-5 June	Confirmed	4 June
TUNISIA	21-23 May	Confirmed	22 May
MOROCCO	28-30 May	Confirmed	29 May

During the coordination meeting with MeHSIP team (27 March 2013 in Athens) the following time schedule was proposed for the country visits:

- **Morocco:** joint visit with MeHSIP scheduled on the 9-11 April 2013.
- **Algeria:** To be discussed later, tentatively in the second week of June 2013. MeHSIP may join LDK team in this mission although it is not a priority for them.
- **Tunisia:** MeHSIP undertook a mission in May and will provide outcome to the Project Team, who will also organise a mission to the country to secure additional information needed.
- **Libya:** No information from MeHSIP – discussion with UfMS for security reasons.
- **Egypt:** Planned visit by MeHSIP to be communicated to the Project Team.
- **Jordan:** MeHSIP already completed their mission – LDK-IME team after consulting with the CA, it was decided not to visit the country because Jordan is not a member of UNEP/MAP and does not have a NAP. The team will be based on information gathered by MeHSIP team or other bilateral contacts.
- **oPt:–** joint visit with MeHSIP scheduled for the 5-6 June 2013.
- **Israel:** joint visit with MeHSIP scheduled for the 2-4 June 2013.
- **Lebanon:** a visit for MeHSIP was scheduled for the week of 22 April 2013.
- **Syria:** No visit is planned-contact by phone.

The following is the tentative list of visits for the Southern countries:

Country	Hussein Abaza	Stephan Simonet	Marwan Rizkallah
Morocco		(9-11 April)	
Algeria			(9-13 June)
Tunisia	(To be decided)		
Libya			**Postponed until further notice**
Egypt	(29 April)		
Jordan			Not Required
oPt		(2-4 June)	
Israel		(5-6 June)	
Lebanon			(22 April)
Syria			**No visit is scheduled**

5. CONCLUSIONS AND NEXT STEPS

The following are the next steps planned to be undertaken following the 2nd SC meeting based on the input received and discussions held during the meeting:

- Continue to review reports and studies and update the Country Reports (maximum of 20 pages (excluding annexes and maps).
- Continue to update project lists of on going projects, and identification of investment and project needs for countries.
- Undertake country visits for the southern Mediterranean countries, and further collection and verification of relevant information (pollutants, costs, etc)
- Attend the work session of Medpol Regional Seminar for all countries (Barcelona 18-21 June). Organise the 3 working sessions addressed to the 3 group of counties
- Mobilise NKEs for Western Balkans, Turkey and Southern Mediterranean countries.
- Identify additional information sources about the achievements of EU countries regarding the relevant EU Directives and exploit this information.
- Collect information or estimate pollutants' loads attached to each investment project or need.
- Prepare Country Fact Sheets for on-going projects to be selected based on their significance (4-5 fact sheets per country)
- Prepare Country Fact Sheets for new projects (one fact sheet per project) and investment needs (one fact sheet per sector and per country)
- Convene the 3rd SC meeting in the third week of September 2013
- Draft the Synthesis Report maximum 40 pages (excluding annexes and maps) to be submitted to the 3rd SC meeting and finalised based on comments provided.

Please refer to the updated work plan timetable attached as Annex V.

ANNEXES

- **Annex -I:** Country Reports
- **Annex-II:** Updated Final Project Fact Sheet
- **Annex-III:** Updated Final ToRs for country visits & Country visits information check-list
- **Annex IV:** Agenda, MoMs and list of participants of Regional Launching Workshop at Barcelona
- **Annex V:** Updated work plan
- **Annex VI:** List of projects per group of countries
- **Annex VII:** Mission Reports

ANNEX I: Country Reports

ANNEX II: Final Project Fact Sheet

Fact Sheet
New Investment Needs and Projects

II. PROJECT INFORMATION	
1. Project ID number	
2. Country / Region / Location (maps of the project's area)	
3. Identification of need	
4. Cause of the problem	
5. Link to hotspot(s)	
6. Sector description	☐ Urban Wastewater ☐ Domestic Solid waste ☐ Industrial discharges ☐ Hazardous solid waste ☐ Industrial emissions ☐ Agriculture
7. Extent and severity of the pollution problem to be addressed and the intended target to be achieved	
8. Country priority: ☐ yes ☐ no	Level of country priority: ☐ high ☐ medium
9. Government commitment	
10. Identification of possible technical solutions and alternatives	
11. Feasible alternative options – choice of solution	
12. Project description and estimated investment needs	
13. Expected duration (Start date and completion)	
14. Expected outcomes to be achieved by project, including potential benefits of the project on the environmental, social, and economic front	
15. Compliance with relevant legislation (Barcelona/LBS, relevant EU legislation)	
16. Potential pollutant reduction load by family of substances	
17. Potential obstacles, if any, to implement the project (permissions, land ownership, legal framework….)	
18. Key entities to be involved (Name of Organisation responsible for project/promoter)	Legal status: ☐ public entity ☐ private company ☐ NGO
19. Contact details of promoter/responsible entity	
20. Assessment of promoter's capacity	
21.Main sources of information (government planning documents, technical studies, etc.)	

Fact Sheet
On-going Project
(Operational projects, with feasibility studies, and those under construction)

II. PROJECT INFORMATION	
1. Project ID number	
2. Title of project	
3. Country / Region / Location (maps of the project's area)	
4. Project description (including whether it is part of the 2005 NAP or modified since then)	
5. Total investment cost and sources of funding (public, private, external)	☐ Loan ☐ Grant
6. Expected duration (Start date and expected completion)	
7. Current status of the project implementation as per the MeHSIP scorecard	
8. Potential obstacles, if any, to implement the project (permissions, land ownership, legal framework….) and action required for advancing the project	
9. Country priority: ☐ yes ☐ no	Level of country priority: ☐ high ☐ medium
Government commitment	
10. Pollution being addressed and sector description	☐ Urban Wastewater ☐ Domestic Solid waste ☐ Industrial discharges ☐ Hazardous solid waste ☐ Industrial emissions ☐ Agriculture
11. Link to hotspot(s)	Link to hotspot(s)
12. Extent and severity of the pollution problem to be addressed and the intended target to be achieved	
13. Technical solution used by the project	
14. Compliance with relevant legislation (Barcelona/LBS, relevant EU legislation)	
15. Expected outcomes to be achieved by project, including potential benefits of the project on the environmental, social, and economic front and estimated number of people to be connected and benefitting from the project	
16. Regional and/or local de-pollution potential of the project (environmental & health effects) by category of pollutant	
17. Potential pollutant reduction load by family of substances	

18. Contact details of promoter/responsible entity	
19. Assessment of promoter's capacity	
20. Main sources of information (government planning documents, technical studies, etc.)	

ANNEX III: Final ToRs for country visits

Country Visits
Information Checklist

- Main environmental concerns/problems (hotspots) in the country with specific focus on industrial pollution, wastewater, and solid waste. Look for/secure any national strategies or plans related to those sectors with impacts on coastal areas.
- Main polluting substances and loads resulting from industrial, wastewater, and solid waste discharges and activities affecting the Mediterranean. This should include current and expected future trends.
- Government responses to address pollution to include institutional, legislative and policy responses. Search for any set future targets up to 2025.
- Information on investment projects (national plans, project factsheets, concept notes, technical studies, etc.) to address industrial pollution, wastewater, and solid waste, to verify information obtained from desk research. Information on projects will be obtained according to the following categorization:

  NAP's projects already completed and operational with performance data.
  - Ongoing projects with secured funding
  - Projects without secured funding
  - Projects on hold or cancelled
  - Planned or required new projects
- Impact of government response (policy measures and projects) to address pollution with focus on pollution resulting from industrial activity, wastewater, and solid waste as they impact the Mediterranean. Focus should be on the extent of success of projects to address pollution (including performance data).
- Main challenges facing the successful implementation of projects and proposed action required in order to address them.
- Investment needs from the national perspective.

Terms of Reference
Country Visits

1) Validate compiled list of depollution projects (wastewater treatment, solid waste management, and industrial depollution projects) according to the following categorisation:
   - Ongoing projects with secured funding
   - Projects without secured funding
   - Planned or required new depollution projects
   - Identification of investment needs and projects

2) Description of projects according to the above categories, including implementing government agency, total cost of project and contribution by different entities, jobs created, training component if applicable, technology component, contribution to sustainable development and GDP growth, potential sustainability of projects once funding ceases, potential replicability of projects within the country and in the region.

3) Extent to which ongoing projects are successful in achieving depollution targets and impacts on the environment and health within the country and the region.

4) Means and effectiveness of assessing and measuring depollution within the project area and beyond national boundaries.

5) Main constraints facing successful implementation of ongoing projects and proposed means of addressing these constraints.

6) Status of funding of identified projects without secured funding and potential donor countries and institutions.

7) Proposed new depollution projects by sector to include brief description, funding requirements, potential donor countries and institutions, and government contribution.

8) Recommendations for future action for the UFM Secretariat and for the Mediterranean countries.

ANNEX IV: MoM and list of participants of the Launching Workshop at Barcelona

Update Priority Investment Portfolio for Protecting the Mediterranean Sea from pollution

Regional Workshop 22 February 2013

Venue: Union for the Mediterranean Secretariat

Palacio de Pedralbes Pere Duran Farell, 11 08034 Barcelona, Spain

AGENDA

Purpose of the Workshop:

1. Coordination between the consultants mandated by UNEP/MAP, EIB-MeHSIP and UfM Secretariat;
2. Presentation of studies' objectives, preliminary findings and main lines of activities;
3. Synergies with relevant on-going projects and initiatives towards best collection of information to build upon

09:00 - 10:30 Session I exclusively for consultants: internal coordination modalities between the 3 studies

Chair: *UfM*

Follow-up of actions identified in the first Steering Committee:

- Information sharing during the desk phase of UfM study up to beginning of April (relevant documents, contacts, simplified fact sheet);
- Envisaged methodology for second phase of UfM study from April to beginning of September (data collection from EU countries, aggregated information from countries of West Balkans & Turkey, visits to South countries: case by case)
- Common tools (web page with access to consultants, final fact sheet per project, data extraction, GIS)
- Joint provisional calendar

10:30 - 11:00 Coffee Break, **registration of other participants**

11:00 - 11:10 Welcome, purpose and structure of the Regional Workshop and roundtable

Mr Rafiq Husseini, UfM Secretariat

11:10 - 12:00 Session II: Introduction to the on-going studies

Chair: *UfM*

- General presentation by UfM (5 min): objectives, consultants, calendar

Mr. François Guerber

- Example of NAP/SAP implementation country profile by UNEP /MAP (10 min)

Ms Susanna Casanovas

- Presentation of the Project (15 min)

Dr. Hussein Abaza, Team Leader

- Question and Answers (20 min)

12:30 - 13:30 Session III: Coordination of the studies regarding Southern countries

Chair: *UfM and MeHSIP consultants**;** if needed, the participants could split into two groups, each of them dealing with a set of countries*

- **Maghreb countries:** presentation of one country (hot spots and projects of the NAP, administrative coastal units vs. watershed areas, driving forces - cities and industries, MeHSIP identified projects and existing infrastructure, status of coastal or estuaries waters, up-to-date depollution plans); Facilitated discussion about main sources of information (data banks or documents) and contacts

- **Southern or Eastern countries:** presentation of one country (hot spots and projects of the NAP, administrative coastal units vs. watershed areas, driving forces - cities and industries, MeHSIP identified projects and existing infrastructure, status of coastal or estuaries waters, up-to-date depollution plans); Facilitated discussion about main sources of information (maps, data banks or documents) and contacts within particular countries (Syria, Israel, Libya) and within other countries (Lebanon, Jordan, Palestine, Egypt)

13:30-15:00 Lunch Break

15:00-16:30 Session IV: Coordination of the studies regarding European, Western Balkans and Turkey countries

Chair: *UfM consultant*

- **European countries:** presentation of one country (hot spots and projects of the NAP, administrative coastal units vs. watershed areas, progress review of Urban Waste Water or Water Framework Directives, status of coastal or estuaries waters, up-to-date depollution plans); Facilitated discussion about main sources of information (maps, data banks or documents) and contacts within European countries or Commission

- **Pre-accession countries:** presentation of one country (hot spots and projects of the NAP, administrative coastal units vs. watershed areas, driving forces - cities and industries, projects identified by World Bank and existing infrastructure, status of coastal or estuaries waters, up-to-date depollution plans); Facilitated discussion about main sources of information (maps, data banks or documents) and contacts within countries, sub-region or European Commission

16:30 – 17:00 Main transversal issues and synergies with regional organisations and IFIs projects

Reports from consultants, access to data bases

Wrap-up – Closing Remarks

MoMs
Updating studies about de-pollution of the Mediterranean
Launching workshop 2013 Feb 22nd

Objectives

1. Coordination between the 3 consultants;
2. Presentation of studies' objectives, preliminary findings and main lines of activities; and
3. Synergies with relevant on-going projects and initiatives towards best collection of information to build upon

Attendance

European Commission (EC)

- Mr. Stéphane Halgand, DEVCO Unit 4, Project Manager - EU policies Regional Programmes Neighbourhood South

European Environmental Agency (EEA)

- Ms. Cecile Roddier-Quefelec, Project Manager-Mediterranean Area Cooperation

UNEP/MAP

- Ms. Tatjana Hema, Medpol Programme officer

UNEP/MAP consultant

- Ms. Susanna Casanovas

EIB/MeHSIP

- Mr. Tim Young, Team Leader of MeHSIP-PPIF

CP/RAC

- Mr. Enrique de Villamore, Director

UfM Consultant (LDK-IME)

- Mr. Stavros Damianidis, Ms. Chara Kostani
- Mr. Hussein Abaza, Mr. Stéphane Simonet, Mr. Marwan Rizkallah
- Mr. Enrique Cifres

Secretariat of the Union for the Mediterranean (UfMS)

- Mr. François Guerber, Senior Advisor to Environment & Water
- Ms. Inès Abdel Razek-Faoder, Environment & Water Division, Ms. Marta Briones, Intern

Outcomes or decisions per objective

1. Coordination between consultants

- MeHSIP consultant has well advanced its interviews regarding 5 countries (Tunisia, Lebanon, Egypt, Jordan, and Morocco); the joint visits decided in the last Steering Committee will then take place from April. Detailed ToRs have been set up for visits of the Southern countries (the 5 above plus Israel, oPt and Libya if confirmed as safe for professional visits) during the second phase (April – August). Meetings between MeHSIP team and LDK key experts may take place by end of March for further coordination regarding country visits schedule and scope.
- Methodology to extract information from these visits has been defined: contact first representatives from the country, then donors and IFIs; draft prior to the visits a list of 5 to 10 indispensable pieces of information; address the issue clearly with the interlocutors and explain potential

benefits from supporting the project, giving documentary references, visiting sewage works or collecting measurements if necessary, avoiding judgment on specific project but orienting synthesis on positive actions for the future. An information check-list with pieces of information will be developed by LDK-IME to be used as a guide for the country visits. This check-list will be finalised jointly with MeHSIP.

- The project list developed during the desk review will be shared with MeHSIP so as to get more detailed information on why some projects are not in the MeHSIP list and exact implementation status of some projects.
- For the description of on-going or future projects, a simple fact sheet has been defined as requested in LDK-IME contract, including information on population served by liquid or solid waste infrastructure and potential reduction of pollutants loads; a similar fact sheet has been defined for the description of de-pollution Hot Spots. In case more detailed information would be available from MeHSIP data bases regarding projects in southern countries, this information will be the source for LDK-IME fact sheet.
- Working sessions will be necessary between the consultants all along the implementation of the 3 studies. The internal website (FTP server) where to share documents will be open soon by LDK-IME and a password shall be given to consultants and Partners.
- LDK-IME will update a joint work plan for the 3 studies, starting from the tentative one distributed in Brussels by UfMS.

2. Information of the participants

- Presentation of the 3 studies by UfMS and of H2020 monitoring sub-group activity on reporting by EEA.
- Presentation by UNEP/MAP consultant of the content of a "country profile" with its policy assessment and its technical assessment, including a comparison between UNEP/MAP and World Bank definition of Hot Spots, with documentation references.
- Presentation by team leader Hussein Abaza of the UfMS study undertaken by LDK-IME.
- Presentation of initial assessment of projects for three countries as case studies (Egypt, Lebanon and Albania) including some discussions on hotspots in the Adriatic due to different studies available carried out by UNEP/MAP and WB.

3. Synergies towards best implementation of the studies

- The H2020 pipeline is being updated as an on-going task under the current MeHSIP mandate in the nine southern Mediterranean countries. Furthermore the maturity of projects is continuously under review under the MeHSIP assignment. This process will be retained and LDK-IME will need to build the overall de-pollution investment portfolio a) integrating H2020 bankable projects identified by MeHSIP in 9 southern countries, b) adding other projects and investment needs necessary to meet UNEP/MAP 2025 environmental targets (i.e. targets of SAP Med and of more recent regional plans) in 22 countries. This portfolio must include on-going projects, projects identified or under preparation and future "investments needs" (i.e. investment needed because there is a source of pollution without infrastructure or because there is a polluted area, even if a project has not yet been defined through a study). The portfolio shall highlight the relation of the project to a Hot Spot, as defined by UNEP/MAP, or to a NAP investment need as well as the location of the source (coastal administrative unit or river basin); these relations are not necessary for a project to be part of the portfolio, but are criteria for prioritisation. In most countries, a National Environment Action Plan or Water Resources Management Plans exist, are more recent than the NAP and should be the basis for updating the list of current and future projects and

needs. The situation of cities & its population, lists of industries and CP/RAC documentation can be used for projects identification.

- Since dealing with de-pollution of the Sea, sources of pollution to be considered are located either in coastal administrative units or in river basin areas, depending on the type of pollutant. For large river basins going far beyond the coast, LDK-IME will present first to UfMS what type of relevant information is available before deciding if fact sheets are necessary for projects of the upper basin (in the case of European river basins, the river basin management plans already include all useful information; in the case of the Nile, the needs should not include countries upstream from Egypt).
- A great number of polluting substances are included in UNEP/MAP objectives but LDK-IME shall submit to the UfMS a list restricted to the main pollutants to be considered in order to estimate (potential) project pollution reduction loads. Once this list is agreed upon, there will be various possibilities for combining them in various families, depending on the aim of each family, and this shall be discussed with UNEP/MAP.
- Projects without any environmental impacts do exist. Accordingly, information must be collected about the project's capacity before its construction, and the project's performance once the works are operated. In particular, population connected to a WWT Plant and benefiting from a specific project must be estimated if not monitored, idem for population served by a waste collection and landfill.
- The Hot Spots list shall be based on the UNEP/MAP definition and available UNEP/MAP documentation. The reference list is in the document "Trans boundary Diagnostic Analysis for the Mediterranean Sea" Athens 2004, including 124 hotspots; by the end of the desk review, Medpol may indicate if Hot Spots have to be considered within the 3 countries not mentioned in this report: France, Montenegro and Palestine. Anyway, the consultant shall open reflection on possible future evolution of the definition of Hot Spots and the criteria for their identification and evaluation, particularly in order to distinguish sources of pollution (the real "Hot Spots") from polluted marine or coastal areas (that were called "Sensitive Zones" in SAP Med) for further discussion by the appropriate bodies.
- NAPs will be used for most countries as starting point for the identification of projects. However for Montenegro WB ASEP study will be used as starting point and for Jordan the MeHSIP project.
- Adriatic countries: At the end of desk review, it will be decided if the regional workshop assembling these countries is going to be held or if another methodology is preferred so as to extract up-to-date information on the state of play of projects and investment needs.
- The UNEP/MAP ecosystem approach will be delivering some Good environmental status and targets values and or trends for a number of ecological objectives for COP consideration and approval only by the end of the 2013. However, LDK-IME will try to identify environmental impacts of projects in an integrated or holistic manner not restricted to physic-chemical pollution reduction. For example, "secondary" impacts of de-pollution should be significant on biodiversity and easy to highlight in projects related to some SAP Med Hot Spot areas or sensitive zones, or to SAP Bio Marine Protected Areas.
- EEA will be invited to the next Steering Committee. RENA, MIO-ESCDE, IFIs and donors who could not participate will be contacted by LDK-IME so as to inform them and to ask for contribution. EEA will share its existing GIS files with the consultants so that everybody uses the same basis and can then add information in a coherent way. The use of IT files (GIS and others) coming from countries could be prompted within the "conduct rule" to be delivered by LDK.

- The de-pollution investments which still could be necessary in the EU countries should appear clearly within their reporting to the EC about the Urban Waste Water Treatment Directive or Water Framework Directive. The person in charge of analysing this reporting inside the EC must be identified. Idem for pre-accession countries regarding the same Directives.

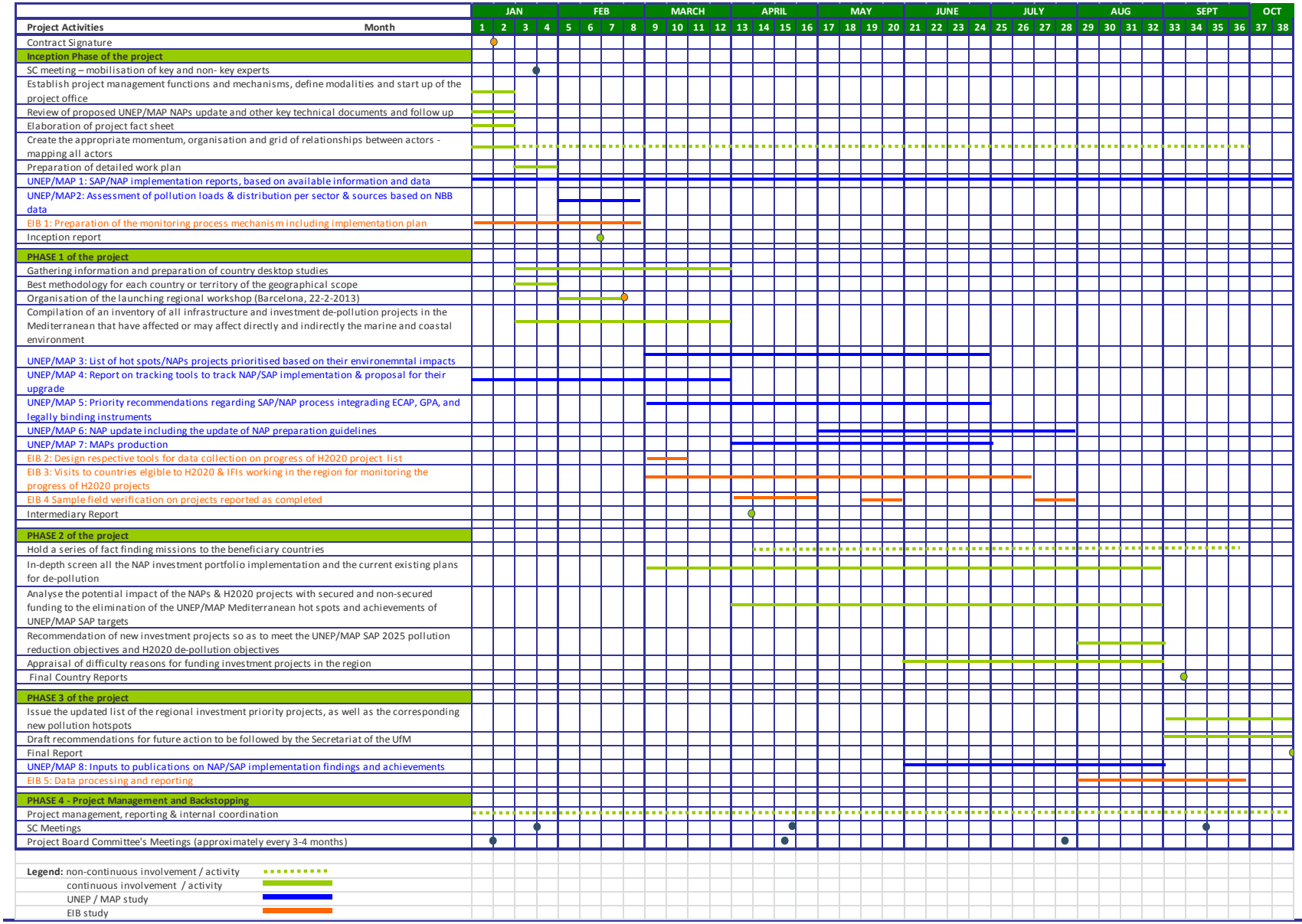
Next steps

- UfMS may inform the countries members of the UfM in the Senior Officials (SO) Meeting next Feb 26-27 about i) the 3 studies coordinated by the Partners and ii) the necessity to inform in their country the UNEP/MAP&Medpol + H2020 + SEIS project focal points, who will coordinate contacts with the consultants and relevant interlocutors in the country, so as to gather best up-to-date information about national or water resources plans and about projects or needs. A letter of information to the countries will be sent following the SOM, and the consultants will have to refer to it for asking information or arranging appointments; information and cooperation has also to be suggested to donors and IFIs through a similar letter from the UfMS.
- LDK-IME will disseminate to the participants a final version of the study's inception report taking into account the comments that UfMS will send soon, minutes of the meeting and presentations made.
- LDK-IME will organise bilateral coordination meetings with MeHSIP (end of March) and with UNEP/MAP (date to be defined). The next SC will take place in Athens April 17 afternoon.
- Possible difficulties of accessing information regarding de-pollution potential of projects were discussed and it was agreed that UfM and UNEP/MAP will be notified of such cases for possible assistance.

Main conclusions

- The three consultants will continue the coordination to make use of possible valuable information and avoid doubling the efforts. A potential meeting can be held between all consultants to organise the country visits and share the major findings in each of the studies.
- The consultants should use UNEP/MAP work about hot spots. Any analysis of new potential hotspots, where appropriate, will be based on UNEP/MAP definition. However reflection should be undertaken on considering additional criteria with regards to hotspot definition as appropriate in consultation with UNEP/MAP.
- After completion of phase 1 and presentation of a first projects' list, a decision will be taken about the methodology to identify investment projects that are not located in the coastal zone.
- EEA will share the GIS files to be used as common referential for geographic information.
- A list of substances will be prepared and submitted for approval by UfM in consultation with UNEP/MAP to be the basis for pollutant loads reduction estimation. The list of substances shall include "standard" parameters for municipal waste water or solid urban waste; for industrial waste, 20 major pollutants will be defined.
- Contacts with certain countries, IFIs and regional organisations, that could not attend the launching workshop will be made by LDK-IME right after the meeting

ANNEX V: Updated work plan


JAN
FEB
MARCH
APRIL
MAY
JUNE
JULY
AUG
SEPT
OCT
Project Activities
Month
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38
Contract Signature
Inception Phase of the project
SC meeting – mobilisation of key and non- key experts
Establish project management functions and mechanisms, define modalities and start up of the project office
Review of proposed UNEP/MAP NAPs update and other key technical documents and follow up
Elaboration of project fact sheet
Create the appropriate momentum, organisation and grid of relationships between actors - mapping all actors
Preparation of detailed work plan
UNEP/MAP 1: SAP/NAP implementation reports, based on available information and data
UNEP/MAP2: Assessment of pollution loads & distribution per sector & sources based on NBB data
EIB 1: Preparation of the monitoring process mechanism including implementation plan
Inception report
PHASE 1 of the project
Gathering information and preparation of country desktop studies
Best methodology for each country or territory of the geographical scope
Organisation of the launching regional workshop (Barcelona, 22-2-2013)
Compilation of an inventory of all infrastructure and investment de-pollution projects in the Mediterranean that have affected or may affect directly and indirectly the marine and coastal environment
UNEP/MAP 3: List of hot spots/NAPs projects prioritised based on their environemntal impacts
UNEP/MAP 4: Report on tracking tools to track NAP/SAP implementation & proposal for their upgrade
UNEP/MAP 5: Priority recommendations regarding SAP/NAP process integrading ECAP, GPA, and legally binding instruments
UNEP/MAP 6: NAP update including the update of NAP preparation guidelines
UNEP/MAP 7: MAPs production
EIB 2: Design respective tools for data collection on progress of H2020 project list
EIB 3: Visits to countries elgible to H2020 & IFIs working in the region for monitoring the progress of H2020 projects
EIB 4 Sample field verification on projects reported as completed
Intermediary Report
PHASE 2 of the project
Hold a series of fact finding missions to the beneficiary countries
In-depth screen all the NAP investment portfolio implementation and the current existing plans for de-pollution
Analyse the potential impact of the NAPs & H2020 projects with secured and non-secured funding to the elimination of the UNEP/MAP Mediterranean hot spots and achievements of UNEP/MAP SAP targets
Recommendation of new investment projects so as to meet the UNEP/MAP SAP 2025 pollution reduction objectives and H2020 de-pollution objectives
Appraisal of difficulty reasons for funding investment projects in the region
Final Country Reports
PHASE 3 of the project
Issue the updated list of the regional investment priority projects, as well as the corresponding new pollution hotspots
Draft recommendations for future action to be followed by the Secretariat of the UfM
Final Report
UNEP/MAP 8: Inputs to publications on NAP/SAP implementation findings and achievements
EIB 5: Data processing and reporting
PHASE 4 - Project Management and Backstopping
Project management, reporting & internal coordination
SC Meetings
Project Board Committee's Meetings (approximately every 3-4 months)
Legend: non-continuous involvement / activity
continuous involvement / activity
UNEP / MAP study
EIB study

ANNEX VI: List of projects per group of countries (except Italy and Spain)

Nr.	Group	Country	Location			Sector	Project Title	Linked Hot Spot or Sensitive Area	Population Served or Project Capacity		Coastal / Watershed (C or W)	Promoter	Construction Status	Operation Status	Status of development using the score card	Financing Secured	Value	NAP	Donor / IFI Involvement	General Comment
			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
LEB 1	South	Lebanon	Various			WW	Rehabilitation of wastewater sewer networks	Beirut					Completed	Ongoing			17,78	Yes		
LEB 2	South	Lebanon	Ghadir			WW	Carlton-Ghadir coastal collector	Beirut			C		Ongoing	Ongoing			7,78	Yes		
LEB 3	South	Lebanon	Beirut			WW	WW collectors in North and South Beirut	Beirut			C		Ongoing	Ongoing		No	59,26	Yes		
LEB 4	South	Lebanon	Saida			WW	Construction of a treatment plant and wastewater collectors in Saida	Saida		55.000	C		Completed	Ongoing			7,04	Yes	JBIC	Preliminary Treatment Only
LEB 5	South	Lebanon	Chekka			WW	Chekka WWTP	Chekka	24.000	2.100	C		Completed	Onhold			11,30	Yes	French protocol	Waiting for Network connection
LEB 6	South	Lebanon	Batroun			WW	Batroun WWTP	Batroun	30.000	4.100	C		Completed	Onhold			7,20	Yes	French protocol	Waiting for Network connection
LEB 7	South	Lebanon	Jbeil			WW	Jbeil WWTP	Jbeil	50.000	9.000	C		Completed	Onhold			8,80	Yes	French protocol	Waiting for Network connection
LEB 8	South	Lebanon	Chouf coastal areas			WW	Chouf WWTP	Dammour	88.000	11.900	C		Onhold				13,10	Yes	French protocol	Jiyyeh WWTP- Waiting to approve the location
LEB 9	South	Lebanon	Nabatieh			WW	Nabatieh WWTP		100.000	14.700	W		Completed	Ongoing			8,50	Yes	French protocol	Under Commissioning
LEB 10	South	Lebanon	Tripoli			WW	Tripoli WWTP	Tripoli	1.000.000	135.000	C		Completed	Onhold			70,00	Yes	EIB	Waiting for Network connection
LEB 11	South	Lebanon	Keserwan			WW	Keserwan WWTP	Nahr el Kalb	505.000	700.000	C		Onhold			No	9,63	Yes		Cost ??? (155 Meuro)
LEB 12	South	Lebanon	Dora			WW	Dora WWTP	Beirut	2.200.000	330.000	C		Onhold			No	60,00	Yes	EIB	Sea Outfall completed, tested but no9t used
LEB 13	South	Lebanon	Ghadir			WW	Ghadir WWTP	Beirut	250.000	50.000	C		Completed	Ongoing		No	11,11	Yes		Cost ??? (100 Meuro)
LEB 14	South	Lebanon	Beirut			WW	Rehabilitation of infrastructure in Beirut	Beirut			C		Ongoing				11,30	Yes	AFESD	
LEB 15	South	Lebanon	Beirut			SW	Rehabilitation of Normandy Dumpsite	Beirut			C		Completed	N/A			39,26	Yes		
LEB 16	South	Lebanon	Outside Beirut			SW	Collection and landfilling projects to cover the rest of the country				W		Ongoing			No	370,37	Yes		
LEB 17	South	Lebanon				SW	Rehabilitation of 4 dumpsites (Bourj Hammoud, Saida, Ras el Ain and Tripoli)	Various			C		Onhold			No	148,15	Yes		Saida (UNDP)
LEB 18	South	Lebanon				SW	Construction of Three Landfills (Zahleh, Baalbeck and Tripoli)	Various			C/W		Ongoing	Ongoing		No	18,52	Yes		Zahle (completed) Baalback (UNDP)
LEB 19	South	Lebanon				AGR	Integrated pest management plan									No	0,37			
LEB 20	South	Lebanon				IE	Industrial waste management (liquid effluents, air emissions, solid waste)									No	148,15	Yes		
SRY 1	South	Syria	Banias			HW	The rehabilitation of the Banias refinery IWWTP, including the construction of a landfill for industrial hazardous waste	Banias			C					No	12,00	Yes	GEF (20 - 40%) ?	
SRY 2	South	Syria	Tartous			WW	Construction Tartous municipal WWTP	Tartous			C					No	110,00	Yes	EIB ??	
SRY 3	South	Syria	Lattakia			WW	Construction Lattakia Municipal WWTP	Lattakia			C					No	39,26	Yes		Check value
SRY 4	South	Syria	Tartous			SW	Development of Municipal landfill in Tartous	Tartous			W					No	3,11	Yes		Check the tartous/lattakia ISWM
SRY 5	South	Syria	Banias			WW	Construction Banias municipal WWTP	Banias			C					No	7,93	Yes		

Nr.	Group	Country	Location			Sector	Project Title	Linked Hot Spot or Sensitive Area	Population Served or Project Capacity		Coastal / Watershed (C or W)	Promoter	Construction Status	Operation Status	Status of development using the score card	Financing Secured	Value	NAP	Donor / IFI Involvement	General Comment
			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
SRY 6	South	Syria	Banias			Air	Exchange of fuel with natural gas for two power generation units at the Banias thermal power plant	Banias			C					No	35,00	Yes		
SRY 7	South	Syria	Jableh			IE	Construction of Jableh WWTP and sewerage network for the industrial area of Al Fawar Spring	Jableh			C					No	3,11	Yes		
SRY 8	South	Syria	Tartous			Air	Installation of fabric filters on production line for Tartous Cement Factory	Tartous			C					No	0,89	Yes		
SRY 9	South	Syria	Jableh			WW	Rehabilitation of the Old Jableh City sewerage network	Jableh			C					No	0,74	Yes		
SRY 10	South	Syria	Banias			IE	Facility of recycling and treatment of fuel oil sludge	Banias			C					Yes	18,00	No		Link to SRY 5
LIB 1		Libya	Various				WWTP maintenances and constructions	Various								No	93,30	Yes		
	South	Libya	Zuwarah			WW	Maintenance of civil and mechanical work, connection of sewage pumping station in the city.							Ready but not working (no contract)						
	South	Libya	Sabrata			WW	Complete the restoration works							Under over all maintenance						
	South	Libya	Azzawiya			WW	Maintenance of civil and mechanical work, connection of sewage pumping station in the city.							Ready but not working (tendering stage)						
	South	Libya	Janzur			WW	Complete the restoration works complete the pumping stations in the city , expansion of sewer network.							small part of sewage is pumped to the WTP (the contract was singed for expansions)						
	South	Libya	Tripoli			WW	Second stage (elhdbaelkadera) Maintenance of civil and mechanical works													
	South	Libya	Tripoli			WW	Construction of aen zara WWTP													
	South	Libya	Khums			WW	Maintenance of civil and mechanical work, connection of sewage pumping station in the city.													
	South	Libya	Zliten			WW	Extention of WWTP							Working						
	South	Libya	Misratah			WW	Extention of WWTP							Working						
	South	Libya	Sirt			WW	Connection of Pumping Station with WWTP							Working						
	South	Libya	Ajdabiya			WW	Maintenance of WWTP							Working						
	South	Libya	Benghazi			WW	Maintenance of WWTP							Not working						
	South	Libya	Dernah			WW	Maintenance of WWTP							Not working						
	South	Libya	Tobruk			WW	Maintenance of WWTP							Not working						
LIB 2		Libya	Various				Sanitary landfills	Various								No	43,22	Yes		
	South	Libya				SW	Al Nigat Al Khams										1,87			
	South	Libya				SW	Surman and Sabrata										0,56			
	South	Libya				SW	Azzawiya										2,33			
	South	Libya				SW	Jifarah										2,33			
	South	Libya				SW	Tripoli										5,60			
	South	Libya				SW	Tajura										2,33			
	South	Libya				SW	Tarhunah-Masallatah										0,56			
	South	Libya				SW	Al Mergib										2,33			
	South	Libya				SW	Misratah										4,67			
	South	Libya				SW	Sirt 1 and Sirt 2										4,20			

Nr.	Group	Country	Location			Sector	Project Title	Linked Hot Spot or Sensitive Area	Population Served or Project Capacity		Coastal / Watershed (C or W)	Promoter	Construction Status	Operation Status	Status of development using the score card	Financing Secured	Value	NAP	Donor / IFI Involvement	General Comment
			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
	South	Libya				SW	Ajdabiya										1,87			
	South	Libya				SW	Al-Hizam Al-Akhdar										0,56			
	South	Libya				SW	Benghazi										5,60			
	South	Libya				SW	AL-Marj										0,75			
	South	Libya				SW	AL-Bieda										2,33			
	South	Libya				SW	AL-Ghobba										0,47			
	South	Libya				SW	Dernah										1,87			
	South	Libya				SW	EL-Batnan										3,00			
LIB 3	South	Libya	Various			IE	Improvements on Cement industries (6 plants)	Various								No	44,79	Yes		
LIB 4	South	Libya				HW	Regional site for treatment and disposal Hazard chemicals waste									No	12,44	Yes		
LIB 5	South	Libya	Tripoli-Sirt-Benghazi			IE	Central environmental Laboratories									No	12,44	Yes		
JOR 1	South	Jordan	Al Azrak			WW	Wastewater System						Under Preparation			No	20,00	N/A		MehSIP list
JOR 2	South	Jordan	Al Ekaider			SW	Integrated SWM Project					MOMA/JSC	Under Preparation			No	39,00	N/A		MehSIP list
JOR 3	South	Jordan	Various			WW	Box culvert (40km) for wastewater conveyance						On hold			No	61,00	N/A		MehSIP list Pending development in Al samra WWTP
JOR 4	South	Jordan	Dead Sea			WW	East Cost WWTP construction with pump station						Pending			No	18,00	N/A		MehSIP list
JOR 5	South	Jordan	Rusaifa			SW	Rehabilitation of a dump site and wastewater collection tank						Pending			No	22,00	N/A		MehSIP list
JOR 6	South	Jordan	Amman and Middle Governorate			HW	Medical and Industrial Waste Treatment Plant						Pending			No	28,50	N/A		MehSIP list BOT
JOR 7	South	Jordan	Karak and koufranjah			WW	Expansion & upgrade of wastewater facilities						On going			No	56,00	N/A		MehSIP list
JOR 8	South	Jordan	Al samra			WW	Expansion of WWTP or construcion of new WWTP						On going			No	136,00	N/A		MehSIP list
JOR 9	South	Jordan	Naur			WW	Construction of sewer pipelines (160km), pump stations, WWTP (9000 m³/day) (to serve hotels)						On going			No	60,00	N/A		MehSIP list
JOR 10	South	Jordan	Jarash			WW	Upgrading and expansion of WWTP						On going			No	8,00	N/A		MehSIP list
JOR 11	South	Jordan	Ain El ghazal			WW	Septic treatment facility capacity (10,000 m3/day)						On going			No	2,00	N/A		MehSIP list
JOR 12	South	Jordan	Zarqa			WW	Wastewater System Reinforcement and Expansion						Under Preparation			No	35,30	N/A		MehSIP list
JOR 13	South	Jordan	Zarqa			IE	Zarqa Industrial Wastewater Plant (central industrial WWTP, 1,430 cu m/d)						On going			No	3,30	N/A		MehSIP list
JOR 14	South	Jordan	Amman (Ghabawi)			SW	Integrated SWM Project						On going	Started		No	37,70	N/A		MehSIP list
TUR 1	West Balkan & Turkey	Turkey	Seyhan Basin			SW	Solid Waste Storage Plants for Adana-Seyhan, Adana-Yüreğir counties										$ 10.000.000 - 20.000.000			
TUR 2	West Balkan & Turkey	Turkey	Seyhan Basin			WW	Sewage and domestic wastewater treatment plant for Adana-Karataş county						Adana-Yüreğir/Çelemli: WWTP will be commenced in 01.01.2017	Adana-Seyhan: Connected to WWTP Adana-Yüreğir: Connected to WWTP			$ 5.000.000 - 7.000.000			

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
TUR 3	West Balkan & Turkey	Turkey	Büyük Menderes Basin			SW	Solid Waste Storage Plants for Denizli-Merkez, - Uşak-Merkez counties										$ 10.000.000 - 25.000.000			
TUR 4	West Balkan & Turkey	Turkey	Antalya Basin			SW	Solid Waste Storage Plants for Antalya-Serik, Antalya-Merkez (hot spot) Antalya-Alanya (hot spot), Antalya-Manavgat (hot spot), Isparta-Merkez Isparta-Yalvaç counties						Antalya-Alanya (under preparation)	Antalya-Serik (site allocated) Antalya-Merkez (operation since 2003) Isparta-Merkez Isparta-Yalvaç operational			$ 20.000.000 - 25.000.000			
TUR 5	West Balkan & Turkey	Turkey	Küçük Menderes Basin			SW	Solid Waste Storage Plants for the İzmir-Ödemişcounty							Ongoing			$ 6.000.000 - 10.000.000			
TUR 6	West Balkan & Turkey	Turkey	Küçük Menderes Basin			WW	Sewage and domestic wastewater treatment plant for the İzmir-Çeşme county	Yes					None	İzmir-Selçuk: Connected to WWTP İzmir- Çeşme/Merkez, Alaçatı: Physical WWTP İzmir-Konak: Connected to WWTP İzmir-Bornova: Connected to WWTP			$ 5.000.000 - 8.000.000			
TUR 7	West Balkan & Turkey	Turkey	Küçük Menderes Basin			WW	Sewage and domestic wastewater treatment plant for the İzmir-Buca, İzmir-Ödemişcounties						İzmir-Ödemiş/Ovakent (will be commenced in 30.06.2011), Konaklı, Kaymakçı, Kayaköy, Gölcük, Çaylı (will be commenced in 31.12.2010), Bozdağ, Birgi, Bademli (will be commenced in 30.06.2011): WWTP Not Exist	İzmir-Buca: Connected to WWTP İzmir-Ödemiş: WWTP exists			$ 70.000.000 - 100.000.000			
TUR 8	West Balkan & Turkey	Turkey	Gediz Basin			SW	Solid Waste Storage Plants for the İzmir-Menemen, Manisa-Salihli, Manisa-Turgutlu, İzmir-Bergama counties										$ 10.000.000 - 15.000.000			
TUR 9	West Balkan & Turkey	Turkey	Gediz Basin			WW	Sewage and domestic wastewater treatment plant for the İzmir-Menemen county							Advanced WWTP			$ 25.000.000 - 35.000.000			
TUR 10	West Balkan & Turkey	Turkey	Doğu Akdeniz Basin			SW	Solid Waste Storage Plants for the İçel-Silifke, İçel-Tarsus, İçel-Erdemli, İçel-Mersin, (capacity improvement) * counties	Yes					Icel-Erdemli, EIA in process Icel-Tarsus on National Priority List	Icel-Silifke; In operation from 2009 Icel-Mersin in operation			$ 10.000.000 - 25.000.000			
TUR 11	West Balkan & Turkey	Turkey	Doğu Akdeniz Basin			WW	Sewage and domestic wastewater treatment plant for the İçel-Erdemli county Rehabilitation of the existing Domestic Wastewater Treatment Plants (e.g. increasing capacity, transforming physical treatment into advanced treatment etc.) for İçel-Silifke (hot spot), İçel-Tarsus (hot spot) and İçel-Mersin (hot spot) counties	Yes					İçel-Erdemli/Arpaçbahşiş, Ayaş, Çeşmeli, Esenpınar, Kocahasanlı, Kumkuyu, Limonlu and Tömük: WWTP will be commenced in 2014-2017 Yeliovacık: WWTP will be commenced in 2014-2017	İçel-Erdemli: Biological WWTP İçel-Erdemli/Kargıpınarı, Kızkalesi: Physical+Biological WWTP İçel-Silifke/Atakent, Narlıkuyu and Silifke: Physical+Biological WWTP İçel-Silifke/Akdere, Arkum, Atayurt, Taşucu, Uzuncaburç İçel-Tarsus: Physical+Biological WWTP İçel-Mersin: Advanced WWTP			$ 30.000.000 - 40.000.000			

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
TUR 12	West Balkan & Turkey	Turkey	Batı Akdeniz Basin			SW	Solid Waste Storage Plants for the Muğla-Milas, Muğla-Fethiye, Muğla-Bodrum counties Sending solid waste to the nearest solid waste disposal area for Muğla-Datça (hot spot), Muğla-Ortaca (sensitive area) and Muğla Dalaman (sensitive area)	Yes					Mulga-Milas; area selected for landfill Bodrum; area selected for landfill	Mulga-Fethiye; in operation since 2009; Mulga-Datca; in operation since 2005 Mugla-Ortaca; in operation since 2002 Mulga-Dalaman; sends waste to Mulga ortaca			$ 6.000.000 - 10.000.000			
TUR 13	West Balkan & Turkey	Turkey	Batı Akdeniz Basin			WW	Sewage and domestic wastewater treatment plant for the Muğla-Milas county							Muğla-Milas: Physical+Biological WWTP			$ 20.000.000 - 30.000.000			
TUR 14	West Balkan & Turkey	Turkey	Ceyhan Basin			SW	Solid Waste Storage Plants for the Adana-Ceyhan, Adana-Kozan, K.Maraş-Merkez K.Maraş-Elbistan, Osmaniye-Merkez, Osmaniye-Kadirli counties						Osmaniye-Kadirli has a sewage and It's WWTP is under the bidding process. K.Maraş-Merkez has a sewage and It's WWTP is under the project process. K. Maraş-Elbistan has a limited sewage and not a WWTP.				$ 10.000.000 - 15.000.000			
TUR 15	West Balkan & Turkey	Turkey	Ceyhan Basin			WW	Sewage and domestic wastewater treatment plant for the Adana-Ceyhan county							Adana-Yumurtalık: Physical+Biological WWTP			$ 30.000.000 - 40.000.000			
TUR 16	West Balkan & Turkey	Turkey	Asi Basin			SW	Solid Waste Storage Plants for the Hatay-Dörtyol, Hatay-İskenderun, Hatay-Samandağ, Hatay-Antakya counties	Yes					Hatay-Dörtyol, Hatay-İskenderun) under construction	Hatay-Samandağ, Hatay-Antakya, Hatay Kırıkhan under operation since 2009			$ 5.000.000 - 10.000.000			
TUR 17	West Balkan & Turkey	Turkey	Kuzey Ege Basin			SW	Solid Waste Storage Plants for the İzmir-Bergama county							İzmir-Bergama has a landfill for domestic and medical solid wastes.			$ 6.000.000 - 10.000.000			
TUR 18	West Balkan & Turkey	Turkey	Kuzey Ege Basin			WW	Sewage and domestic wastewater treatment plant for the Balıkesir-Ayvalık, Balıkesir-Gömeç counties	Yes					Balıkesir-Ayvalık: WWTP will be commenced in 01.01.2014	Balıkesir-Ayvalık/Altınova and Küçükköy: Biological WWTP Balıkesir-Gömeç/Merkez and Karaağaç: Physical+Biological WWTP Balıkesir-Edremit/Akçay, Kadıköy and Zeytinli: Connecte to WWTP Balıkesir-Edremit/Merkez and Altınoluk: Physical+Biological WWTP Balıkesir-Burhaniye: Physical+Biological WWTP			$ 5.000.000 - 8.000.000			
TUR 19	West Balkan & Turkey	Turkey	Kuzey Ege Basin			WW	Sewage and domestic wastewater treatment plant for the İzmir-Bergama county						Izmir-Bergama sewage was constructed and WWTP is under the bidding process.				$ 8.000.000 - 12.000.000			
TUR 20	West Balkan & Turkey	Turkey	Kuzey Ege Basin			WW	Sewage and domestic wastewater treatment plant for the Hatay-Dörtyol county										$ 20.000.000 - 30.000.000			
TUR 21	West Balkan & Turkey	Turkey	Kuzey Ege Basin			WW	Sewage and domestic wastewater treatment plant for the Hatay-Samandağcounty										$ 20.000.000 - 30.000.000			
TUR 22	West Balkan & Turkey	Turkey	Seyhan Basin			IE	Treatment of industrial wastewaters forTextile industry							physical+biological WWTPs			$ 35.000.000 - 55.000.000			

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
TUR 23	West Balkan & Turkey	Turkey	Seyhan Basin			IE	Treatment of industrial wastewaters produced for Food Sector							physical+biological WWTPs			$ 25.000.000 - 35.000.000			
TUR 24	West Balkan & Turkey	Turkey	Seyhan Basin			IE	Treatment of industrial wastewaters producedfor other organic chemical industries							physical+chemical+biological WWTPs except for the organic chemical indutry			$ 20.000.000 - 30.000.000			
TUR 25	West Balkan & Turkey	Turkey	Seyhan Basin			IE	Treatment of industrial wastewaters produced for Paper Sector							physical+chemical+biological WWTPs			$ 10.000.000 - 20.000.000			
TUR 26	West Balkan & Turkey	Turkey	Antalya Basin			WW	Isparta-Yalvaç sewage and domestic wastewater treatment plant for the county						Antalya-Alanya/Demirtaş, Emişbeleni, Güzelbağ, Payallar WWTP will be commenced in 2013-2016 Antalya-Manavgat/Evrenseki, Gündoğdu, Ilıca, Kızılot, Oymapınar, Sarılar and Taşağıl: WWTP will be commenced in 2011-2017	Antalya-Merkez/Hurma: Advanced WWTP Antalya-Merkez/Lara: Advanced WWTP+SO Antalya-Merkez/Kundu: Physical+Biological WWTP Antalya-Alanya/Konaklı, Mahmutlar, Obaköy, Okurcalar, Türkler: Physical+Biological WWTP Antalya-Alanya/Avsallar: Advanced WWTP Antalya-Alanya/Cikcilli, Çıplaklı, İncekum, Kargıcak, Kestel and Tosmur: Connected to WWTP Antalya-Manavgat/Çolaklı, Merkez, Titreyengöl: Physical+Biological WWTP Antalya- anavgat/Kumköy: Advanced WWTP			$ 15.000.000 - 25.000.000			
TUR 27	West Balkan & Turkey	Turkey	Antalya Basin			WW	Basin Wastewater Treatment Plant for summer housing complexes and accommodation facilities										$ 30.000.000 - 50.000.000			
TUR 28	West Balkan & Turkey	Turkey	Büyük Menderes Basin			IE	Treatment of industrial wastewaters produced for industrial organized district industry							Aydın IODI: Physical+Biological WWTP Aydın ASTIM IODI: WWTP is under construction Denizli IODI: Physical+Chemical+Biological WWTP Uşak Leather and Textile IODI: Physical+Chemical+Biological WWTP			$ 8.000.000 - 12.000.000			
TUR 29	West Balkan & Turkey	Turkey	Büyük Menderes Basin			WW	Sewage and domestic wastewater treatment plant for Denizli-Merkez, Uşak-Merkez counties							Denizli-Merkez and Pamukkale: Physical+Biological WWTP Denizli-Merkez/Karahayıt and Bağbaşı Connected to WWTP Denizli- Merkez/Aşağoşamlı, Gözler and Irlıganlı, Pınarkent and Uzunpınar: WWTP Not Exist Uşak-Merkez: Advanced WWTP Uşak-Merkez/Güre: Biological Natural WWTP Uşak-Merkez/Bölme and			$ 50.000.000 - 70.000.000			

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
														İlyaslı: WWTP Not Exixt						
TUR 30	West Balkan & Turkey	Turkey	Büyük Menderes Basin			WW	Wastewater Treatment Plant for summer housing complexes and accommodation facilities										$ 2.000.000 - 4.000.000			
TUR 31	West Balkan & Turkey	Turkey	Büyük Menderes Basin			IE	Treatment of industrial wastewaters forTextile industry							Physical+Chemical+Biological and Physical+Biological WWTPs			$ 40.000.000 - 60.000.000			
TUR 32	West Balkan & Turkey	Turkey	Büyük Menderes Basin			IE	Treatment of industrial wastewaters produced forTannery industry										$ 20.000.000 - 40.000.000			
TUR 33	West Balkan & Turkey	Turkey	Büyük Menderes Basin			IE	Treatment of industrial wastewaters forPaper and Food industry							Physical+Biological and Physical+Chemical+Biological WWTPs			$ 15.000.000 - 25.000.000			
TUR 34	West Balkan & Turkey	Turkey	Büyük Menderes Basin			IE	Treatment of industrial wastewaters for other organic and inorganic industry							Physical+Chemical and Physical+Chemical+Biological WWTPs			$ 20.000.000 - 40.000.000			
TUR 35	West Balkan & Turkey	Turkey	Gediz Basin			WW	Sewage and domestic wastewater treatment plant for Manisa-Salihli, Manisa-Turgutlu, Manisa-Akhisar counties							İzmir-Foça: Physical+Biological WWTP			$ 50.000.000 - 80.000.000			
TUR 36	West Balkan & Turkey	Turkey	Gediz Basin			WW	Wastewater Treatment Plant for summer housing complexes and accommodation facilities										$ 2.000.000 - 3.000.000			
TUR 37	West Balkan & Turkey	Turkey	Gediz Basin			IE	Treatment of industrial wastewaters for Tannery industry										$ 10.000.000 - 20.000.000			
TUR 38	West Balkan & Turkey	Turkey	Asi Basin			IE	Treatment of industrial wastewaters for Metal industry										$ 10.000.000 - 20.000.000			
TUR 39	West Balkan & Turkey	Turkey	Asi Basin			IE	Treatment of industrial wastewaters for Food Sector										$ 8.000.000 - 12.000.000			
TUR 40	West Balkan & Turkey	Turkey	Küçük Menderes Basin			IE	Treatment of industrial wastewaters for Textile industry							biological WWTPs			$ 5.000.000 - 10.000.000			
TUR 41	West Balkan & Turkey	Turkey	Küçük Menderes Basin			IE	Treatment of industrial wastewaters for Metal industry										$ 2.000.000 - 4.000.000			
TUR 42	West Balkan & Turkey	Turkey	Küçük Menderes Basin			IE	Treatment of industrial wastewaters for Food Sector							chemical+biological and biological WWTPs			$ 3.000.000 - 5.000.000			
TUR 43	West Balkan & Turkey	Turkey	Küçük Menderes Basin			IE	Treatment of industrial wastewaters for Paper Sector							chemical+biological WWTPs			$ 5.000.000 - 10.000.000			
TUR 44	West Balkan & Turkey	Turkey	Küçük Menderes Basin			IE	Treatment of industrial wastewaters for Other organic chemical Sector							physical+chemical and chemical+biological WWTPs			$ 5.000.000 - 10.000.000			
TUR 45	West Balkan & Turkey	Turkey	Küçük Menderes Basin			WW	Wastewater Treatment Plant for summer housing complexes and accommodation facilities							biological WWTPs			$ 3.000.000 - 5.000.000			

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
TUR 46	West Balkan & Turkey	Turkey	Kuzey Ege Basin			IE	Treatment of industrial wastewaters forTannery industry										$ 5.000.000 - 10.000.000			
TUR 47	West Balkan & Turkey	Turkey	Kuzey Ege Basin			WW	Wastewater Treatment Plant for summer housing complexes and accommodation facilities							biological WWTPs			$ 8.000.000 - 12.000.000			
TUR 48	West Balkan & Turkey	Turkey	Kuzey Ege Basin			IE	Treatment of industrial wastewaters for Food Sector							Physical+Chemical+Biologic and Physical and Biological WWTPs			$ 10.000.000 - 20.000.000			
TUR 49	West Balkan & Turkey	Turkey	Doğu Akdeniz Basin			IE	Treatment of industrial wastewaters for Food Sector										$ 50.000.000 - 80.000.000			
TUR 50	West Balkan & Turkey	Turkey	Doğu Akdeniz Basin			IE	Treatment of industrial wastewaters for Petroleum Sector										$ 10.000.000 - 20.000.000			
TUR 51	West Balkan & Turkey	Turkey	Doğu Akdeniz Basin			IE	Treatment of industrial wastewaters for Metal industry										$ 15.000.000 - 25.000.000			
TUR 52	West Balkan & Turkey	Turkey	Doğu Akdeniz Basin			IE	Treatment of industrial wastewaters for Paper Sector										$ 5.000.000 - 15.000.000			
TUR 53	West Balkan & Turkey	Turkey	Doğu Akdeniz Basin			WW	Wastewater Treatment Plant for summer housing complexes and accommodation facilities										$ 15.000.000 - 25.000.000			
TUR 54	West Balkan & Turkey	Turkey	Ceyhan Basin			IE	Treatment of industrial wastewaters for Textile industry							physical+biological WWTPs			$ 8.000.000 - 12.000.000			
TUR 55	West Balkan & Turkey	Turkey	Ceyhan Basin			IE	Treatment of industrial wastewaters for Food Sector							physical+chemical WWTPs			$ 8.000.000 - 12.000.000			
TUR 56	West Balkan & Turkey	Turkey	Ceyhan Basin			IE	Treatment of industrial wastewaters from Aquaculture Production										$ 5.000.000 - 7.000.000			
TUR 57	West Balkan & Turkey	Turkey	Ceyhan Basin			WW	Sewage and domestic wastewater treatment plant for K.Maraş-Merkez, K.Maraş-Elbistan, Osmaniye-Kadirli counties										$ 30.000.000 - 40.000.000			
TUR 58	West Balkan & Turkey	Turkey	Batı Akdeniz Basin			WW	Sewage and domestic wastewater treatment plant for Muğla-Datça county Rehabilitation of the existing Domestic Wastewater Treatment Plants (e.g. increasing capacity, transforming physical treatment into advanced treatment etc.) for Muğla-Ortaca (sensitive area), Muğla Dalaman (sensitive area) and Muğla-Bodrum (hot spot)	Yes					Turgutreis and Yalı: WWTP will be commenced in 2011-2017	Muğla-Datça: Physical+Biological WWTP Muğla-Ortaca/Sarıgerme: Physical+Biological WWTP Muğla-Ortaca/Dalyan: Advanced WWTP Muğla-Dalaman: Physical+Biological WWTP Muğla-Bodrum/Bitez, Merkez, İçmeler, Göltürkbükü, Gündoğan and Yalıkavak: Physical+Biological WWTP Muğla-Bodrum/Konacık: Biological WWTP Muğla-Bodrum/Gümüşlük, Mumcular, Ortakent Yahşi,			$ 2.000.000 - 3.000.000			

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
TUR 59	West Balkan & Turkey	Turkey	Batı Akdeniz Basin			IE	Treatment of industrial wastewaters from Aquaculture Production										$ 1.000.000 - 2.000.000			
TUR 60	West Balkan & Turkey	Turkey	Batı Akdeniz Basin			IE	Treatment of industrial wastewaters from mining activities										$ 1.000.000 - 2.000.000			
TUR 61	West Balkan & Turkey	Turkey	Batı Akdeniz Basin			IE	Treatment of industrial wastewaters from Energy production										$ 4.000.000 - 6.000.000			
TUR 62	West Balkan & Turkey	Turkey	Batı Akdeniz Basin			WW	Wastewater Treatment Plant for summer housing complexes and accommodation facilities										$ 30.000.000 - 60.000.000			
TUR 63	West Balkan & Turkey	Turkey	Doğu Akdeniz Basin			IE	Treatment of industrial wastewaters from mining activities										$ 10.000.000 - 20.000.000			
TUR 64	West Balkan & Turkey	Turkey	Doğu Akdeniz Basin			IE	Treatment of industrial wastewaters from textile industry										$ 15.000.000 - 25.000.000			
TUR 65	West Balkan & Turkey	Turkey	Ceyhan Basin			IE	Treatment of industrial wastewaters from other organic chemical industries							physical and physical+biological and physical+chemical+biological WWTPs			$ 500.000-1.500.000			
TUR 66	West Balkan & Turkey	Turkey	Antalya Basin			IE	Treatment of industrial wastewaters from Aquaculture Production										$ 200.000-600.000			
TUR 67	West Balkan & Turkey	Turkey	Antalya Basin			IE	Treatment of industrial wastewaters from Food Sector										$ 1.000.000 - 2.000.000			
TUR 68	West Balkan & Turkey	Turkey	Antalya Basin			IE	Treatment of industrial wastewaters from mining activities										$ 200.000-600.000			
TUR 69	West Balkan & Turkey	Turkey	Gediz Basin			WW	Improving the current Household Wastewater Treatment Plant in İzmir-Foça (e.g: increasing capacity, transforming physical treatment into biological treatment etc.)										$ 1.000.000 - 2.000.000			
TUR 69	West Balkan & Turkey	Turkey	Asi Basin			WW	Sewage and advanced domestic wastewater treatment plant for the Hatay-Dörtyol (hot spot), Hatay-Samandağ (hot spot) and Hatay Kırıkhan (hot spot) counties.	Yes					Hatay-Dörtyol/Altınçağ, Merkez, Karakese, Kuzuculu, Yeniyurt and Yeşilköy: WWTP will be commenced in 2011-2017 Hatay-Samandağ: WWTP will be commenced in 2014-2017 Hatay-Kırıkhan: WWTP will be commenced in 31.07.2011	Hatay-Dörtyol/Payas: Physical+Biological WWTP					
TUR 70	West Balkan & Turkey	Turkey	Asi Basin			WW	Rehabilitation of existing domestic wastewater plant up to advanced treatment for Hatay-İskenderun (hot spot) and Hatay-Antakya (hot spot) counties.	Yes					Hatay-İskenderun/Akçalı, Arsuz, Azganlık, Bekbele, Denizciler, Gökmeydan, Gözcüler, Karaağaç, Karayılan, Madenli, Nardüzü, Sarıseki and Üçgüllük: WWTP will be commenced in 2011-2017 Hatay-Antakya: Physical+Biological WWTP Hatay-Antakya/Avsuyu, Çekmece, Dursunlu, Ekinci, Gümüşgöze, Güzelburç, Harbiye, Karaali, Karlısu, Kuzeytepe, Küçükdalyan, Maşuklu, Narlıca, Odabaşı, Ovakent, Serinyol, Subaşı, Şenköy, Toygarlı, Turunçlu and Yeşilpınar: WWTP will be commenced in 2013-2017		Hatay-İskenderun: Physical+Biological WWTP					

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
MAL 1	EU	Malta				WW	Construction of UWWT plants						Started in 2005				33,00			
MAL 2	EU	Malta				WW	Separate collection of waste fractions						Started in 2005				5,50			
MAL 3	EU	Malta				SW	Control emissions from Landfills						Started in 2005				9,00			
MAL 4	EU	Malta				Air	Control of Nox emissions from power plants						Started in 2005				0,90			
TUN 1	South	Tunisia	Monastir Bay			IE	Integrted intervention programme fo the de-pollution of the bay and river basin					MOE	Pending			No	41,00	Yes	N/A	
TUN 2	South	Tunisia	Gabes			IE	Rehabilitation pf the phophorgypsum dumpsite of Gabes					GCT	Under Preparation		initially identified as a priority on H 2020 pipeline and as a Wave 2 project on MeHSIP investment pipeline. Project still identified as a priority during recent MeHSIP meeting with EU and Government. Follow up needed for further action.	No	200,00	Yes	EIB,AFD,KfW,EU	
TUN 3	South	Tunisia	Mdilla/Sfax			IE	Closure of Sfax plant and construvting new one in Mdilla					GCT	Under Preparation			Yes	264,00	No	EIB	
TUN 4	South	Tunisia	Thyna			IE	Rehabilitation of the Coastal Zone of Thyna					MOE	Under Preparation			No	45,00	????	N/A	
TUN 5	South	Tunisia	Lake Bizert			INT	Integrated de-pollution programme (Lake Bizert)	Bizert			W	MOE	Under Preparation			No	70,00	Yes	EIB(tbc)	
TUN 6	South	Tunisia	National			SW	Valorisation of organic waste or biomass					ANGED	Under Preparation			Yes		Yes	N/A	
TUN 7	South	Tunisia	National			WW	Loan ONAS IV (various)					ONAS	Ongoing			Yes	123,00	Yes	EIB, AFD, EC	
TUN 8	South	Tunisia	National			WW	PISEAU II-Water Sector investment loan (various)					ONAS	Ongoing			Yes	91,00	Yes	WB/GEF	
TUN 9	South	Tunisia	National			WW	Credit Line Industrial de-pollution						Ongoing			Yes	40,00	Yes	AFD	
TUN 10	South	Tunisia	National			WW	Programme WWTP (Complementary to programme WWTP financed by KfW : 36.5m) /coverage of a total of 19 WWTP and pumping stations					ONAS	Ongoing			Yes	127,00	Yes	KfW, AFD	
TUN 11	South	Tunisia	Tejerouine,Dahmani/kssour,Redalyf/Molarès,hammamet Nort, El Guettar,Ben Guerdane			WW	Construction of 7 WWTP, connection to sewerage sysem of Ksar/Gafsar, ehabilitationprimary and secondary collectors (200km), qnd 27,000 houses connections(Tejerouine,Dahmani/Kssour,Redaly/Moularès,Tea et feriana,El Guettar,Ben Guerdane)					ONAS	Under Preparation			Yes	40,00	Yes	KfW, EIB	
TUN 12	South	Tunisia	Al-Attar			WW	Construction of WWTP Phase II (BOT project)					ONAS	Pending			Yes	48,00	Yes	Other	

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
TUN 13	**South**	Tunisia	Grand Tunis			WW	Construction of transfer pipes, pumping stations,distibution network for use of treatedwastewater in agriculture					ONAS	Ongoing			Yes	500,00	Yes	AFD, EIB, WB	
TUN 14	**South**	Tunisia	Sousse Nord, Sud méllane 1, Kallat El Andalous, Ben Arous (Grappée) ,Mselem, Lella Mériem,Zarzi ville, Zarzis Soulhel,Houmet Essouk,Jerba Aghir, Sidi Mehrez,Gabès, koba,Kéllbia,Jammel,Sebitla,Hammet Gabès			WW	DEPOLLUMED - programme of the cleanup of the Mediterrnean sea					ONAS	Under Preparation		Project identified as a priority on H 2020 pipeline assigned as a Wave 2 project on MeHSIP pipeline. Coastal WW system project initially conceived between ONAS and MeHSIP until recently being discussed for co-financing with AFD. MeHSIP suggested that feasibilty study is undertaken based on preparatory work funded by AFD.	No	175,00	Yes	EIB, AFD	
TUN 15	**South**	Tunisia	Clean up about 200 quarters			WW	5th Sanitation of low income neighbourhoods					ONAS	Under Preparation			No	30,00	No	AFD	
TUN 16	**South**	Tunisia	Sanitation of 80 municipalities with fewer than 10,000 habitants			WW	Sanitation in cities of less than 10,000 inhabitants					ONAS	Under Preparation			No	50,00	No	KfW,AFD	
TUN 17	**South**	Tunisia	Region North pole of Tunisia			WW	Programme of improving the capacity of wastewater treatment in North Pole of Tunisia					ONAS	Under Preparation			No	40,00	No	WB/GEF	
EGY 1	**South**	Egypt	Marsa Matrouh			WW	Integrated Water and Wastewater Project	Yes			C	HCWW	Under preparation			No	87,00	Yes		
EGY 2	**South**	Egypt	Lake Burullus (15 villages in Kafr El-Sheikh)			WW	Wastewater expansion for Kafr El Sheikh Governorate	Yes			W	HCWW	Under preparation		WWT for Lake Burullus (designated as protected area) completed. Need monitoring equipment to measure level of pollution as baseline.	No	130,00	Yes		

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
															Capacity of plant 500,000 cm3/day					
EGY 3	**South**	Egypt	Cairo/Abu Rawash			WW	Untreated domestic sewage	Yes			W	EEAA	Ongoing		Plant tendered through public private partnership currently in prequalification phase. NAPWW responsible for tendering. Prequalifications document received Waiting for Ministry to establish a committee to review tenders. Plant providing secondary treatment (EGY 2000 x 1.6 cm/day).	Yes	EGY 3.2 billion	No	Government	
EGY 4	**South**	Egypt	Cairo/Gabal El Asfar			WW	Expansion of existing WWTP for biological treatment	Yes			W	EEAA	Ongoing		The project aims at adding a treatment capacity of 500,000 m3/day for Gabal El Asfar WTP, leading to a total treatment capacity of 2,5 million m3/day Negotiations with Hassan Allam and Spanish company for construction of facility with responsibility to operate for 2 years then hand over to the Water Holding Company.	Yes	EGY 1 billion	No	African development Bank	
EGY 5	**South**	Egypt	National			WW	Improved water and wastewater services programme (IWSP 1 ??)					EEAA	Ongoing		An additional treatment capcity of 340 m3/day financed through	Yes	295,00	Yes	To secure information	

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
															construction & rehabilitation of new WTPs. Work included improvement of the wastewater collection network.					
EGY 6	**South**	Egypt	National			WW	Integrated Sanitation and Sewage Infrastructure Project-ISSP (1 ??)					HCWW	Ongoing			yes	87,00	Yes	To secure information	
EGY 7	**South**	Egypt	Alexandria			INT	Coastal Zone Management Project				C	EEAA	Ongoing			Yes	4,00	No		
EGY 8	**South**	Egypt	Delta and Upper Egypt			IE	Private Public Sector Industry Project-PPSI					EEAA	Ongoing			Yes	28,00	Yes	kfw	
EGY 9	**South**	Egypt	Alexandria			SW	Alexandria Hazardous Waste Management Project	Yes			C	EEAA	Under Preparation		Government in the process of estblishing an Agency to be responsible for SWM following the National Solid Waste Managment Programme (2011/KfW) recommending the establishment of the Agency and with the support of M Euros 51 has been approved by the EU, GIZ, and KfWin the form of grants and loan. Priority Governorates to receive funding are Gharbia, Kafr El Sheikh , Qena, and Menia?	No	25,00	Yes		
EGY 10	**South**	Egypt	Cairo			IE	Egyptian Pollution Abatement Programme (EPAP II)					EEAA	Ongoing			Yes	145,00	Yes		
EGY 11	**South**	Egypt	Alexandria			WW	Wastewater Treatment Amriya					Alexandria General Organization for Sanitary Drainage				Yes	81,00	Yes		

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
EGY 12	South	Egypt	Alexandria			WW	Construction of El-Amria secondary WWTP (300,000m3), construction of 5 pumping stations, reuse of treated effleunt	Yes			C		Expected to be completed by end of 2013 as scheduled. Collection system plus treatment plant. Contractor: Damag and Tallat Mostafa. Responsible for operation during garuntee period together with the Holding Company. Euros 30 million (KfW) and EGY 600 million				EGY400	Yes	KfW	Check with EGY 11
EGY 13	South	Egypt	Alexandria			WW	Construction of El Mex-El Agamy (300,000m3 wastewater treatment plant, construction of 13n pumping stations and one sea outfall	Yes			C					Yes	EGY1.4	Yes	Government	
EGY 14	South	Egypt	Alexandria			SW	Organize a sanitary landfill in the desert west of Alexandria	Yes			W		Alexandria West. No tender as yet. Project to be implemented through to PPP arrangment. Capacity increasing fro m 400,000 to 600,000 cm3/day with secondary treatment added.				Not available	Yes		
EGY 15	South	Egypt	Alexandria			SW	Transfer 2 plants of organic fertilizer production (operating at Abis and Al Mountazah) outside the city limits	Yes			C						Not available	Yes		
EGY 16	South	Egypt	Alexandria			IE	Application of cleaner technologies and wastewater treatment plants in the companies of :Ratka paper, national paper, Mist Dairy Siclam, Eastern Linnen, Abu Qir Fertilizer, Edfinal Canning, Arab United Textiles, Siouf Spinning, Alexandria Pharmaceuticals	Yes			C						EGY101.2	Yes		
EGY 17	South	Egypt	Alexandria			IE	Air filters for the companies El Amria Cement, Carbon Black, Wood industries, Portland Cement Alex, Petrogas	Yes			C						EGY61.5	Yes		
EGY 18	South	Egypt	Alexandria			IE	Built a hazardous wastes treatment facility with a capacity of 3000 tons/year at 12 km from Burg Al Arab	Yes			C						Not available	Yes		
EGY 19	South	Egypt	Qena			INT	Water Supply and Sanitation Qena l	Yes			W	Qena company for water and wastewater	N/A			Yes	8,40	No		
EGY 20	South	Egypt	Gharbya			WW	Horizon 2020 Wastwater programme for Gharbya Governorate	Yes			W	HCWW	under preparation			No	76,60	Yes		
EGY 21	South	Egypt	Dakahlya			WW	Horizon 2020 Wastewater programme for Dakahlya Governorate	Yes			W	HCWW	Investment neeeds as identified in the nationall strtegy for water supply and sanittion: compilation of water and sanitation master plans (EU funded). Since IWSP is covering Gharbia, Sharkia, Dameitta, and Beheira, focus could be on Dakahlya and or Munofia as proposed in MeHSIP 6th progress report. MeHSIP has developed an approach for ongoing kafr El Sheikh wastewater expansion programme which could be applicable for both Dakahlya and Munofia (Status applies for 14-18) (MeHSIP 6th Progress report June-Dec 2012).			No	17,60	Yes		
EGY 22	South	Egypt	Al Behira			WW	Horizon 2020 Wastewater programme for Al Behira Governorate	Yes			W	HCWW				No	726,90	Yes		
EGY 23	South	Egypt	Al Behira			WW	Construction of sewer network and WWTP for the cities of Kafr El Zayat, Shubrakit, Damieta, Mhmoudia, Samanoua, Kafr El	Yes			C						Not available	Yes		Check with EGY 22

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
							Dawar, Abu El matameer, El Mahmoudia, Zarka, Edku, Hosh Eisa, Abo Hommos													
EGY 24	South	Egypt	Al Behira			SW	Construction of recycling and organic fertilizer plant near Edku	Yes			W						Not available	Yes		Check with EGY 22
EGY 25	South	Egypt	Al Behira			IE	Application of cleaner technologies and wastewater treatment plants for the companies: Ismadye, Misr Rayon, El Beida Dye	Yes			C						Not available	Yes		Check with EGY 22
EGY 26	South	Egypt	Damietta			WW	Horizon 2020 Wastewater programme for Damietta Governorate	Yes			C	HCWW	Under preparation ??????			No	69,10	Yes		
EGY 27	South	Egypt	Port Said			WW	Construction of sewer network (12km) and a WWTP for El Garabaa El'manasra area west of the city	Yes			C						EGY57	Yes		
EGY 28	South	Egypt	Port Fouad			WW	construction of a WWTP for Port Fouad district east od Suez Canal	Yes			C						EGY150	Yes		
EGY 29	South	Egypt	Port Said			SW	Construction of a sanitary landfill for the Governorate	Yes			C						Not available	Yes		
EGY 30	South	Egypt	Port said			IE	Application of cleaner technologies and constructtion of a WWTP in the industrial zone south of Port said	Yes			C						Not available	Yes		
EGY 31	South	Egypt	Sharkya			WW	Horizon 2020 Wastewater programme for Sharkya Governorate	Yes			W	HCWW	Under preparation			No	78,10	Yes		
EGY 32	South	Egypt	Munofia			WW	Horizon 2020 Wastewater programme for Munofia Governorate	Yes			W	HCWW	Under preparation			No	369,90	Yes		
EGY 33	South	Egypt	Suez			SW	Industrial Solid Waste landfill for Suez governorate	Yes			C	EEAA	See comments on E9			No	25,00	N/A		
EGY 34	South	Egypt	National			SW	Solid Waste Management Project					EEAA	Under preparation			Yes	52,45	???		
EGY 35	South	Egypt	National			IE	Egyptian Pollution Abatement Programme (EPAP III)					EEAA	Under preparation			No	tbc	Yes		
EGY 36	South	Egypt	Alexandria			WW	Alexandria East					CAPWO - Alexandria General Organisation on for Sanitary Drainage	Ongoing			Yes	180,00	Yes		
EGY 37	South	Egypt	Alexandria			WW	Alexandria West					CAPWO - Alexandria General Organisation on for Sanitary Drainage	Under preparation			No	180,00	Yes		
EGY 38	South	Egypt	Helwan			WW	Expansion of Helwan WWTP					CAPWO	Under preparation			No	tbc	???		
EGY 39	South	Egypt	National (Menoufia, Sharkeya, Assiut and Sohag)			WW	Integrated Sanitation and Sewerage Infrastructure Project – ISSIP 2					HCWW	Under preparation			Yes	154,00	Yes		

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
PAL 1	South	Palestine	Gaza City/Middle Area/Central/West Nusseirat			WW	Expansion and upgrading of wastewater services in Gaza, Middle Area Central; and West Nurreirat (Wadi Gaza)	Yes					Ongoing/Design phase			yes	70,8	Yes		
PAL 2	South	Palestine	North Gaza			WW	North Gaza Emergency Sewage Treatment Project including construction of a new treatment plant east of North Gaza + new treatment plant east of North Gaza + 9 infilitration basins and recovery wells	Yes					Ongoing			Yes	60	Yes		
PAL 3	South	Palestine	Khan Younis West			WW	Central WWTP (Khan Younis)	Yes					Design ready			No	46	Yes	Kuwait	
PAL 4	South	Palestine	Rafah			WW	Emergency works to upgrade existing WWTP	Yes					Completed			Yes	1,6	Yes		
PAL 5	South	Palestine	Khan Younis West			WW	Construction of temporary WWTP in west of Khan Younis	Yes					Completed			Yes	1,1	Yes		
ALG 1	South	Algeria	Ghazaouet			WW	Construction of WWTP	Ghazaouet			C	N/A	Ongoing			Yes	0.25	Yes	AfD	
ALG 2	South	Algeria	National			WW	Support Sanitation Program	All Hot Spots			C & W	MATE	Ongoing			Yes	40.0	Yes	EU, State	EU (30 M€)& State (10 M€)
ALG 3	South	Algeria	Valleys of Ouargla & Souf			WW	Sewage, drainage, disposal & reuse treated wastewater project				W	MATE	Ongoing			Yes	600.0	Yes	State	
ALG 4	South	Algeria	National			WW	Authorized programs of sanitation (2010)	All Hot Spots			C & W	MATE	Ongoing			Yes	4120.0	Yes	State	
ALG 5	South	Algeria	Relizane			WW	Construction of WWTP				W	MATE	Under construction			Yes	14.7	Yes	State	By 2015
ALG 6	South	Algeria	Mazouna			WW	Construction of WWTP				W	MATE	Under construction			Yes	6.95	Yes	State	By 2015
ALG 7	South	Algeria	Mersa (Mostaganem)			WW	Construction of WWTP	Mostaganem			C	MATE	Ongoing			Yes	2.3	Yes	State	
ALG 8	South	Algeria	National			WW	Operationg costs of sanitation systems				C & W	MATE	Ongoing			Yes	20.7	Yes	State	
ALG 9	South	Algeria	Communes of Ain Beida Harriche, Ferdjioua & Zeghaia			WW	Construction of WWTP				C	MATE	Ongoing			Yes	80.0	Yes	State	End 2013
ALG 10	South	Algeria	Mostaganem			WW	Construction of WWTP	Mostaganem			C & W	MATE	Launch a tender						State	Launch a tender in 2013
ALG 11	South	Algeria	localities of Sidi Lakhdar, Khadra & Sidi Ali			WW	Construction of WWTP (Launch a tender)	All Hot Spots			C & W	MATE	Launch a tender						State	
ALG 12	South	Algeria	National			WW	Diagnosis and rehabilitation of sewerage systems for 12 cities				C & W	MATE				Yes	60.0	Yes	State	
ALG 13	South	Algeria	National			WW	Rehabilitation of 11 STEP				C & W	MATE				Yes	36.0	Yes	State	
ALG 14	South	Algeria	National			SW	Solid waste infrastructure projects (2001-2010)	All Hot Spots			C & W	MATE	Ongoing			Yes	500.0	Yes	State	
ALG 15	South	Algeria	Mascara			SW	engineered landfills management												Cooperation with Belgium	
ALG 16	South	Algeria	National			SW	Providing engineered landfills managing				C & W	MATE	Ongoing			Yes	0.3	Yes	State	

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
ALG 17	South	Algeria	National			SW	National Fund for Environment and Cleanup (FEDEP)				C & W	MATE	Ongoing			Yes	35.0	Yes	State	
ALG 18	South	Algeria	National			IE	158 industrial sewage infrastructure projects	All Hot Spots			C & W	MATE	Ongoing			Yes	2000.0	Yes	State	
MOR 1	South	Morocco	National			WW	National Plan for implementation a nationwide strategy on wastewater	All Hot Spots			C &W	ONEE	Ongoing			Yes	201.0	No	KfW/AfD/ EIB/EC	This project corresponds to the 1st phase of the PNA component led by ONEE. The 178M€ includes a 90M€ government contribution. .plus 23M€ from the belgium protocol
MOR 2	South	Morocco	Al Hoceima, Chefchaouen, Taounate, Ras El Ma, Ferkhana, Ahfir et Jerrada			WW	Construction of 7 WWTPs in the Municipalities & extension of primary & secondary collectors	Al Hoceima			C &W	ONEE	Ongoing (Al Hoceima completed)			Yes	40.0	Yes	Spain/AFD /Gov	Al Hoceima : completed Chefchaouen: under construction Taounate: under construction Ras el Mah: not financed Ferkhana: not financed Ahfir: financed under MOR1, on-going Jerrada: financed under MOR1, on-going
MOR 3	South	Morocco	Nador & 7 small touns, near or on the shore of the Marchica lagoon			WW	Sanitation of Nador city - depollution of the Marchica lagoon	Nador			C	ONEE	Completed			Yes	62,00	Yes	AfD	An additional treatment capacity of 23 000 m3/day was financed, through the construction of 2 new WWTPs in Nador and in Kariat Arkmane. Wasterwater collection network was also improved.
MOR 4	South	Morocco	Nador			WW	Cleaning and decontamination of shorelines, beaches, the water and the bottom of the lagoon,	Nador			C &W	Marchica Med society	Ongoing			Yes	7.5	Yes	SEE/MI/Oriental Agency/Marchica Med society/AFD	It is a set of environemental management measures including restoration and cleaning of the lagoon. Will be completed in 2013
MOR 5	South	Morocco	Mdiq-Fnideq (Tamuda Bay)			WW	Wastewater treatment network and plant. This is part of a Tourism management project. It also includes Fnideq Village (50 to 60 thousand Population)	Tetouan			C	AMENDIS (now Actis)	Completed			No	38.0	Yes	Veolia Environnement	AMENDIS has completed the infrastructure including a WWTP that serves the project area and Fnideq. Veolia Environnement has sold all its activities in Morocco to Actis (British investment fund)
MOR 6	South	Morocco	Tangier			WW	Implementation of WW treatment system	Tanger			C	AMENDIS (now Actis)	Completed			Yes	105.4	Yes	Veolia Environnement	Veolia Environnement has sold all its activities in Morocco to Actis (British investment fund)
MOR 7	South	Morocco	Tetouan			WW	Implementation of WW treatment system	Tetouan			C	AMENDIS (now Actis)	Ongoing			Yes	117.4	Yes	Veolia Environnement	The project funding will be provided by AMENDIS in two phases: 88.04 million EUR between 2005 and 2007 and 29.35 million EUR between 2007 to 2027. Veolia Environnement has sold all its activities in Morocco to Actis (British investment fund)

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
MOR 8	South	Morocco	Al Hoceima, Bnibouayach & Targuist			WW	Implementation of WW treatment system	Al Hoceima			C	ONEE	Completed			Yes	24.2	Yes	AfD	According to the NAP (2005) the required cost of Al Hoceima WWTP is around 10.9 million EUR, BniBouayach (10.7 m EUR) & Targuist (2.6 m EUR)
MOR 9	South	Morocco	Tangier & surrounding localities			SW	Integrated solid waste management Project	Tanger			C	Commune urbaine de Tanger	Under preparation			No	30.0	Yes		Pending final decision on the siting of the landfill. Discussion with MEHSIP for potential inclusion into H2020 pipeline
MOR 10	South	Morocco	National			SW	PNDM : construction of SW management infrastructure and sanitary landfills	All Hot Spots			C &W	MOI/ Env	Ongoing			Yes	300.0	Yes	WB	WB loans planned into 3 phases. First 2 phases od 200 M€ already disbursed.Al Hoceima, Oujda, Berkane, Nador: sanitary landfills completed and operational
MOR 11	South	Morocco	National			SW	Collection and Disposal of Plastic Bags	All Hot Spots			C &W	Env	Completed			Yes	4.0	Yes	Gov.	
MOR 12	South	Morocco	Nador			SW	construction and operation of a landfill of Nador	Nador			C	Env	Completed			Yes	3.2	Yes	Gov.	Construction of a first cell. The rest of the project has been constructed under MOR10
MOR 13	South	Morocco	Al Hoceima			SW	Al Hoceima landfill	Al Hoceima			C &W	Env	Completed			Yes		Yes		According to the NAP (2005) the required cost of Al Hoceima Landfill is around 0.9 million EUR
MOR 14	South	Morocco	National			IE	National program of PCB Elimination	All Hot Spots			C &W	Env	Ongoing			Yes	11.4	Yes	GEF/UNIDO/UNEP	
MOR 15	South	Morocco	National			IE	Industrial De-pollution (FODEP)	All Hot Spots			C &W	Env	Completed			Yes	60.0	Yes	KFW/UE	24 M€ from KFW since 1994. The rest from private contributions. Almost completed. Replaced now by the EU-funded MVDIH
MOR 16	South	Morocco	National			IE	Industrial De-pollution (MVDIH)	All Hot Spots			C &W	Env	Ongoing			Yes	25,00	Yes	UE	New MVDIH mecanism. 10 M€ from the EU + 15 M€ from beneficiary industries (private)
MOR 17	South	Morocco	National			IE	CNEDS implementation (Hazardous Wastes National Management Center)	All Hot Spots			C &W	Env	Under preparation			Yes	22.27	Yes	KfW	The total budget is being determined
MOR 18	South	Morocco	Mediterranean Coast			IE	Regional center for transfer to storage of hazardous industrial waste to CNEDS	Tangier, Tetouan, Nador & Al Hoceima			?	Env	Under preparation			No		Yes		At feasibility study stage. The total budget is being determined
MOR 19	South	Morocco	Mediterranean Coast			IE	Medical waste elimination systems implementation	Tangier, Tetouan, Nador & Al Hoceima			C & W	Health	Under preparation			No		Yes		At feasibility study stage. The total budget is being determined
MOR 20	South	Morocco	Mediterranean Coast			IE	Establishment of oils collection & recovery chain in the Mediterranean coast	Tangier, Tetouan, Nador & Al Hoceima			C & W	Env	Under preparation			No		Yes		At feasibility study stage. The total budget is being determined
MOR 21	South	Morocco	Mediterranean Coast			IE	Elimination of stocks of pesticides under the African program of pesticides (PASP)	Tangier, Tetouan, Nador & Al Hoceima			C & W	Agriculture	Under preparation			No		Yes	ONUDI/GEF	It is a GEF project currently under development (PDF-B)

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
MOR 22	South	Morocco	Mediterranean Coast			IE	Establishment of a pilot site for dismantling of PCB appliances	Tangier, Tetouan, Nador & Al Hoceima			C & W	Env	Under preparation			No		Yes	Public and private partners, bilateral Aid	At feasibility study stage. The total budget is being determined
ISR 1	South	Israel	Shafdan			WW	Construction of sludge incineration plant or sludge drying plant	Shafdan				Association of Municipalities	Ongoing			Yes	200,00	Yes	Yes	
ISR 2	South	Israel	Alexander river			WW	Construction of WWTP at Alexander river					Ministry Environment	Under preparation			Yes	?	Yes	Yes	
ISR 3	South	Israel	Western Galilée			WW	Establishement and upgrading of main WTPs (5 WWTPs)					Municipalities					27,60	Yes		
ISR 4	South	Israel	Kishon			WW	Establishement and upgrading of main WTPs (9 WWTPs)					Municipalities					41,40	Yes		
ISR 5	South	Israel	Hof Hacarmel			WW	Establishement and upgrading of main WTPs (2 WWTPs)					Municipalities					10,50	Yes		
ISR 6	South	Israel	Sharon			WW	Establishement and upgrading of main WTPs (9 WWTPs)					Municipalities					43,00	Yes		
ISR 7	South	Israel	Center			WW	Establishement and upgrading of main WTPs (13 WWTPs)					Municipalities					71,60	Yes		
ISR 8	South	Israel	Negev			WW	Establishement and upgrading of main WTPs (5 WWTPs)					Municipalities					19,60	Yes		
ISR 9	South	Israel	Various			WW	Construction of dedicated WTPs for treating the remaining waters of fishpond					Ministry Environment					32,70	Yes		
ISR 10	South	Israel	Various			WW	Diverting the flow of urban run offs to constructed wetlands (20 units)					Ministry Environment					6,10	Yes		
ISR 11	South	Israel	Various			WW	Integrated treatment to reduce pollutants from diffuse sources through reduction at source. Rehabilitation of riverbank vegetation and creation of buffer zones and intensification of the self-purification capacity of rivers					Ministry Environment, Water Commission, Local authorities	On-going				684,00	Yes		
ISR 12	South	Israel	Various			WW	Development of a pilot project to assess the most efficient treatment method for water emissions from fishponds.					Ministry Environment					26,00	Yes		
ISR 13	South	Israel	Various			WW	Diverting the flow of urban runoff to constructed wetlands (follow up of the pilot project in the Yarkon river)					Ministry Environment, Water Commission, Local authorities					9,00	Yes		
ISR 14	South	Israel	Netanya			SW	Netanya Landfill Mining and Reclamation					Municipality of Netanya	Under preparation			No	50,00	Yes	Yes	

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
ISR 15	South	Israel	Haifa			SW	Rehabilitation of closed landfill	Haifa bay				Municipality of Haifa	Under Preparation			No	6,00	Yes	Yes	
ISR 16	South	Israel	Ashkelon			SW	Rehabilitation of closed landfill					Municipality of Ashkelon	Under preparation			No	6,70	Yes	Yes	
ISR 17	South	Israel	Rishon LaZion			SW	Rehabilitation of closed landfill					Municipality of Rishon LaZion	Under Preparation			No	5,00	Yes	Yes	
ISR 18	South	Israel	Retamim			SW	Rehabilitation of closed landfill				C	Southern Judea Association of Towns for Environment	Ongoing			Yes	8,20	Yes	Yes	
ISR 19	South	Israel	Hana'aman			SW	Rehabilitation of closed landfill	Naaman river mouth			C	Western Galilee Association of Towns for Environment	Under preparation			No	2,20	No	Yes	
ISR 20	South	Israel	Herzliya			SW	Rehabilitation of closed landfill				C	Municipality of Herzliya	Under preparation			No	6,80	Yes	Yes	
ISR 21	South	Israel	Ashdod			SW	Rehabilitation of closed landfill	Ashdod			C	Municipality of Ashdod	Under preparation			No	4,60	No	Yes	
ISR 22	South	Israel	Bat Yam			SW	Rehabilitation of closed landfill (removal of waste)				C	Municipality of Bat Yam	Under preparation			No	0,80	Yes	Yes	
ISR 23	South	Israel	Hiriya			SW	Rehabilitation of closed landfill					?					?	Yes		
ISR 24	South	Israel	Ayalon			IE	Rehabilitation of sewage collector and construction of pumping station				C	Dan Regional Association for Environmental Infrastructure	Under preparation			No	123,00	Yes	Yes	
ISR 25	South	Israel	Ashdod			IE	Upgrade of WWTP to biological treatment	Ashdod			C	AGAN (Private)	Under preparation			?	?	Yes	Yes	
ISR 26	South	Israel	Haifa			IE	Rehabilitation of Kishon River (dredging of river bed, etc.)	Haifa bay			C	Ministry Environment & private companies	Under preparation			No	20,00	Yes	Yes	
ISR 27	South	Israel	?			IE	Pre-treatment in Miluban plant	Naaman river mouth				?					?	Yes		

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
ISR 28	South	Israel	National			IE	Control the reduction rate of the metals Hg, Cd and Pb (in air and liquid emissions) in comparison to the NBB.					Ministry Environment, Water Commission, Drainage Authority						Yes		
ISR 29	South	Israel	National			IE	Equipping gasoline-powered vehicles with catalytic converters (90% of vehicles by 2014)					Ministry Transport						Yes		
ISR 30	South	Israel	National			IE	Compliance of diesel engines of vehicles with Euro "3" and "5" standards (by 2014, 74% of trucks, 97% of taxis, 73% of minibuses and 64% of buses)					Ministry Transport, Ministry Environment						Yes		
ISR 31	South	Israel	National			IE	Monitoring and compliance of electricity sector (power plants) and review of their compliance with air standards (by 2010). Enforcement of measures for compliance with national standards (2010-2014)					Ministry of Environment, Polluting industry						Yes		
ISR 32	South	Israel	National			IE	Monitoring and compliance of all industrial plants/facilities and review of their compliance with air standards (by 2010). Enforcement of measures for compliance with national standards (2010-2014)					Ministry of Environment, Polluting industry						Yes		
ALB 1	West Balkan & Turkey	Albania	Elbasan (near Cement factory in Bradashesh)			SW	Management plan & construction of landfill for uban solid waste in Elbasan (**HP**)				w	MPWTT, Elbasan municipality	The population benefiting directly from project implementation is 102,265 inhabitants. The project will reduce the pollution to river Shkumbini and Adriatic Sea. It will also decrease the transboundary air pollution which is caused by burning waste of dumpsites. Elbasan project was included into the Mid-term Budget Plan 2008-2010 (MBP). The project is planned in the budget of 2009-2011 and planned to start in 2011. It was planned to start the first phase of the project, which is the feasibility study, in 2009, supported by state budget (approximately to EUR 520,000). In the frame of MBP, the feasibility study will determine the project costs for the detail design, construction of the new landfill and rehabilitation of the existing dump site.				2.5	Yes	KfW & IPA (IPA component 3 to be finalized).	On-going
ALB 2	West Balkan & Turkey	Albania	Elbasan			IE	Feasibility study & env rehabilitation at Mettalurgical complex at Elbasan				w	MoE	project removed from the priorities of MoE & UNDP included it in a HS programme					Yes		
ALB 3	West Balkan & Turkey	Albania	Fier			ww	Construction of sewerage System for Fier City **(HP)**				c	MPWTT	Decrease of pollution of Adriatic Sea. Population benefiting directly from project implementation 123.600. Fieri Water and Waste Water Management System is part of the IDA/World Bank Project "Municipal Water/Waste Water Project of the 4 Cities (Durres, Lezha, Fieri and Saranda)";			Yes	2,00		KfW & IPA	On-going. Feasibility study (completed). Project design to be done by 2011.

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
ALB 4	**West Balkan & Turkey**	Albania	Fier city - located 1.5 km North of the Fier city			SW	Urban waste management and construction of sanitary landfill in Fier city **(HP)**				c	MPWTT Municipality of Fier	Reduction of pollution of ground & surface water & to Adriaitc sea. Population benfiting directly from project implementation 123.000. After the project 30,000 t/year. The Fier project was included in the Mid-term Budget Plan 2009-2011 (MBP). The first phase for feasibility study and implementation planned to start in 2009, will be supported by the state budget. In the frame of MBP, the feasibility study will determine the project costs for the detail design, construction of the new landfill and rehabilitation of the existing dump site. At present the foreseen cost of the feasibility study is approximately to EUR 500,000.The project is planned to start implementation in 2011.			2.2 from state budget	2.5 (0.3 not secured)	Yes		Engineering designs available. It was planned that by 2009 the project will be ready for the detailed design phase. A small reclamation of existing landfill site (150 000 Euro)
ALB 5	**West Balkan & Turkey**	Albania	Tiranna			ww	Construction of a common sewerage water treatment plant for Tirana and surroundings **(HP)**				w	MPWTT	The project is progressing, but still in the agreements process.The project has been finalised up to the detailed project design from the Japanese investment fund of JICA. The amount of EUR 114 million has been approved for the first construction phase within the period 2008-2013. A part of the Tirana Waters Utility investment support is the ongoing investment from the Italian Gov. through the Cooperacione Italiana (Italian Cooperation investment fund) on the rehabilitation works and support for the Tirana network 2001-2010 with the amount of EUR 44.3 million. The money is provided in the form of a soft loan. Part of the Italian fund is for the company's performance and management plan. Additional funds of the Italian Gov. for enlarging the service areas of water supply in the Tirana's suburban areas started in 2008. In addition, funding of EUR 3 million for the Tirana sub-urban areas for 2008-2010. Direct discharges to Tirana river			partially secured	246 (funds not secured 114mEUR)	Yes	JICA & Italian Cooperation investment fund	finalised up to the detailed project design
ALB 6	**West Balkan & Turkey**	Albania	Shkodra			ww	Drinking water and waste water for Shkodra **(HP)**				w	MPWTT	This project will solve /mitigate the pollution of Lake Shkodra, Buna River and Adriatic sea, protect the rich biodiversity of the area, develop tourism and improve hygene conditions for number of villages.Sewerage is 10, 000 m^3/day & it is discharged without any treatment to the Shkodra lake (2005). The produced amount of urban solid waste for the Shkodra town is 20,100 t/y and hospital waste 365t/y. The project is progressing and the financial support for the WWTP is a high priority. The feasibility study is completed. It includes the drinking water supply for Shkodra city and construction of the waste water treatment plant in Shkodra and Shirkoe-Zogaj area. Based on this study KfW, ADA and SECO Swiss are financing the project for waste water in Shkodra with the amount of EUR 15 million. The project does not include the Waste Water Treatment Plant for Shkodra and Shkodra-Zogaj area of EUR 25 million.			partially 15 mEUR by ADA, KfW & SECO Funding has not yet been received for the second phase that includes WWTP in Shkodra and Shkodra-Zogaj area	40 (funds not secured 25mEUR)	Yes	JICA financed the initial phase of the project up to detailed design. KfW, ADA and SECO Swiss	feasibility study is completed

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
ALB 7	**West Balkan & Turkey**	Albania	Shkodra			SW	Management Plan for Urban Solid Waste of Shkodra City and Construction of Sanitary Landfill (including Koplic) **(HP)**				c	MPWTT	Reduction of pollution of ground and surface waters and Adriatic Sea. (Waste dumped few km from the Adriatic sea). Population directly benefiting from project implementation; 96.000. Lake Shkodra Sanitary regional project has developed the detailed design through the Interreg funds in cooperation with Pisa Local Authorities assistance. Own resources to be defined on a later stage. Project removed June 2008			Fully supported by state budged up to 2008	4,00	Yes	Co-financing from SEENET and Italian Government for feasibility study and EIA.	
ALB 8	**West Balkan & Turkey**	Albania	Shkodra			ww	Construction of the sewerage system and treatment plant for the town of Koplik **(HP)**				c	MPWTT	Reduction of pollution of transboundary Skadar Lake. Kopliku project is part of the Lake Shkodra Protection Waters together with Shkodra and Shiroka Projects. Population benefiting directly from project implementation 36.000. Kopliku region is a new developing area and as part of the Shkodra Lake watershed has been included in this investment scheme of The Improvement of Sanitation Quality for Lake Shkodra region. Link to project in Shkodra Lake district, need for sewage system and WWTP (near Montenegro)			No	5,00		The Austrian Gov. provided a grant of 1.39 Mio Euro within the period 2006 - 2008	
ALB 9	**West Balkan & Turkey**	Albania	Shkodra			ww	Construction of sewerage system and treatment plant for the town of Velipoja **(HP)**				c	MPWTT	Direct discharges to Adriatic Sea. Population benefiting directly from project implementation - 10.000. Velipoja coastal commune is a new developing area and as part of the coastal touristic sites has been included into this investment scheme. Changes in the geographical scope of this project since the water supply and waste water systems will be part of the project for this coastal commune; Velipoja project is part of the IPA/EU funding together with other funding lines that will be alocated for the coastal touristic towns. The Ministries of Public Works, Interior and Tourism coordinate the activities on this sector.			Yes MPWTT will invest approx. 3.47 Mio Euro for the Water Supply System in Velipoja within 2007 - 2008	5,00	Yes	IPA	This project together with fund provided by IPA 2010, foreseen constructions of the main line of the sewerage network of the tourisitic area of Velipoja (Pulaj-Reç Pulaj), route of delivery (line, pipeline pressure). Currently the contract is signed and provides the construction of 2 pumping station, pipelines connecting between them, some secondary lines to enable the collection of sewage at various points in the network. Construction of one from three treatment lines of Velipoja ITUP (together with IPA 2010).
ALB 10	**West Balkan & Turkey**	Albania	Vlora			ww	Water Supply Rehabilitation Design in the Municipality of Vlora **(HP)**				c	MPWTT	Reduction of pollution of Adriatic Sea; better service quality. Population benefiting directly from project implementation - 105.000. The design works are completed and the construction works are in the final stage to be launched. Vlora Water Utility is in the ongoing works for the Rehabilitation of Sewage Sysytem and the Construction of the Waste Treatment Plant (WWTP, Phase II). Another project has completed the detailed design is that of Rehabilitation of the Orikumi Water Sypply system			all funds are secured	20,00	No	Dutch Government, IPA, CARDS/EU, Islamic Dev. Bank	The Dutch Government has funded 26.5 Mio Euro for the construction and supervision works of the Rehabilitation of Vlora Water Supply System. The project will be completed within 2008 - 2009 period. IPA/EU funding of 6 Mio Euro will be given for the Phase II (2009 - 2010) of the Rehabilitation works of the Sewege Sysytem and the Construction of the WWTP (currently the works are ongoing for the construction of the WWTP in Vlora, fund of 3 Mio Euro given through the CARDS/EU program). The Islamic Development Bank will provide 10 Mio Euro for the Rehabilitation Project of Water Supply System in

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
																				Orikum (period of funding 2007 - 2009)
ALB 11	**West Balkan & Turkey**	Albania	Vlora			ww	Works for the construction of the sewerage system and treatment plant for Ballsh **(HP)**				c	MPWT	No progress on the project & the project removed in 2008 Population benefiting directly from project implementation 40.000.				4,00	Yes		
ALB 12	**West Balkan & Turkey**	Albania	Vlora			ww	Improvement of the ww system and construction of a WWTP in Vlora **(HP)**				c	MPWT	pop 125,000 & EP 150,000 for (2011). On-going. Reduction of pollution in the Adriatic sea			No	7,00	Yes		Feasibility study (2005) Min. Env. No connection yet, need for improvement from 65% upgrading, no project design. This project foresees the construction, completion of Vlora KUZ network (construction of secondary and tertiary network and user connection expect the area from Cold Water to Skela). Currently is in the phase of preparation for project implementation
ALB 13	**West Balkan & Turkey**	Albania	Vlora			SW	Works for the construction of the sanitary landfill for Vlora **(HP)**				c	MPWT	Reduction of water pollution of the Adriatic sea.Population covered by project implementation 85,000. Vlora project is part of the IPA/EU investment funds for the year 2008. Securing of 6 Mio Euro funds from IPA/EU and the Albanian Gov is under discussions. Albanian Gov. is going to add additional 1.5 Mio Euro				12,50		KfW	IPA/EU discuss to fund the construction works with 6 Mio Euro; the Albanian Gov. will add 1.5 Mio Euro; Part of the package there are the funds to cover the studies during 2008, which are still under discussion with UNDP. UNDP is asked to provide funds for studies such are public education and hazard waste issues
ALB 14	**West Balkan & Turkey**	Albania	Vlora			SW	Works for the construction of the sanitary landfill for Vlora **(HP)**				c	MPWT	Reduction of water pollution of the Adriatic sea. Population directly affected 85,000. The project is listed in the priorities of the MPTWW and is part of the IPA/EU investment funds for the year 2008. The Minisitry had planned a feasibility study for 2009. The project is part of the State Budget during 2009-2011. The Ministry is in discussions with the Regional Council of Vlora for the landfill area. Securing of EUR 6 Million funds from IPA/EU and the Albanian Gov under discussions. Albanian Government is going to add additional EUR 1.5 mil. Part of the package are funds to cover the studies during 2008, which were under discussion with UNDP. UNDP has been asked to provide funds for studies such as public education and hazard waste issues.			No	22,00	Yes	CARDS	For 2009 the gov had planned a feasibility study of 0.164 mil EUR - completed Feasibility study for the construction of a sanitary regional landfill - Vlora Region - EUR 1 million) has been approved by a written procedure on the 17 February 2012 at 5th Meeting of the WBIF Steering Committee CARDS on contaminated soils. Current proposal by NL (oreo) based on SW strategy, Proposal pending for new Regional landfill, Total cost: 22 Mio Euro of which 1.3 Euro for design.
ALB 15	**West Balkan & Turkey**	Albania	Durres			SW	Management plan and the closure of the existing landfill for urban solid waste in Durres **(HP)**				c	MPWT	Population affected by the porject implementation 220,000. Protects the surface and underground waters, soil protection and landscape restoration in the area of Durres & Adriatic sea..The project was included in the cross-cutting strategy of environemnt. The project planned to enter the implemtation phase in 2011 & be completed by 2013.			partially from state budget	2.5 (0.3 m EUR not secured)			

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
ALB 16	West Balkan & Turkey	Albania	Durres			ww	Rehabilitation and extension of water supply and sewerage system for Durres city **(HP)**				c	MPWT (Assest of water utilities was transferred to the local government, the project beneficiary is local government)	Durresi Water and Waste Water Management System is part of the IDA/World Bank Project "Municipal Water/Waste Water Project of the 4 Cities (Durres, Lezha, Fieri and Saranda)". There are several donors working on the project: 1. IDA/WB - the Water Supply component; 2. IPA/EU Programme - the Waste Water component; 3. Albanian Government - guaranteed funds for the necessary Feasibility studies to be developed. Decrese of pollution of Adriatic Sea. Grant from Government of Luxembourg for development of Master Plan, capacity building and construction of pipe link to WWTP. It is planned to finish feasibility study by the end of 2005. Population covered by project implementation 113,000. EF/ WB municipal project (Durres, Shenjin, Lezha…), feasibility study done, grant and loan mix with IPA 2007 (8,5 mio Euro). New component: WB/EIB rehabilitation and extension of sewerage network (70-80 mio Euro) start Dec. 2010. WTTP under construction (GEF/WB and State funds), 12 mio Euro. To be completed in 2011.			Funds Secured.	4.9		IDA/World Bank Project will invest 3.7 Mio USD for Durresi Utility within 2003 - 2009; IPA/EU Programme for the Waste Water component will invest 7.5 Mio Euro for the construction of the new WW system (along the touristic coastal area of Durresi - Perroi i Agait - Ura e Dajlanit) within 2008 - 2010; Albanian Gov. will fund the Feasibility Studies for the extension of Durresi - Kavaja Water Supply System with the equivalent amount of 42,000 Euro (Fesasibility studies to be endorsed on the future IPA/EU frame project	

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
																			development), studies to be completed within 2007 - 2008) the Albanian Gov is available to contribute with public funds and has shown commitment in this field.	
ALB 17	**West Balkan & Turkey**	Albania	Lezhe			ww	Rehabilitation and extension of water supply and sewerage system in Lezha town **(HP)**				c	MPWT (assest of water utilities were transferred to the local governmenr, the project beneficiary is local government)	Decrease of pollution of Adriatic Sea. Population covered by project implementation 16,900. Lezha Water and Waste Water Management System is part of the IDA/World Bank Project "Municipal Water/Waste Water Project of the 4 Cities (Durres, Lezha, Fieri and Saranda)"			partially	1,73		Master Plan development supported by the Government of Luxembourg around 600 000 euro. Investment funds have not been secured. A detailed cost estimation will be given in Master Plan. Own resources to be defined on a later stage.	IDA/World Bank Project "Municipal Water/Waste Water Project of the 4 Cities (Durres, Lezha, Fieri and Saranda)" will invest 3.0 Mio USD for Lezha Utility within the period 2003 - 2009; The Albanian Government through the Ministry of Public Works, Transportation and Telecomunication (MPWTT) will invest approx. 2.78 Mio Euro for the Construction of the Water Supply System in Shengjini within the period 2007 - 2008; IPA/EU Programme wil invest 3.5 Mio Euro for the Rehabilitation of the Sewere System of Shengjini within the period 2008 - 2010

Nr.	Group	Country	Location			Sector	Project Title	Linked Hot Spot or Sensitive Area	Population Served or Project Capacity		Coastal / Watershed (C or W)	Promoter	Construction Status	Operation Status	Status of development using the score card	Financing Secured	Value	NAP	Donor / IFI Involvement	General Comment
			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
ALB 18	**West Balkan & Turkey**	Albania	Saranda			ww	Rehabilitation and extension of water supply and sewerage system in Saranda **(HP)**				c	MPWT (assest of water utilities were transferred to the local governmenr, the project beneficiary is local government)	Decrease of pollution of Adriatic and Ionian Sea. Population covered by project implementation 14,000. Saranda Water and Waste Water Management System is part of the IDA/World Bank Project "Municipal Water/Waste Water Project of the 4 Cities (Durres, Lezha, Fieri and Saranda)";			Investment funds have not been secured, detailed cost estimation will be given in Master Plan. Own resources to be defined on a later stage.	2,00	Yes	Grant from Government of Luxembourg received for Master Plan development.	IDA/World Bank Project "Municipal Water/Waste Water Project of the 4 Cities (Durres, Lezha, Fieri and Saranda)" will invest 3.0 Mio USD for Saranda Utility within the period 2003 - 2009
ALB 19	**West Balkan & Turkey**	Albania	Lac			IE	Disposal of chemical stocks of the Chemical-Metallurgical plant of Lac **(HP)**				c	MoEFWA and Ministry of Economy and Energy	Funding gap. Hot spot near sea, old plant phosphate and pesticide contamination.							
ALB 20	**West Balkan & Turkey**	Albania	Lac			SW	Works for the construction of the sanitary landfill for town of Lac **(HP)**				c	MPWT	Reduction of water pollution and transboudary air pollution (dumpsite fires). Waste dumpsite located on the River Mat bank. Population benefiting directly from proejct implementation 65.000. No progress achieved and the project is not anymore in the plans of the Ministry. The Ministry if planning to add the city of Lac in the Regional landfill of Shkodra (includes Phosphate from agriculture)			1	1,00			
ALB 21	**West Balkan & Turkey**	Albania	Lac			ww	Works for the construction of the sewerage system and treatment plant for town of Lac				c	MPWT	No progress achieved and the project is not anymore in the plans of the Ministry (2008) Reduction of direct discharges to the River Mat and Adriatic Sea. Population directly benefiting from project implementation 55.000. Funding gap			state budget 5	5,00			Remains medium priority, feasibility study done with state budget (2007
ALB 22	**West Balkan & Turkey**	Albania	Rubik			IE	Feasibility Study and Environemntal Rehabilitation at the Historic Hot Spot at the Former Metallurgical Plant - Rubik				c	MoE	Information to be provided at later stage. No progress.							
ALB 23	**West Balkan & Turkey**	Albania	Korca			SW	Urban waste management and construction of sanitary landfill in Korca Region **(HP)**				w	MPWT	Reduction of water pollution of Ohrid Lake, Devolli River, Agricultural & Forest areas. Communication strategy developed			1,4 state budget	5,00		Waste Management Project implemented in Korça region by the	

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
																			support of SIDA.	
ALB 24	**West Balkan & Turkey**	Albania	Berat			SW	Urban waste management and construction of sanitary landfill in Berat City **(HP)**				w	MPWT	Reduction of pollution of River Osumi.			2,2 state budget	2,50			
ALB 25	**West Balkan & Turkey**	Albania	Gjirokaster			SW	Urban waste management and construction of sanitary landfill in Gjirokastra City **(HP)**				w		Protect the surface and underground waters, soil protection and landscape restoration in the area of Durres. Covers an area with 220,000 inhabitants			2,2 state buget (o,3 not secured)	2,50			
ALB 26	**West Balkan & Turkey**	Albania	Lac			IE	Feasibility Study and Environemntal Rehabilitation at the Historic Hot Spot at the Phosphate Fertiliser Factory - Lac Area				c	MoE	removed from the priorites of MoE. Re-planning form the whole country about the hotspots and possiblities for funds will be undertaken. In addition, consilidation with a UNDP project that is conducting a study on reavaluating the hotspots in Albania.							
ALB 27	**West Balkan & Turkey**	Albania	Tirana /Duressi			SW	Construction of a common sanitary landfill for Durresi and Tirana **(HP)**				c	MoEFWA & MPWT	Solid waste improvement of existing landfill through state budget (150 000 Euro). Pre-feasibility study, executive design (EU-IPF- 1,2 mio Euro approved). IFC Preliminary studies for PPP for Durres and Tirana separately. IFC tender to select site for Durres landfill. 32 mio Euro loan needed for construction works for regional landfill. Interested donor are EBRD and KfW.				1,35		State budget, EU-IPF, EBRD an KfW???	
ALB 28	**West Balkan & Turkey**	Albania	Saranda			SW	Works for the construction of the sanitary landfill for Saranda **(HP)**				c		Saranda project is part of the Integrated Coastal Zone Management Project of the WB. The detailed design project is finalised and it has foreseen a cost of 2.5 Mio USD for the construction works. Funds are guaranteed. Detailed design project is completed and has done the estimation costs To be completed. SW management World Bank Coastal Areas in South Albania, - 4,5 mio Euro, EIA done. No contracts works started			Yes	4,50		WB will fund 2.5 Mio USD for the construction works	
ALB 29	**West Balkan & Turkey**	Albania	Kruje			ww	Wastewater Treatment Plant for Kruha community **(HP)**				c	MPWT	Funding gap. Some works have been engaged by KfW, performance and sustainable issues? KfW retreated funds, not completed. Min. Env. indicated need for WWTP						KfW	

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
ALB 30	**West Balkan & Turkey**	Albania	Elbasan			ww	Construction of sewerage system of Elbasan city **(HP)**				w	MPWT	Elbasani, one of biggest cities of Albania with a population of near 100,000 inhabitants, is located in central part of Albania and is recognized as a special historical and cultural center that attracts cultural tourism. The water supply system for Elbasani municipality is partly restructured, addressing only critical elements, and no investments were made in the water supply system since 2007. There is not yet a complete and functional water supply network in place as it lacks the secondary and tertiary network. Water losses are still too high. The sewerage network for Elbasani municipality is a very old and poorly performing network. The sewerage system consists of almost fully depreciated water collectors of insufficient capacities. The waste waters of Elbasani city are discharged in Shkumbin river: besides causing huge damages on the fauna of the river and sea, they also contaminate the aquifers of the surrounding areas and heavily impact the tourism development (during the summer season, the area is populated by the residential population). The current situation with water supply and sewerage is very problematic and brings the following concerns: 1). Possible health problems due to pollution of drinking water and bathing water from discharges of wastewater (storm-water overflows containing suspended solids, nitrate and nitrites, leakage from sewerage systems or septic pits containing high microbial charge of bacteria and heavy metals and industrial wastewater discharges); 2). Environmental problems related to habitat contamination and eutrophication of environmentally sensitive areas; Immediate intervention is required to complete the whole water supply system and rehabilitate the sewerage system including building a new waste water treatment plant. Funding gap. KfW feasibility study awaiting results Dec. 2010. Planned for IPF intervention, approved project design IPF, and needs donors. IPA 2010 (also for water supply) and KfW/EIB co-financing indicated. Performance of company to be assessed. WWTP needed. **TA3-ALB-ENV-02 Detailed Design for Water Supply and Sewerage System for Elbasan city.**				TA3-ALB-ENV-02 500,000 Total investment: €20,000,000		KfW/EIB	TA3-ALB-ENV-02 Detailed Design for Water Supply and Sewerage System for Elbasan city.: On hold Started June 2013

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
ALB 31	**West Balkan & Turkey**	Albania	Kavaja			ww	Construction of sewerage system of Kavaja and Golemi beach				c	MPWT	On-going. Funds Secured. WWTP operational for city of Kavaja. CARDS detailed design of pipeline and connection to villages and tourist area. IPA 2007/2009 and state budget. The project foreseen the construction of main line of the sewerage network in the area's tourist of Golem and the delivery line for at ITUP in Kavaja city. Currently is under the construction phase and foreseen construction of 5 pumping station, two secondary lines to enable the collection of municipal sewage. It is being financed and is expected to be completed by 2013. **TA2-ALB-ENV-03 - Detailed designs for extension:** The overall objective of the project is to prepare the detailed designs and the tender documents for the extension of Kavaja Waste Water Treatment Plan (WWTP) increasing its capacity from serving 25,000 persons to serve 100,000 persons and the completion of the sewerage network of Golemi Beach area. The successful implementation of this project will create the conditions for the residential population and other users of Kavaja and Golemi beaches to have access to clean bathing water and to create conditions of proper sewage disposal. The project will also contribute to alleviating environmental hazards and promote economic growth and tourism development of Kavaja and Golemi area. The project was completed in May 2011. Additional services required were: design of a sludge treatment component and TA services to EU Delegation in Tirana during the pre-tendering and tendering stage. EUD in Tirana, completed the tender for construction as it concerns the Kavaja WWTP.The total investment is 5.320.000 € for Kavaja WWTP. The contractor has been selected. Works are planned to start in September 2012. Likewise, the Golemi sewerage network has been contracted but works have not started yet. It is financed from Albanian national budget.						TA2-ALB-ENV-03: KfW	TA2-ALB-ENV-03 completed
ALB 32	**West Balkan & Turkey**	Albania	Lushna			ww	Construction of sewerage system of Lushnja and Divjaka				c	MPWT	Funding gap. Near lagune Karavasta dangerous chemicals left over from previous industrial activities. Municipal Infrastructure programme II (KfW and IPA 2010), for the sewerage system. Study (KfW) on the location of the WWTP						KfW and IPA 2010	
ALB 33	**West Balkan & Turkey**	Albania	Tirana			ww	Construction of sewerage system of Tirana				w	MPWT	On-going. WWT for wider Tirana, municipalities around Tirana ongoing. Preparation of project design JICA (67 mio Euro) starting. Phase 1: part of Tirana, 2 WWTPs planned (1 for Lana river, feasibility study completed?) Phase2: Collection of discharge to Tirana River, possible interest by JICA. Project is currently funded for consultancy services to improve the sanitation for greater Tirana. The goal of services is to review the studies concerning the construction of wastewater treatment plant sewage for Great Tirana, design ITUZ to construct the first phase and the supervision of the work. Also, will be design and the second phase. Designing for the first phase take into consideration: 1.Interceptor on both side of Lana River; Construction of the transmission line up to the plant, and 3.Building ITUZ.			Funds Secured.	67,00		JICA	

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
ALB 34	West Balkan & Turkey	Albania	Fushe-Kruja			ww	Wastewater Treatment Plant for the town of Fushe-Kruja (2014)				w	MPWT	Funding gap. Past KfW intervention, expropriation problems, no information. Priority.							
ALB 35	West Balkan & Turkey	Albania	Lezhe			ww	Wastewater Treatment Plant for the town of Shengjin				c		Near Lezha WWTP to be completed April 2011 (secondary treatment); works on collectors started IPA 2007, Sewage collection system, IPA 2009 , State budget, EIB, GEF/World Bank, KfW for Lezha sewerage collection network						IPA , State budget, EIB, GEF/World Bank, KfW	
ALB 36	West Balkan & Turkey	Albania	Fushe-Kruja			ww	Sewerage system for the town of Fushe-Kruja				w	MPWT	No investments. Project, which are less than 60% score in prioritization . Not high priority, small town.							
ALB 37	West Balkan & Turkey	Albania	Tirana			ww	Industrial wastewater treatment plants in Tirana district				w	MPWT	Not priority, not needed, unclear project definition. JICA Japanese government design study, works have not started							
ALB 38	West Balkan & Turkey	Albania	Fier			ww	Wastewater Treatment Plant for Fier **(HP)**				c	MPWT	OP 3/IPA planned 12,5 mio Euro. Assess results of KfW study; issue of oil contamination of the river, possible prior clean up required before proceeding.				12,50		KfW & IPA	
ALB 39	West Balkan & Turkey	Albania	Saranda			ww	Wastewater Treatment Plant for Saranda				c	MPWT	To be completed by 2011				4,00		GEF/WB EIB and State budget	
ALB 40	West Balkan & Turkey	Albania	Lezhe			ww	Wastewater Treatment Plant for the municipalities of Lezha and Shengjin				c	MPWT	On-going. Funds Secured. IPA 2007/2009, State budget GEF/WB: joint WWTP for the 2 communes, under construction. (3.2 mioEuro Lezha)				3,00		IPA 2007/2009, State budget GEF/WB	
ALB 41	West Balkan & Turkey	Albania	Lezhe			SW	Construction of a sanitary landfill for Lezha and Shengjin				c	MPWT	On-going. The second phase for construction of Bushati Landfill is ongoing. Lezha Municipalty deposited the waste in the landfill with a cost of 7€/ton without VAT (defined by USAID).			Funds Secured.				
ALB 42	West Balkan & Turkey	Albania	Fier			IE	Technology up-grading and clean-up at the Patos-Marinza oilfields **(HP)**				w	MoEFWA and METE	Funding gap. Environmental Plan for Patos Marinza CARDS 2008 study. 900 000 tons of contaminated sludge. 37 mio Euro total needed to clean up, of which Canadian owned company. EBRD loan signed but no disbursement started for 50 mio USD and IFC for 50 mio USD (both contributing with 10 mio USD for environmental remediation). Canadian company: "Bankers" have concession for part of the site. Replacement of old wells with new technology, reducing leaks. Re-development approach rather than rehabilitation per se. 2 state owned companies are still operating.				CARDS, IEBRD, IFC, Own company?? ?			
ALB 43	West Balkan & Turkey	Albania	Berat-Lushnja-Fier-Divjaka-			SW	Construction of a sanitary landfill for Lushnja, Divjaka, Berat and Fier **(HP)**					MoPWT	Funding gap. Reclamation of existing landfill Fier (150 000 Euro state budget), near river. Regional landfill needed				state budget			
ALB 44	West Balkan & Turkey	Albania	Shkodra			SW	Construction of a sanitary landfill for Shkodra city, the town of Koplik and the community of Velipoja				c	MoPWT	On-going. Funds Secured. State owned budget for construction of SW landfill ongoing, 2.7 mio Euro. Completed landfill for communes Bushati, Shkodra and Lezha region.				2,70			

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
ALB 45	West Balkan & Turkey	Albania	Lezhe			ww	Detailed Designs for Lezha and Shengjin Sewerage Networks				c		Project start date: July, 2010. Lezhe & Shengjin pop. 42,000 (2011) EP 51,000. Amount of urban waste for the Lezha and Shengjini towns is estimated to 8760 t/y (2006) Lezha and Shengjini untretaed ww 1,150 m3/day & direct discharge (2011). The City of Lezha is located at the junction of the Drin River Valley, the coastal plain (a narrow band of flat terrain which extends through much of Albania along the Adriatic Sea) and the foothills of the Dinaric Alps. Shengjin is a coastal and harbour town, located directly along the beaches of the Bay of Drin. The town is positioned on a narrow (generally about 100-300 m) strip of land between the sandy beaches (West) and the rocky foothills (North and East) and the Kuna Lagoon (South). Both Lezha and Shengjin have existing but limited and old sewerage networks. The sewer network of Lezha was built about 40 years ago in the urban centre. Since its construction, the network has generally not been expanded in parallel with the growth of the city. The Lezha pipe network is generally a "combined" system to evacuate both wastewater and storm-water. The sewer network of Shengjin was also built about 40 years ago in the city centre. The network has generally not been expanded in parallel with the growth of the city and tourist facilities (hotels). The existing Lezha network includes two wastewater pump stations plus associated transmission mains, and the Shengjin network includes one wastewater pump station plus associated transmission main. In addition, several pump stations to transmit wastewater from Lezha and Shengjin are being planned and realised (by others) in conjunction with the ongoing Lezha-Shengjin Wastewater treatment plant project. The objective of this project was to produce detailed designs and a complete Tender Dossier (including specifications, Bill of Quantities and Conditions of Contract) for the provision of wastewater collection systems (primary, secondary and tertiary sewers) for the towns of Lezha and Shengjin ((within the existing administrative boundaries of these towns).				180000 Estimated investment €3,580,000	Yes	IPA /GoA	completed - under construction the WWTP

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
ALB 46	West Balkan & Turkey	Albania	Tirana / Kamza			ww	Kamza Water Supply and Wastewater Project				w		Started in 2010. The Municipality of Kamza is located in the Greater Tirana Region and includes the Town of Kamza, five villages and two unplanned settlements. The Municipality, lies on the outskirts of the City of Tirana. The population of the Municipality's urban and peri urban areas has grown very rapidly over the past few years as a consequence of increasing migration from other parts of the country. The current population of Kamza Municipality totals around 95,000, of which around 40,000 live in the town and the remaining 55,000 in the peri urban and rural areas. As a result of the rapid increases in population, the provision water supply and wastewater services have fallen considerably behind the levels needed for a rapidly growing population. At present around 30% of the population has access to piped water while only about 18% are covered by the existing sewerage system. There is therefore an urgent need to improve the water supply and sewerage systems for the inhabitants of Kamza. The lack of adequate water and wastewater facilities pose a substantial threat to economic and social welfare of its inhabitants and those impacted by it downstream. The project aims to provide a significant positive public health impact through improved quantity and reliability of water supply and collection and treatment of wastewater in Municipality of Kamza, to contribute to meeting Albania's future needs for compliance with EU and national environmental legislation, and to safeguard potable water resources and environmental quality for areas downstream under the influence of the River Tirana.				€450,000 Estimated investment €15,000,000	No	KfW	Copleted.
ALB 47	West Balkan & Turkey	Albania	Pogradec			ww	WWTP Pogradec				w		operational				18,100,000	No	CEB	
ALB 48	West Balkan & Turkey	Albania	Fier - Girokastra			ww	Water Supply and Sewerage, Gjirokastra, Fier				c						21,700,000	No		
BOS 1	West Balkan & Turkey	Bosnia	Neum			WW	Sewage network construction and WWTP for Klek-Neum	Neum			C	Municipality	On-going							Primary treatment exists and it is intended that treated water be channeled to Croatia for discharge. It is necessary to construct the rest (1,5 km) of the main collector to the border to Croatia. (during 2008 - 2010 FB&H constructed 1.500 m)

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
BOS 2	**West Balkan & Turkey**	Bosnia	Mostar			WW	Construction of main sewerage collectors and WWTP for Mostar (150,000 ES)	Mostar			W (Neretva river basin)	Municipality	Under preparation		4-5	N (funding gap: 4-5 m EUR)	31,00	Y	WB, EIB, KFW	The construction of a wastewater collector sewer/main and a WWTP is one of the Mostar City government main priorities. A contract for construction of the WWTP has been signed which will be partially financed by the WB. It is expected that the wastewater collection elements, consisting of a sewage collector on both the right and left banks of the River Neretva in the city, will be partially funded by a loan from the EIB (feasibility study stage).
BOS 3	**West Balkan & Turkey**	Bosnia	Citluk and Medjugorje			WW	Construction of separate collectors and separate WWTPs (2 X 6,000 ES)	Neum			W (Neretva river basin)	Municipality	Completed (?)		12	N/A			EC IPA	Main collector from Čitluk and 1st phase.=7.000 PE constructed during 2007/2008 (own sources and loan). EC through IPA 2008 support construction of pump station and 2nd phase =+7.000PE and Munisipality Čitluk finance pressure sewage pipeline from Međugorje to WWTP Čitluk IPA 2008 + Budget of Herzegovina-Neretva Canton + Budget of Municipality of Čitluk) + IFI's support or loans for construction of secondary sewerage network in settlements Međugorje and Čitluk
BOS 4	**West Balkan & Turkey**	Bosnia	Konjic			WW	Construction of primary channels and secondary network and WWTP (10,000 ES)	Konjic			W (Neretva river basin)	Municipality	On-going		4-5	N (funding gap: 0,6 m EUR)	1,20	Y	GEF/WB, IFIs	Ongoing, WWTP covered. During 2009-2011 prepared Main design for sewage and Preliminary design for 1st phase10.000PE for WWTP Konjic GEF/ WB – "Neretva/Trebišnjica Management Project" + federal and municipal budget + IFI's for sewerage system construction
BOS 5	**West Balkan & Turkey**	Bosnia	Nevesinje			WW	Construction of collectors and WWTP				W (Trebisnjica river basin)	Municipality	Under preparation		2	N (funding gap: 12,5 m EUR)				

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
BOS 6	**West Balkan & Turkey**	Bosnia	Bileca			WW	Sanitation of existing sewerage system, construction of collectors and WWTP	Bileca			W (Trebisnjica river basin)	Municipality	On-going		10	Y	19,50	Y	GEF	19, 5 million € total investment. First phase: 4 million € is under construction, financed by municipality, and partly supported by GEF. Project preparation and design for other phases of project implementation, approximate value of 1 million €.
BOS 7	**West Balkan & Turkey**	Bosnia	Caplijna			WW	Construction of main collectors and WWTP	Neretva delta (Croatia)			W (Neretva river basin)	Municipality	Under preparation		2	Y				IFI's for technical assistance for design and for construction of main collectors and WWTP
BOS 8	**West Balkan & Turkey**	Bosnia	Livno			WW	Construction of collectors and WWTP (20,000 ES)	Split (Croatia) ?			W (Cetina river basin)	Municipality	On-going		10	Y	5,00	Y	Y	Construction of primary channels and parts of the secondary sewerage network, rehabilitation and reconstruction of the existing sewerage system. During 2010/2011 prepared Study „Clean Water for Livno"-supported by WWF. In 2010 prepared Primary design for WWTP Grborezi (1.200PE)
BOS 9	**West Balkan & Turkey**	Bosnia	Trebinje			WW	Increase of sewerage network and rehabilitation of existing WWTP				W (Trebisnjica river basin)	Municipality	Under preparation		1	N	3,00	N - H2020 CB/ MEP	Possibly covered by EIB loan?	Need for increase of sewerage network Rehabilitation of existing WWTP?
BOS 10	**West Balkan & Turkey**	Bosnia	Ljubuski			WW	Upgrading of WWTP needed and increase of sewerage network to include new settlements (?)				W (Trebisnjica and Neretva river basin?)	Municipality	Under preparation		1	N (funding gap: 0,25)	0,56	N - H2020 CB/ MEP	GEF, IPA 2010 ?	Upgrading of WWTP needed? And increase of sewerage network to include new settlements?
BOS 11	**West Balkan & Turkey**	Bosnia	Various			WW	Alternative biological waste water treatment for smaller communities and settlements						Under preparation		1	N (funding gap: 1,2 M€)		N (H2020 CB/ MEP)	GEF ?	GEF Water Quality Protection Programme for Neretva and Bosna includes Atlas of different alternative technologies to suit each municipality. Request for funding of 3 pilot studies

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
BOS 12	**West Balkan & Turkey**	Bosnia	16 municipalities in FBH (2009): Zenica, Zavidovići Visoko, Olovo, Usora, Doboj Jug, Doboj Istok, Posušje, Široki Brijeg, Mostar, Velika Kladuša, Bosanski Petrovac, Bosanska Krupa, Orašje, Tomislavgrad			WW	Water and sanitation Federation BH				W	Municipalities	On-going			N	121,00	N (WBIF)	50% will be EIB loan and 50% will be local contribution	EIB Finance Contract signed 18 August 2008 (not clear whether it concerns 16 or 25 municipalities ?). Some municipalities have secured money, other will try to do it through support from other IFIs (e.g. MW). As the first sub-project, the feasibility study for the waste water system for Orasje municipality was updated. The Technical assistance services commenced with the preparation of TDs for 6 municipalities. In the meantime, a central supervision tender for the whole works contracts in the municipalities was launched internationally and the short-list was announced. The contract is planned to be awarded by the end of the first half of 2013
BOS 13	**West Balkan & Turkey**	Bosnia	Mostar			SW	Regional sanitary landfill	Mostar			W (Neretva river basin)		On-going		10	Y	3,50	Y	WB	Ongoing Operational end 2012 2010 recycling facility covered WB loan 3,5 million €
BOS 14	**West Balkan & Turkey**	Bosnia	Neum			SW	Sanitary landfill	Neum			C	Municipality ?	Under preparation		1	N		N (H2020 CB/ MEP)		IPA 2011 request for construction? 2011 IPA 1,2 million € requested? WB loan 1,5 million € requested? Funding gap?
BOS 15	**West Balkan & Turkey**	Bosnia	Mostar			IE	Pretreatment/cleaner production of wastewater (BOD5) from industrial plants (textile, slaughterhouses, wineries)	Mostar			W (Neretva river basin)							Y		
BOS 16	**West Balkan & Turkey**	Bosnia	Citluk and Medugorje			IE	Pretreatment/cleaner production of wastewater (BOD5) from industrial plants (textile, slaughterhouses, wineries, milk products)	Neretva delta (Croatia)			W (Neretva river basin)							Y		
BOS 17	**West Balkan & Turkey**	Bosnia	Siroki Brijeg			IE	Pretreatment/cleaner production of wastewater (BOD5) from industrial plants (meat industries)	Neretva delata (Croatia)			W (Neretva river basin)							Y		
BOS 18	**West Balkan & Turkey**	Bosnia	Livno			IE	Pretreatment/cleaner production of wastewater (BOD5) from industrial plants (textile)				W (Cetina river basin)							Y		

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
BOS 19	West Balkan & Turkey	Bosnia	Glamok			IE	Pretreatment/cleaner production of wastewater (BOD5) from industrial plants (textile)				W (Cetina river basin)							Y		
BOS 20	West Balkan & Turkey	Bosnia	Trebinje-tool industry			IE	Pretreatment/cleaner production of wastewater from industrial plants (metal industries - galvanization)				W (Trebisnjica river basin)		Under preparation		1	N		Y	GEF ?	Technical assistance in preparation of WWTP design that will satisfy requirements of both industrial productions is needed.
BOS 21	West Balkan & Turkey	Bosnia	Konjic UNIS GAL			IE	Pretreatment/cleaner production of wastewater from industrial plants (metal industries - galvanization)	Neretva delta (Croatia)			W (Neretva river basin)		Under preparation		1	N		Y	GEF	
BOS 22	West Balkan & Turkey	Bosnia	Gacko			IE	System for transport and disposal of ashes and cinder - Creation of a landfill site				W (Trebisnjica river basin)		Completed		12	N/A		Y		
BOS 23	West Balkan & Turkey	Bosnia	Gacko			IE	Treatment of wastewater				W (Trebisnjica river basin)		Under preparation		4-5	N				The design of the industrial WWTP should be finalized by the end of 2011. Then, data on technological process and investments costs will be precisely known.
BOS 24	West Balkan & Turkey	Bosnia	Ljubinje			WW	Construction of main collectors and WWTP						New project ?					N		
BOS 25	West Balkan & Turkey	Bosnia	Grude			WW	Construction of main collectors and WWTP						New project ?					N		

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
CRO 1	**West Balkan & Turkey**	Croatia	Split			WW	Collection and treatment of waste water	Split			C	Municipality	On-going (2011)			Y (partial)	164,30	Y	EC, EBRD, WB	Status 2011 (H2020): not covered by IPA 2012 WW pre-treatment plant with a long submarine outfall is in function. The treated wastewater is discharged into the Brač channel. Preparation of design documents and application for financial support from EU funds was initiated. (IPA 2012). For Kastella Bay feasibility study ongoing with IPA funds to be completed end 2011. 2 WWTPs built (for 2 agglomerations in Split: Salin-250000 p/e and Kastella-80000 p/e) and primary collection system in place financed by WB Municipal Environmental Investments Programme (MEIP). According to Croatia's accession agreement to the EU, the Split-Solin agglomeration shall be required to meet the UWWTD implementing secondary treatment by the end of 2018.
CRO 2	**West Balkan & Turkey**	Croatia	Rijeka			WW	Collection and treatment of waste water	Rijeka			C	Municipality	Under preparation (2011)			Y (partial)	186,90	Y	EC,EBRD, WB	Rijeka is a karst area and the city is sitting on its drinking water source which needs protection from leakages of ww. The sewerage system is continuously expanded and improved. The WWTP is functional. Preparation of design documents and application for financial support from EU funds was initiated (IPA 2012). WWTP needs upgrading to secondary treatment. Current location of WWTP not ideal for expansion. Feasibility study (WB) ongoing for identifying best location, and options for completion of network and upgrading (results expected end 2011). - Northern connections to be financed (WB? EBRD?) Port?

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
CRO 3	**West Balkan & Turkey**	Croatia	Pula			WW	Collection and treatment of waste water	Pula			C	Municipality	On-going (2011)			Y (partial)	45,20	Y	EC, WB, EBRD	Status 2011 (H2020): need to complete application IPA 2013/14- cohesion funds This has been a priority for the last 10 years with a series of designs for WWTP. Pula is small and hilly town and the sewerage system is continuously re-designed and expanded; currently, the main coastal collector is being constructed for the area of the Pula bay. The wastewater pre-treatment plant is functional. According to the achieved agreement for accession of Croatia to the EU, the Pulacentre agglomeration shall be required to meet the UWWTD requirements of implementing secondary treatment by the end of 2018. WB Adriatic Programme (WB/EBRD) financed 1st phase of collectors
CRO 4	**West Balkan & Turkey**	Croatia	Zadar			WW	Collection and treatment of waste water	Zadar			C	Municipality	On-going (2011)			Y	68,30	Y	WB	The following was implemented under the Coastal Cities Pollution Control Project 1: secondary wastewater treatment plant (100,000 PE), submarine outfall (3.12 km) Coastal Cities Pollution Control Project Phase 2 (planned): construction of collectors (medium zone of the city of Zadar)
CRO 5	**West Balkan & Turkey**	Croatia	Sibenik			WW	Collection and treatment of waste water	Sibenik			C	Municipality	On-going (2011)			N	42,00	Y	EC	Status 2011 (H2020): feasibility study on upgrading or extension and link to IPPC The primary wastewater treatment plant with a 5,5 km long submarine outfall is constructed and in function. It is planned to construct a sewerage system in the south-eastern part of the town. According to the achieved agreement for accession of Croatia to the EU, the Šibenik agglomeration shall be required to meet the UWWTD requirements of implementing secondary treatment by the end of 2018 EBRD financed collectors and extension of network. Business plan available for next steps.

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
CRO 6	**West Balkan & Turkey**	Croatia	Dubrovenik			WW	Collection and treatment of waste water	Dubrovenik			C	Municipality	Under preparation			Y (partial)	31,10	Y	WB	Status 2011 (H2020): feasibility study on upgrading or relocation of WWTP The inner area of the town of Dubrovnik and Rijeka Dubrovačka gravitate to the existing mechanical WWTP Lapad. The treated wastewater is discharged via a submarine outfall with a submarine section 1,500 m long, at the depth of 110 m. According to the achieved agreement for accession of Croatia to the EU and the Implementation Plan for Water Utility Directives, the Dubrovnik agglomeration shall be required to meet the UWWTD requirements of implementing secondary treatment by the end of 2018. WB Coastal cities project phase II financing
CRO 7	**West Balkan & Turkey**	Croatia	Ston (Neum)			WW	Collection and treatment of waste water	Ston			C	Municipalities	On-going					N		Joint project with Bosnia (Neum) 2011 Status (H2020) : Primary treatment exists and it is intended that treated water be channeled to Croatia for discharge. It is necessary to construct the rest (1,5 km) of the main collector to the border to Croatia. (during 2008 - 2010 FB&H constructed 1.500 m)
CRO 8	**West Balkan & Turkey**	Croatia	County of Primorje and Gorski Kotar (Rijeka)			SW	Regional Waste Management Centre Marišćina (Rijeka)	Rijeka				Public company (EKO PLUS)	On-going			Y (partially, funding gap: 8 MEUR)	53,00	Y	EC, EIB	2009 status (PEIP): Construction works started 2006/2007 to be completed until 2010. Project documentation and property issues have been completed. 2011 Status (H2020): From IPA (2007) proposed: construction of integrated sustainable waste management center (WMC) at county level (305,500 pop) stage 1; construction of 4 transfer stations (TS) on islands and 4 on mainland; pilot study to seperate collection of waste; 2013 (EU TED website): purchase of equipment still on-going

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
CRO 9	**West Balkan & Turkey**	Croatia	Primorje-Gorski Kotar County			SW	Remediation and closing down of the Sovjak pit					Public company	Completed ?			Y (partially, funding gap: 2,4 MEUR)	25,00	Y		2009 status (PEIP): The project is a priority of the National Action Plan (NAP) for the Protection of the Mediterranean Sea Against Pollution from Land-Based Sources and EPOP 2007-2009 list. Remediation and closing down plan is finished. Environmental protection and energy efficiency Fund cofinanced project with 2,4 MEuro
CRO 10	**West Balkan & Turkey**	Croatia	Split ?			SW	Remediation of the asbestos polluted "Mravinacka kava" site	Split ?				Public company	Under preparation (June 2009)			Y (partial)	2,50	N		2009 status (PEIP): Additional co-financing is foreseen from the Fund for Environemntal Protection and Energy Efficiency. Fund secured 1.900.000 Kn for preparation of project documentation. Company for preparation of project documentation and permits is tendered out and all permits should be issued by Sept. 2009. Fund also bacame the owner of two objects on site needed for the project implementation. Question mark: not clear how this project relates to the Split Regional Waste Management Center.
CRO 11	**West Balkan & Turkey**	Croatia	County of Dubrovnik-Neretva			SW	Waste Management Centre	Dubrovenik			C	Public company	Under preparation (June 2009)			Y	24,80	N		2009 status (PEIP): Creation of integrated waste management system. Project has 2 phases; a) enstablishement of the county center for WM and construction of 4 transfer stations and b) remediation and closure of existing landfills. Project is awaiting for necessary permits. Location has not yet been defined.

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
CRO 12	**West Balkan & Turkey**	Croatia	County of Split –Dalmatia			SW	Regional Waste Management Centre	Split			C	Public company	Under preparation (June 2009)			Y (partial)	55,70	Y		2009 status (PEIP): Project is cofinanced with Environmental protection and energy efficiency Fund and CARDS 2002 TA (feasibility study). The project is on the EPOP 2007-2009 list, IPA application preparation in progress. For IPA funding construction of WMC, transfer stations and pilot study is being proposed 2011 Status (H2020): Construction of integrated sustainable waste management center (WMC) at county level (305,500 pop) stage 1. Split falls under the new Lecevica regional waste managemtn center (ECOFUND financed) - closure and remediation of current landfill (Karpovac), to be financed by city/county, studies ongoing
CRO 13	**West Balkan & Turkey**	Croatia	Centre for County of Zadar			SW	Regional Waste Management Center	Zadar			C	Public company	Under preparation (June 2009)			N	64,00	N	EBRD, WBIF	2009 status (PEIP): Feasibility study and EIA is under preparation. Exact project location is defined. Project is awaiting necessary permits. Under consideration of cofinancing by EBRD. Construction to be started by 2010. Landfills remediation in progress with domestic sources (assistance of Environmental Protection and Energy Efficiency Fund and local govts own resources). Project is cofinanced with Environmental protection and energy efficiency Fund and CARDS 2001 TA and the CARDS 2002 project Waste Management in Ddalmation Countries (technical assistance). The project is on the EPOP 2007-2009 list, IPA project pipeline.

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
CRO 14	**West Balkan & Turkey**	Croatia	County of Istria			SW	Regional Waste Management Center	Pula ?				Public company	Under preparation (June 2009)			N	57,83	N	EC, EBRD	2009 status (PEIP): Project is cofinanced with Environmental protection and energy efficiency Fund. Project preparation support by EBRD. The project is on the EPOP 2007-2009 list, IPA application preparation in progress. For IPA funding construction of new RWMC (without MBO facilities), technical assistances and vehicles for long range transport and transfer stations is being proposed. Financing plan: 6,675 mil EUR national funds, 4,5 mil EUR IFI (EBRD), 14,7 mil EUR MBT plant (PPP) and 19,125 mil EUR proposed IPA grant. waiting for feedback from EC on IPA application.
CRO 15	**West Balkan & Turkey**	Croatia	Kaštelanski zaljev			SW	Remediation of Kaštelanski zaljev - hazardous waste disposal site	Kastela Bay				Public company	Under preparation (June 2009)			N	10,00	N	EC	2009 status (PEIP): The project is on the EPOP 2007-2009 list, and in the IPA project pipeline. Estimated date of finalizing IPA application with supporting documents is 2009. Project of site remedation is made.
CRO 16	**West Balkan & Turkey**	Croatia	Karlovačka County			SW	Development of Regional Waste Management Centre	?				Public company	Under preparation (June 2009)			N	16,00	N	EC	Not clear if this project is located within the Adriatic Sea Discharge Basin. PEIP status (2009): Projects was added in November 2007. The project is on the EPOP 2007-2009 list,IPA project pipeline. Estimated date of finalising IPA application with supporting documents is 2009. Start-up of project-technical documentation 2013: project no more part of the WBIF pipeline (due to upcoming EU accession of Croatia ?)
CRO 17	**West Balkan & Turkey**	Croatia	Rovinj			IE	Industrial WWTP for MIRNA fish processing	Pula ?			C	Industry	On-going (2011)			Y	2.6	Y		2011 Status (H2020): A part of the sanitary wastewater is connected to the Rovinj public sewerage system. The remaining sanitary WW should be connected to the public sewerage system by Dec. 31, 2012. By December 31, 2014, it is necessary to construct and put into operation a pretreatment plant for technological wastewater and connect it to the Rovinj public sewerage system.

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
CRO 18	**West Balkan & Turkey**	Croatia	Zadar			IE	Industrial WWTP for ADRIA fish processing	Zadar			C	Industry	On-going (2011)			Y	6.2	Y		2011 Status (H2020): The Gaženicapublic sewerage system with a submarine outfall is functional. Wastewater from the plant, after pre-treatment, should be connected to this sewerage system sometime in 2011. The deadline for construction of a pretreatment plant is December 31, 2010. The WWTP was not constructed and wastewater cannot be connected to the sewerage system. Until the completion of the pre-treatment plant, the existing submarine outfall was extended.
CRO 19	**West Balkan & Turkey**	Croatia	Split			IE	Industrial WWTP for JADRANSKA PIVOVARA Brewery	Split			C	Industry	Cancelled			N/A	4.4	Y		2011 Status (H2020): Production was stopped on April 1, 2010.The construction of a distribution centre is foreseen at the current location.
CRO 20	**West Balkan & Turkey**	Croatia	National			IE	Implementation of Stockholm Convention, monitoring, BAT, BEP											Y		
CRO 21	**West Balkan & Turkey**	Croatia	National			IE	Lead-free gasoline, Cleaner Production, BAT, BEP for industry					Industries						Y		
CRO 22	**West Balkan & Turkey**	Croatia	National			IE	Creating new collecting points, recycling, setting up separate waste oil collecting system					Industries						Y		
CRO 23	**West Balkan & Turkey**	Croatia	National			IE	Collecting and recycling, ban of Hg Cd batteries, setting up used batteries (ncluding car batteries) management system					Industries						Y		
CRO 24	**West Balkan & Turkey**	Croatia	National			IE	Removal and demolition of PCB- containing equipment, ban of import of PCBs, legislation improvement					Industries						Y		
CYP 1	**EU**	Cyprus	Astromeritis			WW	Sewerage System of the Astromeritis-Peristerona-Akaki Complex	Cyprus			W	Ministry Agriculture, Natural Resources & Environment/ Water Development Dept. & Sewerage Board of Astromeritis-Peristerona-Akaki	Networks construction is completed. The WWTP Construction & Operation is already procured and the construction is expected to be complete by the end of 2014			Yes	21,3 (networks & WWTP, construction and operation)	Yes	EU COHESION FUND For Infrastrust ure	

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
CYP 2	**EU**	Cyprus	Athienou			WW	Sewerage System of the Municipality of Athienou	Cyprus			W	Ministry Agriculture, Natural Resources & Environment/ Water Development Dept. & Sewerage Board of Athienou	Networks construction is completed. The WWTP Construction & Operation is expected to be procured in April 2013 and the construction is expected to be complete by the end of 2015 (deadline limitation in order to get the funding)			Yes	13,20 (networks & WWTP, construction and operation)	Yes	EU COHESION FUND For Infrastrusture	
CYP 3	**EU**	Cyprus	Skouriotissa, Lefkosia			WW	Sewerage System of the Solea Complex	Cyprus			W	Ministry Agriculture, Natural Resources & Environment/ Water Development Dept. & Sewerage Board of Solea	Networks construction is to be completed by the end of 2013 for some of the communities served. The rest of the networks and the WWTP Construction & Operation is expected to be procured in 2-4 months and the construction is expected to be complete by the end of 2015 (deadline limitation in order to get the funding)			Yes	22,0 (networks & WWTP, construction and operation)	Yes	EU COHESION FUND For Infrastrusture	
CYP 4	**EU**	Cyprus	Kokkinochoria			WW	Sewerage System of the Kokkinochoria Complex	Cyprus			W	Ministry Agriculture, Natural Resources & Environment/ Water Development Dept. & Sewerage Board of Kokkinochoria	Networks construction is completed. The WWTP Construction & Operation is expected to be procured in June 2013 and the construction is expected to be complete by the end of 2015 (deadline limitation in order to get the funding)			Yes	95,00 (networks & WWTP, construction and operation)	Yes	EU COHESION FUND For Infrastrusture (65%) Local communities (10%) National funds (25%)	
CYP 5	**EU**	Cyprus	Acheleia, Paphos			WW	Extension (Phase 2) of Paphos Wastewater Treatment Plant	Cyprus			C	Ministry Agriculture, Natural Resources & Environment/ Water Development Dept. & Sewerage Board of Paphos	Constructed and in operation since 2011							

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
CYP 6	**EU**	Cyprus	Larnaca			WW	Extension (Phase 2) of Larnaca Wastewater Treatment Plant	Cyprus			C	Ministry Agriculture, Natural Resources & Environment/ Water Development Dept. & Sewerage Board of Larnaca	Networks construction is completed. The WWTP extension was procured procured in 2012 and the construction is expected to be complete by the end of 2014			?	?	?	?	
CYP 7	**EU**	Cyprus	Ammochostos (Famagusta)			WW	Upgrade of Agia Napa-Paralimni (Famagusta) Wastewater Treatment Plant	Cyprus			C	Ministry Agriculture, Natural Resources & Environment / Water Development Dept. & Sewerage Board of Agia Napa-Paralimni	Constructed and in operation since 2008							
CYP 8	**EU**	Cyprus	Moni, Lemessos			WW	Extension of Lemessos Wastewater Treatment Plant	Cyprus			C	Ministry Agriculture, Natural Resources & Environment/ Water Development Dept. & Sewerage Board of Lemessos-Amathountas	Constructed and in operation since 2008				29,00 (Extension of the WWTP)			
CYP 9	**EU**	Cyprus	Kosi (Larnaca)			SW	Integrated Municipal Wastes Management Facilities for the regions of Larnaca & Ammohostos (Famagusta)	Cyprus			W	Ministry Internal Affairs/ Dept of Municipal Waste Management	Constructed and in operation since 2010			Yes	35,00 (Construction) 99,00 (Operation for 10 years)	yes	EU COHESION FUND For Infrastrusture (66%)	
CYP 10	**EU**	Cyprus	Lemessos			SW	Integrated Municipal Wastes Management Facilities for the regions of Lemesos	Cyprus			W	Ministry Internal Affairs/ Dept of Municipal Waste Management	Under Study (Design-Build-Operation Procurement is expected in May 2013 and the facilities are expected to start operations at the end of 2015)			Yes		yes	EU COHESION FUND For Infrastrusture	

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
CYP 11	EU	Cyprus	Larnaca			IE	Complete Closure of Oil Refinery in Larnaca	Cyprus			C	Ministry Agriculture, Natural Resources & Environment/ Dept of Environment	Oil Refinery has ceased its operation since May 2004. The site is still operating as a terminal unit. The construction of a new governmental terminal site in Vassilikos area is under discussion (to be finalised in the next 2-3 months due to the new findings of natural gas in the area). If the outcome is positive the timeframe for the completion of the new terminal and the final closure of the existing one in Larnaca is estimated at 3 years (end of 2015).							
CYP 12	EU	Cyprus	Cyprus			HW	Hazardous Waste Treatment Plant in Cyprus	Cyprus			C & W	Ministry Agriculture, Natural Resources & Environment/ Dept of Environment	NO GO according to the latest decision (2012) due to operation of private sector companies involved with the hazardous waste treatment and management in Cyprus							
FRA 1	EU	France	Marseille			WW	Construction of Geolide underground WWTP	Marseille			C	Urban Community of Marseille Provence Métropole	Completed	12		Y	180,00	Y		
FRA 2	EU	France	Montpellier			WW	Construction of Maera WWTP	Montpellier			C	Urban Community of Montpellier	Completed	12		Y	150,00	Y		
FRA 3	EU	France	Distric of Besançon			WW	Upgrading of WWTP EUROSÉRUM				C	Municipality(ies)	New project			Y		N		These projects corrrespond to the priority WWTPs located within RMC basin that need to be made compliant with the requirements of the EC UWWT Directive
FRA 4	EU	France	Culoz			WW	Upgrading of WWTP				C	Municipality(ies)	New project			Y		N		
FRA 5	EU	France	Manziat			WW	Upgrading of WWTP				C	Municipality(ies)	New project			Y		N		
FRA 6	EU	France	Saint-Denis-Les-Bourg			WW	Upgrading of WWTP				C	Municipality(ies)	New project			Y		N		
FRA 7	EU	France	Bourg St Andeol			WW	Upgrading of WWTP				C	Municipality(ies)	New project			Y		N		
FRA 8	EU	France	Saint Privat			WW	Upgrading of WWTP				C	Municipality(ies)	New project			Y		N		
FRA 9	EU	France	Gresse En Vercors			WW	Upgrading of WWTP				C	Municipality(ies)	New project			Y		N		
FRA 10	EU	France	Montalieu Vercieu			WW	Upgrading of WWTP				C	Municipality(ies)	New project			Y		N		
FRA 11	EU	France	Septeme			WW	Upgrading of WWTP				C	Municipality(ies)	New project			Y		N		
FRA 12	EU	France	Virieu			WW	Upgrading of WWTP				C	Municipality(ies)	New project			Y		N		

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
FRA 13	EU	France	Beaujeu			WW	Upgrading of WWTP				C	Municipality(ies)	New project			Y		N		
FRA 14	EU	France	Arvieux			WW	Upgrading of WWTP					Municipality(ies)	New project			Y		N		
FRA 15	EU	France	Aiguilles Chateau Villevieille			WW	Upgrading of WWTP					Municipality(ies)	New project			Y		N		
FRA 16	EU	France	Chateauneuf De Grasse			WW	Upgrading of WWTP					Municipality(ies)	New project			Y		N		
FRA 17	EU	France	Levens - Village - La-Cumba			WW	Upgrading of WWTP					Municipality(ies)	New project			Y		N		
FRA 18	EU	France	St Martin Vesubie			WW	Upgrading of WWTP					Municipality(ies)	New project			Y		N		
FRA 19	EU	France	Grans			WW	Upgrading of WWTP					Municipality(ies)	New project			Y		N		
FRA 20	EU	France	Cervione			WW	Upgrading of WWTP				C	Municipality(ies)	New project			Y		N		
FRA 21	EU	France	Santa Maria Poggio Murianinc u			WW	Upgrading of WWTP				C	Municipality(ies)	New project			Y		N		
FRA 22	EU	France	Le Luc Payette			WW	Upgrading of WWTP					Municipality(ies)	New project			Y		N		
FRA 23	EU	France	Cavaillon Chef-Lieu			WW	Upgrading of WWTP					Municipality(ies)	New project			Y		N		
FRA 24	EU	France	L'isle-Sur-La-Sorgue			WW	Upgrading of WWTP					Municipality(ies)	New project			Y		N		
FRA 25	EU	France	Pertuis			WW	Upgrading of WWTP					Municipality(ies)	New project			Y		N		
FRA 26	EU	France	La Franqui			WW	Upgrading of WWTP				C	Municipality(ies)	New project			Y		N		
FRA 27	EU	France	Ponteilla			WW	Upgrading of WWTP				C	Municipality(ies)	New project			Y		N		
FRA 28	EU	France	St Genis des Fontaines			WW	Upgrading of WWTP				C	Municipality(ies)	New project			Y		N		
FRA 29	EU	France	Languedoc Roussillon, PACA and Corse			WW	Reduction of pollution from stormwater					Municipality(ies)	On-going			Y		N		
FRA 30	EU	France	Languedoc Roussillon			SW	Port waste collection and treatement facilities (80 units)					Local authorities	On-going				8,00	Y		
FRA 31	EU	France	Languedoc Roussillon			SW	Municipal waste management programme					Local authorities	On-going				550,00	Y		
FRA 32	EU	France	Languedoc Roussillon, PACA and Corse			SW	Construction of Waste Management Centers					Local authorities	On-going					Y		
FRA 33	EU	France	Languedoc Roussillon, PACA			SW	Prévention et réduction du flux de déchets					Local authorities	On-going					Y		

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			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
			and Corse																	
FRA 34	EU	France	Languedoc Roussillon, PACA and Corse			IE	Programme national de prévention et de réduction de la pollution des eaux par certaines substances dangereuses déversées dans le milieu aquatique					Ministry (DRIRE)	On-going					Y		
FRA 35	EU	France	Languedoc Roussillon, PACA and Corse			IE	Mesures de réduction de la pollution des installations classées					Ministry (DRIRE)	On-going					Y		
FRA 36	EU	France	Languedoc Roussillon, PACA and Corse			IE	Autres mesures spécifiques (engagements volontaires des entreprises, Meilleurs Techniques Disponibles, etc.)					Industries	On-going					Y		
FRA 37	EU	France	Languedoc Roussillon, PACA and Corse			IE	Mesure de réduction des déchets industriels (objectif -10%)					Industries	On-going					Y		
FRA 38	EU	France	Languedoc Roussillon, PACA and Corse			IE	Démarche de management environnement (gestion interne de l'entreprise)					Industries	On-going					Y		
FRA 39	EU	France	Languedoc Roussillon, PACA and Corse			IE	Démarche d'eco-conception					Industries	On-going					Y		
FRA 40	EU	France	Languedoc Roussillon, PACA and Corse			IE	Reduction of industrial pollutions and hazardous substances (>25 projects)					Industries, Water agency	On-going					N		
GRE 1	EU	Greece	Elefsina			WW	WWTP of Thriasio				C	Athens water supply and sewerage company (EYDAP SA)	Testing Period				67,00	Yes	Cohesion Fund - National Funds	Value includes the ww collection network
GRE 2	EU	Greece	Fyli			SW	2nd Sanitary Landfill of West Attica				W	Assiciation of Communities and Municipalities in Attica Region ESDKNA	Working				25,10	Yes	Cohesion Fund - National Funds	

Nr.	Group	Country	Location			Sector	Project Title	Linked Hot Spot or Sensitive Area	Population Served or Project Capacity		Coastal / Watershed (C or W)	Promoter	Construction Status	Operation Status	Status of development using the score card	Financing Secured	Value	NAP	Donor / IFI Involvement	General Comment
			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
GRE 3	EU	Greece	Grammatiko			SW	Composting Unit in North East Attica (Grammatiko)				W	Association of Communities and Municipalities in Attica Region ESDKNA	Tendering through PPP				96,50	Yes	National Funds - Private investment	Public Private Sector Partnership for 4 Units in Attica
GRE 4	EU	Greece	Keratea			SW	Composting Unit in South East Attica (Keratea)				W	Association of Communities and Municipalities in Attica Region ESDKNA	Tendering through PPP				96,50	Yes	National Funds - Private investment	Public Private Sector Partnership for 4 Units in Attica
GRE 5	EU	Greece	Ano Liosia			SW	Composting Unit in West Attica (A. Liosia)				W	Association of Communities and Municipalities in Attica Region ESDKNA	Tendering through PPP				230,00	Yes	National Funds - Private investment	Public Private Sector Partnership for 4 Units in Attica
GRE 6	EU	Greece	Fyli			SW	Composting Unit in West Attica (Fyli)				W	Association of Communities and Municipalities in Attica Region ESDKNA	Tendering through PPP				408,00	Yes	National Funds - Private investment	Public Private Sector Partnership for 4 Units in Attica
GRE 7	EU	Greece	East Thessaloniki			WW	Sewage network at Thessaloniki touristic areas				C	Water and Sewage company of Thessaloniki (EYATH SA)	Under Construction					Yes		Unkown status. Project is divided in a number of subprojects
GRE 8	EU	Greece	Prefecture of Argolida			SW	Sanitary Landfill of Argos-Nafplio-Tolo				W	-	Unkown					Yes		There is not such a project in the pipeline. Waste from this region is transferred (termporarily) to the Sanitary Landfill of West Attica
GRE 9	EU	Greece	Vlacherna			SW	Sanitary Landfill of Arta				W	Municipality of Arta	Working				9,00	Yes		
GRE 10	EU	Greece	Epirus			SW	Sanitary Landfill of Epirus				W	Region of Epirus	Preparation of tender documents					No		Public Private Sector Partnership
GRE 11	EU	Greece	Karvounari			SW	Sanitary Landfill of Thesprotia - Preveza - Igoumenitsa				W	Region of Epirus	Working					Yes		
GRE 12	EU	Greece	Elliniko			SW	Sanitary Landfill of Ioannina				W	Region of Epirus	Construction almost completed				12,60	No	Cohesion Fund - National Funds	86% complete

Nr.	Group	Country	Location			Sector	Project Title	Linked Hot Spot or Sensitive Area	Population Served or Project Capacity		Coastal / Watershed (C or W)	Promoter	Construction Status	Operation Status	Status of development using the score card	Financing Secured	Value	NAP	Donor / IFI Involvement	General Comment
			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
GRE 13	EU	Greece	Litochoro			SW	Sanitary Landfill of Litochoro				W	Municipality of Litochoro	Working					Yes		
GRE 14	EU	Greece	Thasos			SW	Sanitary Landfill Thasos				W	Municipality of Thasos	Closed					Yes		Waste from Thasos is transferred to the Sanitary Landfill of Kavala
GRE 15	EU	Greece	Nea Kydonia Chania			WW	WWTP of N. Kydonia				C	Inter municipal Water & Sewage Company of Northern Coast of the Prefecture of Chania DEYAVA	Working					Yes	Cohesion Fund - Municipal Funds	
GRE 16	EU	Greece	Malia			WW	WWTP of Mallia				C	Municipal Water & Sewage Company of Hersonisos (DEYAH)	Working					Yes		
GRE 17	EU	Greece	Kalymnos			WW	WWTP of Kalymnos				C	Municipality of Kalymnos	Working				6,10	Yes	Cohesion Fund - Municipal Funds	
GRE 18	EU	Greece	Koropi			WW	WWTP Koropi - Paiania				C	Municipality of Kropia	Preparation for tendering				124,90	Yes	Cohesion Fund - National Funds	Value includes the ww collection network
GRE 19	EU	Greece	-			WW	WWTP Rafina - Artemida				C	-	Under consideration					Yes		Under consideration
GRE 20	EU	Greece	-			WW	WWTP Marathonas				C	-	Under consideration					Yes		Under consideration
MON 1	West Balkan & Turkey	Montenegro	Berane			WW	Berane Wastewater Treatment Plant					Berane Water & Wastewater Company	Complete	Complete	Complete	Yes	11.200,00		EIB	
MON 2	West Balkan & Turkey	Montenegro	Podgorica			WW	Podgorica Water and Wastewater Develoment Project					Podgorica Water Company	Complete	Complete	Complete	Yes	45.000,00		EIB	
MON 3	West Balkan & Turkey	Montenegro	Kolasin			WW	Wastewater treatment plant in Kolasin					Kolasin Water Company	Complete	Complete	Feasibility started in November 2010	Yes	6.550,00		EIB	
MON 4	West Balkan & Turkey	Montenegro	Rozaje			WW	Water treatment Plant in Rozaje					Rozaje Water Company	Complete	Complete	Project start date January 2012	Yes	9.300,00		EIB	

Nr.	Group	Country	Location			Sector	Project Title	Linked Hot Spot or Sensitive Area	Population Served or Project Capacity		Coastal / Watershed (C or W)	Promoter	Construction Status	Operation Status	Status of development using the score card	Financing Secured	Value	NAP	Donor / IFI Involvement	General Comment
			Area	N	E				Population	t/d or m3/d						Yes / No	(m EUR)	Yes/ No		
MON 5	West Balkan & Turkey	Montenegro	Plijevlja & Zabljyk			SW	Construction of regional landfills in Plijevlja and Zablijak					PROCON & Environment & Plijevlja & Zabljak Municipalities	Complete	Complete	Project started January 2012	Yes	27.150,00		EIB	
MON 6	West Balkan & Turkey	Montenegro	Several			SW	Construction of regional landfills in Montenegro					Ministry for Spatial Planning and Envrionment and several municipalities	Ongoing	ongoing	Project started May 2011	Yes	54.750,00			
MON 7	West Balkan & Turkey	Montenegro	Kolasin			RE	Biomass district heating system Kolasin					Kolasin Municipality	TOR Preparation	Ongoing	Project started Nov. 2012	Yes	2.400,00		KfW	
MON 8	West Balkan & Turkey	Montenegro	North Montenegro			WW										Yes	23,6		EIB	
MON 9	West Balkan & Turkey	Montenegro				SW	Montenegro Solid Waste						Feasibility Study		Yes		.070 (Grant)		EIB	
MON 10	West Balkan & Turkey	Montenegro				WW	TA for wastewater and water supply in Montenegro						TOR preparation		project start date Feb 2013 and expected end date Nov 2013	Yes	23.184,00		EIB	
SLO 1	West Balkan & Turkey	Slovenia	Ankaran			WW	Wastewater treatment plant (Connected to Koper)	Yes					Ongoing			Yes		Yes		
SLO 2	West Balkan & Turkey	Slovenia	jagodje			WW	Wastewater treatment plant (Connected to Koper)	Yes					Ongoing			Yes				
SLO 3	West Balkan & Turkey	Slovenia	Izola city			WW	Wastewater treatment plant (Connected to Koper)	Yes					Ongoing			Yes				
SLO 4	West Balkan & Turkey	Slovenia	Koper city			WW	Wastewater treatment plant (Connected to Koper)	Yes					Ongoing			Yes				
SLO 5	West Balkan & Turkey	Slovenia	Luciia			WW	Wastewater treatment plant (Connected to Piran)	Yes					Ongoing			Yes				
SLO 6	West Balkan & Turkey	Slovenia	Piran city			WW	Wastewater treatment plant (Connected to Piran)	Yes					Ongoing			Yes				
SLO 7	West Balkan & Turkey	Slovenia	Piran city			WW	Wastewater treatment plant (Connected to Piran)	Yes					Ongoing			Yes				

ANNEX VII: Mission Reports

Updating studies about de-pollution of the Mediterranean

Morocco Country Visit
9-11 April 2013

MISSION REPORT

Overall Objective:

4. Coordinate between UfM consultants and the H2020 investment component, run under MeHSIP-PPIF, the validation of the H2020 project list including projects with secured financing as well as projects that have not yet secured financing.

Specific Objectives

1. Update and complement compiled list of de-pollution projects in the relevant NAP and H2020 priority sectors of pollution (wastewater treatment, solid waste management, and industrial de-pollution) prepared during the desk review, with focus on technical description as well as exact operational and funding status

2. Identify any new de-pollution investment needs that could have emerged lately and be linked to depolluting the Med Sea

3. Collect data on the de-pollution impact of existing physical projects and new investment needs in the different sectors

4. Gather information necessary to update and finalize the draft Country Report for Morocco

5. Identify potential recommendations and future action to guide H2020 Steering Group, UNEP/MAP and UfM in improving pollution reduction balance sheet in the Southern Mediterranean region through an efficient and effective project preparation approach.

Mission members:

- Mr. Tim Young, Team Leader of MeHSIP-PPIF
- Mr. Georges Akl, Institutional Expert with MeHSIP-PPIF
- Mr. Stéphane Simonet, UfMS Consultant, LDK-IME

Mission Schedule

Day	Time	Meeting
Monday 08/04/2013	23:00	Arrival to Casablanca and transfer to Rabat
Tuesday 09/04/2013	09:30	MEHSIP team Meeting with T. Young and G. Akl

	11:30	EIB Office Rabat Meeting with Guido Prud'homme and Fildine Bargachi,
	14:30	Délégation de l'Union Européenne au Maroc Coopération – Meeting with Ms Buscosi and Mr Beguennani
	16:00	Briefing meeting Département de l'Environnement/ **M. Benyahia :** Directeur du Partenariat, de la Communication et de la Coopération, Point Focal Horizon 2020 **M. Razi :** Chef de service de la Coopération Bilatérale
Wednesday 10/04/2013	10:00	Office National de l'Eau Potable et de l'Electricité (ONEE)/Branche Eau Potable (Ex ONEP) **Mme Badri**
	14:30	**AFD** **Mr. Pannetier**
	16:30	Point de contact SEIS/ Département de l'Environnement **Mme Bourous**
	18:00	**KFW** Phone discussion
Thursday 11/04/2013	10:00	Ministère de l'Intérieur/Direction de l'Eau et de l'Assainissement **M. Ourkia,** Chef de la Division Environnement, et responsables de services
	14:30	Département de l'Environnement Chef de la Division de la Gestion Environnementale du Milieu Naturel **M. Terhzaz** (PNA & PNDM), et responsables de service Chef de la Division de la gestion environnementale du milieu naturel **M. Chaoui** (dépollution industrielle)
	17:00	Restitution au Département de l'Environnement/ **M. Benyahia :** Directeur du Partenariat, de la Communication et de la Coopération **M. Razi :** Chef de service de la Coopération Bilatérale
	18:30	Transfer to Casablanca
Friday 12/04/2013	07:15	Return to Base

Main findings/outcomes

- Meetings held with the various donor representatives and national counterparts were very successful in providing updated information on the nature and, when possible, status of de-pollution projects listed in the NAP and H2020 project list.
- The soft projects or projects not linked to the Mediterranean were clarified and the draft project list revised accordingly (see updated list in Annex).
- ***In the sanitation sector***, discussions held with ONEE and the Ministry of Interior confirmed that good progress is being made under the National Sanitation Plan (PNA in French) which is supported by a Donor Partnership Programme signed in 2011 and involving AFD (Lead), KfW, EU – NIF, EIB as well as the Belgian Cooperation. This programme amounts to 201 M€ (including 90 M€ national contribution) and covers around 40 urban centres with population ranging from 5,000 to 80,000 inhabitants and is considered as the phase 1 of the PNA. Out of the 40 projects, 12 are on-going (2 under construction and 10 at the feasibility study stage).
- Additional donor contributions are currently being discussed with AFD and its partners and a second phase of the PNA is under preparation.
- In addition, 3 projects are completed or being completed by the company Amendis (now Actis) in Tangiers and Tetouan for a value exceeding 200 M€.
- Main difficulties and delays in implementing the PNA were discussed, including criteria for disbursement of funds, access to appropriate sites, expropriation process, insufficient connection rate to WWTPs, etc. The issue of water tariffs and the consequences on the financial viability of most water and sanitation utilities in Morocco was also raised as a main constraint.
- ***In the solid waste management sector***, the Government of Morocco has set up the National Programme for Domestic Waste (PNDM in French) which functions now as the main planning tool for guiding the efforts and channelling donor support in the sector. The cost of the PNDM is estimated at 4,000 M€ over 15 years. The WB is providing 300 M€ loan in 3 phases. The first two phases have been disbursed. It was estimated that roughly 38 M€ has already been devoted to the Mediterranean part of Morocco, with sanitary landfills completed and operational in Al Hoceima, Nador, Berkane and Oujda. It was agreed that both Ministries of Interior and Environment will share with the mission a detailed breakdown of all the solid waste projects located in the Mediterranean watersheds along with their basic financial and technical description (Project fact sheets).
- Discussions also took place on the status of the Tangiers' landfill which was previously identified by MEHSIP-PPIF as potential candidate project to be included in the H2020 and MeHSIP-PPIF pipeline. This project is still under preparation. The government has already earmarked around 18% of the total budget but the rest is yet to be secured. Main bottleneck has been so far the identification of an appropriate site for the new sanitary landfill to replace the existing dump site. But apparently a suitable site has now been identified and promising discussions are ongoing between the various project stakeholder representatives of the various localities to be served by the new site. With the PNDM fully in motion, the situation may now become more conducive for this project to move forward and be considered under a MEHSIP-PPIF II.
- It was also highlighted that a National Master Plan for Hazardous Waste was under preparation and that feasibility studies have already started for the construction of a National Centre for Hazardous Waste Management in Beni Mellal (Middle-Atlas region).

- ***In the industrial emission sector***, the FODEP mechanism (23 M€ from KFW, 1994-2011), which provided 40 % grant to industrial de-pollution projects, has now been replaced by a new mechanism, the *''Mecanisme Volontaire de Dépollution Industrielle Hydrique'' (MVDIH).* This mechanism (10 M€ from the EU) is managed directly by the Water Basin Agencies which receive and examine the grant requests submitted by the industries. Very few projects have been supported so far. A list of projects funded by both FODEP and MVDIH should be sent shortly by the Ministry of Environment.
- The FODEP funded in 2002 a national pollutants loads assessment for the industrial sector with some quantification of the cost of the required additional de-pollution investment. This report was not accessible at the time of the visit but shall be provided shortly to the mission members.
- Additional information was gathered on several NAP projects dealing with PCB elimination (on-going), plastic bag removal and treatment (completed) as well as pesticides stock removal (on-going).
- ***Generally***, it was not possible during the mission to have access to detailed information pertaining to each project (exact cost, operational status, feasibly study, de-pollution impacts, etc). Data on de-pollution rate and pollutants loads per project for the Mediterranean was not available. It was agreed with the different government agencies met during the visit that this information (including feasibility studies where available) will be gathered and shared with the mission within max. two weeks time after the visit. On this basis, the need for extra information will be examined and a second visit may be organized for this purpose.
- In terms of additional needs for investments, 3 topics were identified as new potential areas of support under the H2020 funding mechanisms and that could also be of interest to IFIs:
    - WWTP sludge management
    - Slaughterhouse waste treatment
    - Olive oil waste management
- Given the high number but generally small size of projects needed under each of the above areas, possibility to provide financial assistance through a programme based approach under H2020 will be further explored and confirmed by MEHSIP-PPIF
- ***Regarding the SEIS initiative***, comprehensive presentation of the SEIS activities in Morocco was given, including types of SEIS indicators and how they were integrated into the national Environmental Information System recently developed by Morocco. The challenge now is how to populate these indicators in a situation where data and resources are lacking. This will be the main focus of the forthcoming national SEIS workshop (May 2013).

Follow-up actions

- Project fact sheets and information on existing projects and foreseen investment needs were requested to be sent to MEHSIP/LDK through the Ministries of Environment, Interior and by ONEE; this process will require close follow-up and a second mission from MEHSIP to further clarify the information that is received and/or develop together with national counterparts required project fact sheets if these are not provided in time.
- Data on pollution loads and existing sectoral assessments for industries to be sent by Ministry of Environment
- MEHSIP and LDK (representing UfM) to update and revise both H2020 and UfMS project list
- LDK to share draft Country report with Morocco once reviewed and validated by UfM.

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Annex I: Updated list of projects

Nr.	Group	Country	Location	Sector	Project Title	Linked Hot Spot or Sensitive Area	Coastal or Watershed (C or W)	Promoter	Construction Status	Financing Secured (Yes / No)	Value (m EUR)	Donor / IFI Involvement	General Comment
MOR 1	**South**	Morocco	National	WW	National Plan for implementation a nationwide strategy on wastewater	All Hot Spots	C &W	ONEE	Ongoing	Yes	201.0	KfW/AfD/ EIB/EC	This project corresponds to the 1st phase of the PNA component led by ONEE. The 178M€ includes a 90M€ government contribution.plus 23M€ from the belgium protocol
MOR 2	**South**	Morocco	Al Hoceima, Chefchaouen, Taounate, Ras El Ma, Ferkhana, Ahfir et Jerrada	WW	Construction of 7 WWTPs in the Municipalities & extension of primary & secondary collectors	Al Hoceima	C &W	ONEE	Ongoing (Al Hoceima completed)	Yes	40,00	Spain/AFD/Gov	Al Hoceima : completed Chefchaouen: under construction Taounate: under construction Ras el Mah: not financed Ferkhana: not financed Ahfir: financed under MOR1, on-going Jerrada: financed under MOR1, on-going
MOR 3	**South**	Morocco	Nador & 7 small towns, near or on the shore of the Marchica lagoon	WW	Sanitation of Nador city - depollution of the Marchica lagoon	Nador	C	ONEE	Completed	Yes	62,00	AfD	An additional treatment capacity of 23 000 m3/day was financed, through the construction of 2 new WWTPs in Nador and in Kariat Arkmane. Wasterwater collection network was also improved. Extention of Nador WWTP. MoU Signed in 2013 (7 M€)

Nr.	Group	Country	Location	Sector	Project Title	Linked Hot Spot or	Coastal or Watershed	Promoter	Construction Status	Financing Secured	Value	Donor / IFI	General Comment
MOR 4	**South**	Morocco	Nador	WW	Cleaning and decontamination of shorelines, beaches, the water and the bottom of the lagoon,	Nador	C &W	Marchica Med society	Ongoing	Yes	7.5	SEE/MI/ Oriental Agency/ Marchica Med society/AFD	It is not an infrastructure project but rather a set of environmental management measures including restoration and cleaning of the lagoon. Will be completed in 2013
MOR 5	**South**	Morocco	Mdiq-Fnideq (Tamuda Bay)	WW	Wastewater treatment network and plant. This is part of a Tourism management project. It also includes Fnideq Village (50 to 60 thousand Population)	Tetouan	C	AMENDIS (Now ACTIS)	Completed	Yes	38.0	Veolia/Gov.	AMENDIS has completed the infrastructure including a WWTP that serves the project area and Fnideq. Veolia Environnement has sold all its activities in Morocco to Actis (British investment fund)
MOR 6	**South**	Morocco	Tangier	WW	Implementation of WW treatment system	Tanger	C	AMENDIS (Now ACTIS)	Completed	Yes	105.4	Veolia Environnement	Veolia Environnement has sold all its activities in Morocco to Actis (British investment fund)
MOR 7	**South**	Morocco	Tetouan	WW	Implementation of WW treatment system	Tetouan	C	AMENDIS (Now ACTIS)	Ongoing	Yes	117.4	Veolia Environnement	The project funding will be provided by AMENDIS in two phases: 88.04 million EUR between 2005 and 2007 and 29.35 million EUR between 2007 to 2027. Veolia Environnement has sold all its activities in Morocco to Actis (British investment fund)

Nr.	Group	Country	Location	Sector	Project Title	Linked Hot Spot or	Coastal or Watershed	Promoter	Construction Status	Financing Secured	Value	Donor / IFI	General Comment
MOR 8	**South**	Morocco	Al Hoceima, Bnibouayach & Targuist	WW	Implementation of WW treatment system	Al Hoceima	C	ONEE	Completed	Yes	24.2	AfD	According to the NAP (2005) the required cost of Al Hoceima WWTP is around 10.9 million EUR, BniBouayach (10.7 m EUR) & Targuist (2.6 m EUR)
MOR 9	**South**	Morocco	Tangier & surrounding localities	SW	Integrated solid waste management Project	Tanger	C	Commune urbaine de Tanger	Under preparation	No	30.0	-	Pending final decision on the siting of the landfill. Discussion with MEHSIP for potential inclusion into H2020 pipeline
MOR 10	**South**	Morocco	National	SW	PNDM : construction of SW management infrastructure and sanitary landfills	All Hot Spots	C &W	MOI/ Env	Ongoing	Yes	300.0	WB	WB loans planned into 3 phases. First 2 phases of 200 M€ already disbursed.Al Hoceima, Oujda, Berkane, Nador: sanitary landfills completed and operational
MOR 11	**South**	Morocco	National	SW	Collection and Disposal of Plastic Bags	All Hot Spots	C &W	Env	Completed	Yes	4.0	Gov.	
MOR 12	**South**	Morocco	Nador	SW	Construction and operation of a landfill of Nador	Nador	C	Env	Completed	Yes	3.2	SEE	Construction of a first cell. The rest of the project has been constructed under MOR10
MOR 13	**South**	Morocco	Al Hoceima	SW	Al Hoceima landfill	Al Hoceima	C &W	Env	Completed	Yes			According to the NAP (2005) the required cost of Al Hoceima Landfill is around 0.9 million EUR
MOR 14	**South**	Morocco	National	IE	National program of PCB Elimination	All Hot Spots	C &W	Env	Ongoing	Yes	11.4	GEF/UNIDO/UNEP	Not an infrastructure project
MOR 15	**South**	Morocco	National	IE	Industrial De-pollution (FODEP)	All Hot Spots	C &W	Env	Completed	Yes	60.0	KFW/FODEP	24 M€ from KFW since 1994. The rest from private contributions. Almost completed. Replaced now by the EU-funded MVDIH

Nr.	Group	Country	Location	Sector	Project Title	Linked Hot Spot or	Coastal or Watershed	Promoter	Construction Status	Financing Secured	Value	Donor / IFI	General Comment
MOR 16	South	Morocco	National	IE	Industrial De-pollution (MVDIH)	All Hot Spots	C &W	Env	Ongoing	Yes	25.00	UE	New MVDIH mecanism. 10 M€ from the EU + 15 M€ from beneficiary industries (private)
MOR 17	South	Morocco	National	SW	CNEDS implementation (Hazardous Wastes National Management Center)	All Hot Spots	C &W	Env	Under preparation	Yes	22,27	KfW	The total budget is being determined
MOR 18	South	Morocco	Mediterranean Coast	IE	Regional center for transfer to storage of hazardous industrial waste to CNEDS	Tangier, Tetouan, Nador & Al Hoceima	?	Env	Under preparation	No			At feasibility study stage. The total budget is being determined
MOR 19	South	Morocco	Mediterranean Coast	IE	Medical waste elimination systems implementation	Tangier, Tetouan, Nador & Al Hoceima	C & W	Health	Under preparation	No			At feasibility study stage. The total budget is being determined
MOR 20	South	Morocco	Mediterranean Coast	IE	Establishment of oils collection & recovery chain in the Mediterranean coast	Tangier, Tetouan, Nador & Al Hoceima	C & W	Env	Under preparation	No			At feasibility study stage. The total budget is being determined
MOR 21	South	Morocco	Mediterranean Coast	IE	Elimination of stocks of pesticides under the African program of pesticides (PASP)	Tangier, Tetouan, Nador & Al Hoceima	C & W	Agriculture	Under preparation	No		ONUDI/GEF	It is a GEF project currently under development (PDF-B)
MOR 22	South	Morocco	Mediterranean Coast	IE	Establishment of a pilot site for dismantling of PCB appliances	Tangier, Tetouan, Nador & Al Hoceima	C & W	Env	Under preparation	No		Public and private partners, bilateral Aid	At feasibility study stage. The total budget is being determined

Annex II: List of people met

Surname	First name	Organisation	Position	Contact details
ABBOUD	Jamal	Département de l'Environnement	FODEP	jamalenv@gmail.com
AKKA	Habib	Ministère de l'Intérieur	Direction de l'Eau et de l'Assainissement/DGCL/ Assainissement liquide	hakka@interieur.gov.ma
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ANNEX I: Country Reports

Country report
Albania

Part I – General background

The development of the economic activities and the difficult transition towards the market economy has put a strong pressure on the environment. The responsible governmental institutions without the necessary professional experience and without sufficient financial resources have not been able to sustainably manage all environmental problems. Despite the achievements to date, the present legal framework is still inadequate and is not being rigorously enforced (Ref 1).

The creation of new population centers and the fast growth of the existing ones have put a huge pressure on the already derelict infrastructure exacerbating old problems such as drinking water and sewer network overloads, lack of management schemes for urban waste and contamination of soil and groundwater.

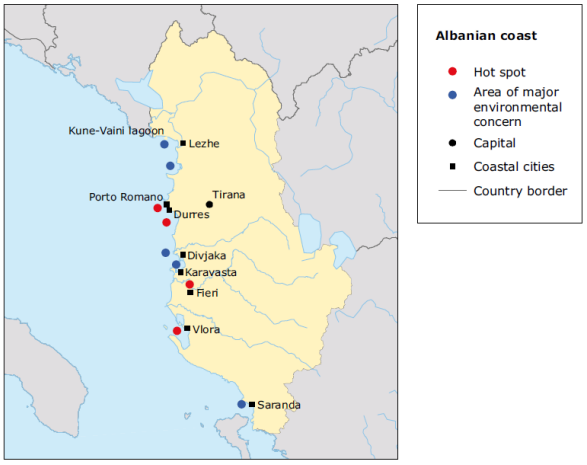
In summary, the main issues regarding the environmental situation are: i) degradation of bio-diversity (loss of fauna and flora), deforestation; ii) soil erosion; iii) specific sectoral problems (pollution of surface and ground water, air and soil pollution); iv) the presence of hot spots with respect to pollution; v) shortcomings in the legal and institutional framework; vi) low level of environmental awareness among the public and the institutions.

There is a funding gap in Albania with respect to environmental infrastructure projects due to the low level of domestic funds. Legislation passed in 2002 introduced the possibility of generating income through environmental taxes, tariffs and charges. Environmental investment projects are almost fully financed with assistance from bilateral donors and IFIs. However, the Ministry of Public Works, Transport and Telecommunications (MoPWTT) has elaborated a mid-term financial plan for investments in the area of water and waste infrastructure, and manages a capital investment programme that contributes to the development of communal environmental infrastructure (ADA, 2008a).

Pollution hotspots

In the TDA for Albania only two hot spots are mentioned and these are: Durres and Vlora. This list was taken from TDA since the NAP did not clearly identify the hotspots by name.

Hot Spot	Category	Rationale
Durres	C	Domestic pollution Urban solid and hospital waste are dumped in Porto Romano, in an area near the sea. Urban ww is discharged to the sea.
Durres	B	Industrial pollution Porto Romano area, where previously a chemical plant was located (closed in 1991). The area is considered by UNEP one of the most dangerous hotspots in the Balkans.
Vlora	B	Industrial pollution former chemical industry of PVC



EEA Report No 4/2006

Part III - Sectoral Overview *(Max. 1 page)*

III.1 - Wastewater

The main responsibility for environmental policy at the national level belongs to the Ministry of Environment, Forestry and Water Administration (MoEFWA) and the Ministry of Public Works, Transport and Telecommunications (MoPWTT). The MoEFWA is also responsible for river basin management. The MoPWTT manages a capital investment program that contributes to the development of communal environmental infrastructure, including waste sector infrastructure. The MoEFWA is in charge of developing strategies, drafting laws and setting basic tariffs in the sector, while the MoPWTT is responsible for investments. In cooperation with the Institute of Public Health (IPH) and the State Sanitary Inspectorate (SSI), the Ministry of Health is responsible for monitoring the quality of drinking water and bathing water. The Institute of Environment and Forestry National Council Secretariat provides technical support, services and consultation to the MoEFWA and collects monitoring data.

Moreover, the creation of 6 agencies for River Basin Management and the National Water Council has resulted in the establishment of an administrative structure for planning the utilisation and management of river basins.

According to the EC progress report, efforts are still needed in Albania to strengthen the administrative capacity of all institutions involved in environmental policy making. Cooperation and coordination between institutions remain poor. Additional monitoring and inspection capacity is required at regional level (EC SEC [2009] 1337).

The pollution of surface waters and groundwater is a consequence of almost all current urban, industrial and agricultural activities. Historical pollution is also contributing to the poor quality of many surface waters. Urban wastewater presents particular problems as a result of incomplete and ineffective collection and the lack of treatment. Existing networks have not been maintained. Nor have they been expanded to cope with rapid urbanisation of the last ten years, much of which has been scattered, thereby making infrastructure difficult and expensive to provide. Most towns combine sewage and storm water collection systems that discharge directly into surface water. Sewers are often undersised, broken or clogged as a result of poor maintenance. Leakage from sewers gives rise to the risk of cross contamination of drinking water networks and pollutes soil and shallow groundwater. Commercial and industrial enterprises producing other types of chemical wastes which can give rise to serious forms of pollution are also connected to these systems.

Investments are urgently needed in the water infrastructure in order to provide all members of the population with drinking water, to improve the quality of drinking water, and to reduce pressure on the environment through the treatment of wastewater. Some problems facing the water sector are: the relatively low level of drinking water supply for the population in rural areas (85% and 65% in urban and rural areas correspondingly), big water losses due to ageing water supply infrastructure, significant unaccounted-for water (65%), at between 60 and 70% and the poor operating efficiency of the utilities. The estimated proportion of population connected to sewerage networks is 40%. According to the Albanian Implementation Plan for the Reform of the Water Supply and Sewerage Sector, 2007–2009 (Gjinali andOlldashi, 2008), 10 wastewater treatment plants should be built by the end of 2011.

The water sector has seen the most notable developments in recent years. Progress has been underpinned by the adoption of the Reform of the Water Utilities in July 2008. Developments related to the water reform are aligned with EU water policy and are aimed at decentralisation, privatisation and full cost recovery operations. The reform has led to the improvement of existing strategies and will lead to the development of new policies. On the legislative side, the law on the regulatory framework in the water supply and wastewater administration sector was adopted in 2008 and it is expected that the amended version of the National Water Strategy of 2003 will be adopted in 2010. Implementing legislation and action plans for legislative approximation to the Water Framework Directive and the Nitrates and Urban Waste Water Treatment Directives are pending adoption.

III.2 – Solid waste

The Ministry of Environment, Forest and Water Administration (MoEFWA) is the main institution responsible for defining the government policy with respect to environment, including waste management, and drafting legislation on waste. It leads the policy making process with respect to waste, and it has regulatory functions consisting in issuing environmental permissions with respect to activities impacting environment. It cooperates with central and local bodies to elaborate strategies and policies, and to monitor the processing and disposal of waste. It includes the Sector of "Waste and Accidents", as part of the General Directorate of Environmental

Protection. This sector is responsible for drafting the government policy and legislation with respect to waste. The Environmental Inspectorate at the MoEFWA is responsible for issuing environmental permits and monitoring economic activities with environmental impact.

The Ministry of Public Works and Transport (MoPWT) is responsible for infrastructure investments in the waste sector. It is responsible for the project cycle with respect to the construction of regional landfills (project planning, designing, implementation). It also coordinates and monitors the activity of waste dumpsites, use of regional landfills, and incineration plants, as well as defines the technical criteria to study and implement the closing of urban dump sites. It includes the Directorate for Waste within its structure, but with no implementing agency to monitor and follow up capital investments. Though the Ministry of Environment is responsible for drafting environmental policies, the planning of investments in the field of wastes, is done by the Ministry of Public Works. However, the coordination is weak, creating non-compliance between policies and implementation. The Ministry of Health bears responsibility for medical waste. The Ministry of Agriculture, Food and Consumer Protection (MoAFCP) has responsibility over the drafting of regulations on agricultural and animal wastes. The Ministry of Economy, Trade and Energy (MoETE) drafts regulations on the management of specific residues and collects statistics on the generation, recycling and disposal of industrial waste. The Ministry of Finance, in collaboration with the Ministry of Environment, drafts the legislation on environmental taxes (partially drafted) and collects incomes from these taxes through customs and fiscal bodies.

At regional and local level there are several institutions that are involved in the waste management:

-The 12 regional councils (12 regions in Albania) are responsible9 for approving regional management plans, regional landfills and "the management of dump sites of urban wastes in regional level". However, the regional councils have no structure or experts on environmental and waste problems.

The local government units (65 municipalities and 308 communes) are responsible for managing urban wastes in their territories, according to the Law "On local governance".

According to the existing legislation, the municipalities and regions are responsible for municipal waste management (collection, transportation, treatment and final disposal). They also bear the responsibility for preparing local and regional waste management plans, suggesting the appropriate location for landfills in their territory and defining the tariffs. Municipalities can subcontract companies to perform certain tasks within the waste management systems.

Across Albania there are 65 legal —unmanaged and uncontrolled —landfills for urban settlements, as well as an unknown number of illegal waste dumps in rural areas. There is no separation of household waste from industrial, construction or hazardous waste. Some medical waste is incinerated in four obsolete incinerators causing air pollution hazardous to human health. No waste stream is sorted formally into recyclable components, although there is a small-scale informal market among individual collectors and small companies. None of the existing landfills meet international construction and health standards (location, protective lining, drainage system, leachate treatment, gas collection etc.). Landfills and illegal waste dumps often catch fire, releasing dioxins and furans. The Ministry of Environment, Forestry and Water Administration envisages the construction of four landfills in Elbasan, Fier, Gjirokaster and Berat, and the closure of five existing dumpsites in Elbasan, Durres, Berat, Lezhe and Pogradec. Over the last three years, rehabilitation and restructuring work has been undertaken at the Sharra landfill in Tirana. Today there are only two sanitary landfills being constructed according to the EU standards: the landfill of Bushat (Shkodra region) and the landfill of Sharra (Tirana city). At present, the landfill of Bushat is functioning at 10% of its total capacities (15-50 tons are being deposited every day, from 150 tons, which is the daily capacity).

In 2005 the amount of generated municipal waste was 633,599 tons and in 2008 762,353 tons. From 2005 to 2008 there was an increase in the quantities of waste generated per capita: from 0.186 tons / capita / year in 2005 to 0.229 tons / capita / year in 2008. According to estimated data from the Ministry of Public Works, the quantity of generated waste for 2011 is 1,128,728 tons (an average of 331 kg/person/year). However, this data does not fit with data from municipalities and communes.

Only 10-15 % of waste is actually collected for recycling, mainly by informal groups of people who collect wastes in dumpsites and bins, and separate it and then sell it to the recycling industry. This is not legal and sometimes it becomes a health and social problem. According to data from the Public Health Institute, the incidence of hepatitis in individuals exposed towards wastes is 20 times higher.

Industrial waste is mainly generated from industrial activities such as from the chemical industry, metallurgical,

mining, petroleum, light industry, food, chemicals used for manures, etc. The enterprises with more chemical stocks are the former Elbasan Metallurgical Plant, Nitrogen fertilizers in Fier, Chemicals and Pesticides Plant in Durres, Enterprise in Lac, Rubik, etc. Of the total amount of chemicals 40 tons (3% of the total amount) are considered to be highly toxic chemicals, 110 tons (7%) are extremely flammable and combustible, 575 tons (38%) are poisonous. Most of them are disposed of to landfills without any separation or prior treatment.

The waste generated by municipalities with more than 50.000 inhabitants presents a concern, especially with respect to cities at seaside areas. In the Durres municipality (coastal area) with 200.000 inhabitants, during 4 months (June-September) 50% of the annual waste production is generated. Also, the fact that municipalities generate 78% of the annual waste quantity dictates the need for a differentiated management of wastes in coastal areas.

The availability of waste monitoring data in Albania is low and there is a lack of appropriate waste statistics. Waste management services, although incomplete, exist in urban areas (covering 80 to 90%) while only 10 to 20% of rural areas are covered by waste management schemes. There is no systematic approach in the waste sector, and each municipal waste management scheme is organised in a different way, ranging from purely public enterprises to different PPP arrangements. In urban areas the municipalities determine the waste management fees, which currently vary between EUR 8 and 18 per household per year. Such fees can only cover collection and transportation, but not the proper treatment and final disposal of waste. In most cities and towns, waste collection and transportation services are subcontracted by the municipality to private companies.

The policy framework and the legislation regarding solid waste have made some progress the last years. Main strategic documents covering this sector are the National Strategy for Development and Integration 2007-2013 and the National Cross-cutting Strategy on Environment that define the medium and long term policy priorities of the Government with respect to environment in general, also including waste.

In 2011 "The National Strategy and National Plan on Waste Management" was approved. The Strategy covers the period 2010-2025 and is based in four main pillars of the national policy on wastes: planning, education, resources and legislation. It is managed on a national, regional and local level. The strategy foresees the establishment of the Inter Ministries Committee on Waste and National Waste Advisory Group, but no progress has been marked so far on this issue. The waste sector is mainly regulated by the Law nr. 10431, "On the environmental protection", date 9.06.2011; the Law nr. 10463, "On the integrated waste management", date 22.9.2011; the Organic Law Nr.8652 "On the Organisation and functioning of the Local Government", date 31.7.2000. The law on the integrated waste management transposes the Directive 2008/98 of the European Parliament and European Council "Waste Directive".

As per the Progress Report of European Commission on Albania published in October 2011 states, some progress is made in the area of horizontal legislation with the adoption of new laws on Environmental Protection, Environmental Impact Assessment and Environmental Permitting, as well as National Waste Strategy and new Law on Waste Management.

Despite the progress in updating waste management legislation and defining the basic responsibilities at national and local level, the relevant strategies, policies and plans are not yet in place.

Although the government has earmarked a satisfactory budget for the waste sector, the need for good planning and for efficient policies and strategies is an immediate priority in order to make use of available EU funds and to invest efficiently.

III.3 – Industrial emissions

The Ministry of Environment, Forest and Water Administration (MoEFWA) is the main institution responsible for defining the government policy with respect to environment by drafting guidelines and norms and programmes for air protection, whereas the local governments are involved in the implementation and in suggesting measures for air quality protection. MoEFWA plays a key role in the permitting process through the review and approval of EIA studies that are mandatory for permitting The Ministry of Economy, Trade and Energy (MoETE) drafts regulations on the management of specific residues and collects statistics on the generation, recycling and disposal of industrial waste and the Ministry of Health suggests concrete measures for air quality protection.

The main environmental issues arising in the industrial sector are air pollution, water pollution, solid waste disposal and soil contamination. In addition there are also a number of health and safety issues which arise with respect to current operational practices. Industry is a major contributor to air pollution. Pollutant concentrations

are most serious in Tirana and Elbasan, where key pollutants are two to five times permitted levels

Key issues for industry are soil and groundwater contamination, air pollution, greenhouse gas emissions, waste management especially hazardous waste generation and disposal, wastewater discharges, and health and safety. Trends as the economy grows, the environmental damage affecting natural resources, wildlife and public health will increase and this environmental damage will also:

- *limit potential for some emerging industries such as tourism;*
- *generate further problems which will be extremely costly to rectify (as demonstrated by the existing 'hotspots'); and*
- *severely limit international trading opportunities as a result of the failure to comply with European Community environmental standards*

At this point it should be noted that although many plants have now been closed, they continue to pollute the environment and adversely affect the health of local populations. These former plants included an important chemical sector producing nitrogen and phosphate fertilisers, pesticides, soda, pigments, paints and solvents; Oil production and refining; Metallurgical plants for iron smelting and ore concentration (copper, chrome, nickel); Machinery manufacture; cement production; a wood and paper industry. The principal types of problem include:

Contamination of the land in and around sites of industrial activities through spillages, and leakages, which can be widespread in the case of heavy metal deposition from air borne dust or the waterborne transport of hydrocarbons; Uncontrolled deposit of industrial waste, a significant proportion of which is toxic or hazardous and which can be transferred to both surface and ground waters (remediation of contaminated groundwater is extremely expensive and slow); Abandoned mines, liable to subsidence and industrial plants, often containing hazardous materials; Spoil heaps and tailings dams associated with mine workings, with high concentrations of heavy metals liable to pollute both soils and water; Uncontrolled or unmanaged waste dumping sites that contain a mix of household and commercial waste including industrial, food processing and hospital waste. In 2000, UNEP analysed the conditions at a number of the most contaminated industrial sites in Albania. Their findings clearly identify the current serious pollution and dangers to public health, particularly through the contamination of water. These sites are the following: Pesticide and dichromate plant, Durres, Chlorine alkali and PVC factory, Vlora, Marize oil field, Patos, Oil refinery, Ballsh, Waste Disposal Site, Sharra, Nitrate fertilizer

The main principles of the LCP directive are partially transposed (Law on Protection of Air from pollution). Air quality norms and air emission norms are included. The main principles of Air Quality Directive are partially transposed (Law on environmental protection and on the protection of air from pollution). Inter-ministerial working group has been established for adopting a set of measures to improve air quality in urban and industrial areas. The group has prepared a plan for reducing air pollution. Measures of the plan are introduced in the Action Plan for the Implementation of the European Partnership with Albania. The main principles of Hazardous waste Directive are introduced in the Law of Environmental Protection and the Law of Environmental Management of Solid Waste.

Part IV – Projects

The following tables summarise the list of de-pollution projects outlined in NAPs, PEIP, RENA and Western Balkans Infrastructure Facility showing their cost and status with regards to financing. The second phase of the study will provide updates on these projects with their operation impacts and their involvement towards the de-pollution targets:

IV.1 - Waste water

Nr.	Country	Location	Sector	Project Title	Financing Secured (Yes / No)	Value (m EUR)	Donor / IFI Involvement
1	Albania	Fier	ww	Construction of sewerage System for Fier City	Yes	2,00	KfW & IPA
2	Albania	Tirana	ww	Construction of a common sewerage water treatment plant for Tirana and	Partially (funds not secured 114mEUR)	246	JICA & Italian Cooperation investment fund

Nr.	Country	Location	Sector	Project Title	Financing Secured (Yes / No)	Value (m EUR)	Donor / IFI Involvement
				surroundings			
3	Albania	Shkodra	ww	Drinking water and waste water for Shkodra	Partially 15 mEUR by ADA, KfW & SECO. Funding has not yet been received for the second phase that includes the wastewater treatment plant in Shkodra and the Shkodra-Zogaj area (EUR 25 mil).	40	JICA financed the initial phase of the project up to detailed design. KfW, ADA and SECO Swiss
4	Albania	Shkodra	ww	Construction of the sewerage system and treatment plant for the town of Koplik	No	5	The Austrian Gov. provided a grant of 1.39 Mio Euro within the period 2006 - 2008
5	Albania	Shkodra	ww	Construction of sewerage system and treatment plant for the town of Velipoja	Yes	5,00	IPA
6	Albania	Vlora	ww	Water Supply rehabilitation design in the Municipality of Vlora	Yes	20,00	Dutch Government, IPA, CARDS/EU, Islamic Dev. Bank
7	Albania	Vlora	ww	Works for the construction of the sewerage system and treatment plant for Ballsh		4,00	
8	Albania	Vlora	ww	Improvement of the ww system and construction of a WWTP in Vlora		7,00	
9	Albania	Durres	ww	Rehabilitation and extension of water supply and sewerage system for Durres city	Yes	4,90	IDA/World Bank, IPA
10	Albania	Lezhe	ww	Rehabilitation and extension of water supply and sewerage system in Lezha town	partially	1,73	Gov of Luxemburg
11	Albania	Saranda	ww	Rehabilitation and extension of water supply and sewerage system in Saranda	No	2,00	Gov of Luxemburg
12	Albania	Lac	ww	Works for the construction of the sewerage system and treatment plant for town of Lac	Yes	5,00	
13	Albania	Kruje	ww	Wastewater Treatment Plant for Kruha community			KfW
14	Albania	Elbasan	ww	Construction of sewerage system of Elbasan city		20,00	KfW/EIB
15	Albania	Kavaja	ww	Construction of sewerage system of Kavaja and Golemi			KfW

Nr.	Country	Location	Sector	Project Title	Financing Secured	Value	Donor / IFI Involvement
					(Yes / No)	(m EUR)	
				beach			
16	Albania	Lushnja	ww	Construction of sewerage system of Lushnja and Divjaka			KfW, IPA 2010
17	Albania	Tirana	ww	Construction of sewerage system of Tirana	Yes	67,00	JICA
18	Albania	Fushe- Kruja	ww	Wastewater Treatment Plant for the town of Fushe-Kruja (2014)			
19	Albania	Lezha and Shengjin	ww	Wastewater Treatment Plant for the municipalities of Lezha and Shengjin		3,00	IPA GEF/WB
20	Albania	Fushe- Kruja	ww	Sewerage system for the town of Fushe-Kruja			
21	Albania	Tirana	ww	Industrial wastewater treatment plants in Tirana district			
22	Albania	Fier	ww	Wastewater Treatment Plant for Fie		12,50	
23	Albania	Saranda	ww	Wastewater Treatment Plant for Saranda		4,00	GEF/WB EIB
24	Albania	Tirana - Kamza	ww	Kamza Water Supply and Wastewater Project		15,00	KfW
25	Albania	Pogradec	ww	WWTP Pogradec		18,10	CEB
26	Albania	Fier - Girokastra	ww	Water Supply and Sewerage, Gjirokastra, Fier		21,70	

IV.2 – Solid waste

Nr.	Country	Location	Sector	Project Title	Financing Secured	Value	Donor / IFI Involvement
					(Yes / No)	(m EUR)	
1	Albania	Elbasan (near Cement factory in Bradashesh)	sw	Management plan & construction of landfill for urban solid waste in Elbasan		2,5	KfW & IPA (IPA component 3 to be finalised)
2	Albania	Fier city - located 1.5 km North of the Fier city	sw	Urban waste management and construction of sanitary landfill in Fier city	Partially (2.2 from state budget)	2,50	
3	Albania	Shkodra	sw	Management Plan for Urban Solid Waste of Shkodra City and Construction of Sanitary Landfill (including Koplic)	Fully supported by state budged up to 2008	4	Co-financing from SEENET and Italian Government for feasibility study and EIA.
4	Albania	Vlora	sw	Works for the construction of the sanitary landfill for Vlora		12,50	KfW

Nr.	Country	Location	Sector	Project Title	Financing Secured (Yes / No)	Value (m EUR)	Donor / IFI Involvement
5	Albania	Durres	sw	Management plan and the closure of the existing landfill for urban solid waste in Durres	partially 2.2 mil EUR form state budget	2,50	
6	Albania	Lac	IW	Disposal of chemical stocks of the Chemical-Metallurgical plant of Lac			
7	Albania	Lac	sw	Works for the construction of the sanitary landfill for town of Lac	Yes	1,00	
8	Albania	Korca	sw	Urban waste management and construction of sanitary landfill in Korca Region	partially 1,40 from state budget	5,00	SIDA
9	Albania	Berat	sw	Urban waste management and construction of sanitary landfill in Berat City	partially 2,2 from state budget	2,50	
10	Albania	Girokaster	sw	Urban waste management and construction of sanitary landfill in Gjirokastra City	partially 2,2 from state budget	2,50	
11	Albania	Durres / Tirana	sw	Construction of a common sanitary landfill for Durresi and Tirana			EU-IPF, EBRD and KfW???
12	Albania	Saranda	sw	Works for the construction of the sanitary landfill for Saranda		1,00	WB
13	Albania	Lezhe - Shengjin	sw	Construction of a sanitary landfill for Lezha and Shengjin			
14	Albania	**Berat-Lushnja-Fier-Divjaka**	sw	Construction of a sanitary landfill for Lushnja, Divjaka, Berat and Fier	Yes		
15		Shkodra- Koplik-Velipoja	sw	Construction of a sanitary landfill for Shkodra city, the town of Koplik and the community of Velipoja		2,70	

IV.3 – Industrial emissions

Nr.	Country	Location	Sector	Project Title	Financing Secured (Yes / No)	Value (m EUR)	Donor / IFI Involvement
1	Albania	Rubik	Ind. P	Feasibility study and environmental rehabilitation at the historic hot spot at the former metallurgical plant			
2	Albania	Lac	Ind. P	Feasibility study and environmental rehabilitation at the historic hot spot at the Phosphate Fertiliser Factory			
3	Albania	Fier	Ind. P	Technology up-grading and clean-up at the Patos-Marinza oilfield			CARDS, EBRD, IFC, Own company???

Part V – Assessment

On the Albanian list there are 26 projects from the waste water sector and 15 from the waste sector. Water sector projects mainly target construction of sewage systems and wastewater treatment plants of the coastal towns, for example in Durres, Fier and Saranda. Also the construction of a sewage treatment plant for the capital city of Tirana is foreseen. For a few projects, feasibility studies are under development or have been developed. Waste sector projects focus mainly on constructing sanitary landfill sites for major agglomerations of the country such as Vlora, Fier and Elbasan. Construction of a common landfill for Durres and Tirana is also planned; the project is at an early stage of development. Additionally, there are three projects targeting the hazardous waste from the industrial sites in Elbasan, Lac and Rubik.

Part VI – Investment needs

From the ASEP Study financed by WB it is estimated that for Albania

Sector	Current investments (M€)	Funding needed (M€)	Needed in priority hotspots (M€)
Wastewater management	141.5	166.5	134.
Solid waste management	46.5	190.2	82.2
Reduction of non-point sources of pollution	20	20	-
Environmental remediation	14	26	23
TOTAL	222	402.7	239.2

Part VII – Key contacts

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Country report
Algeria

Part I – General background

Algeria's population of over 36 million (2012) is concentrated mainly in the northern part of the country in the urban centers, mostly located on the coastline with length of 998 km. During the summer tourism period the population of these coastal centers considerably increases. Growth experienced by the country in recent years has certainly had a positive socio economic impact but it also had negative impacts on the ecosystem in general and water resources in particular because of the insufficient efforts to protect environment (Ref. 1). Indeed pollution may be the essential cause of the shortage of water in a semi arid country like Algeria, hence the need for more protection of water resources. The domestic solid waste is deposited in wild dump sites creating serious hygienic problems to the population. A series of sanitary landfills are planned for the coastal areas, as well as transfer stations. The production and storage of considerable quantities of industrial/special waste is another priority pollution problem. More than half of these industries are located in the coastal areas often an integral part of the urban texture- Algiers and Bejaia in the central region, Oran in the west and Annaba and Skikda in the eastern part. The industrial pollution (chemical, petrochemical, metal) makes up an important part of the overall pollution and its impact on the coastal areas and the Mediterranean (Ref. 2).

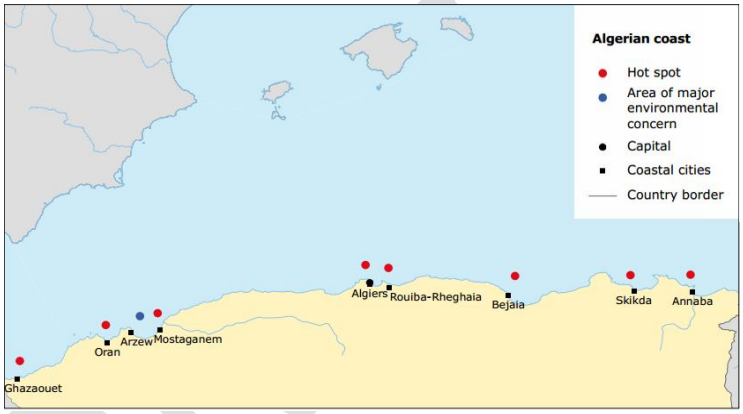
Algeria has made great efforts in legislation for the environment protection, supported by an institutional framework that developed during the 2000s. The wastewater treatment experienced a revival in recent years and attention from industry that have resulted in an improvement in the situation of environmental protection in general and protection of water resources in particular. The Municipal Solid Waste Management National Program (PROGDEM), launched in 2002, has already made possible the development of many SWM projects (municipalities' master schemes, landfills, sorting centers, etc.). Industrial and Special Waste Management National Program (PNAGDES) aiming at the control and disposal of special industrial waste and potentially infectious healthcare waste (Ref. 14).

Part II – National pollution hotspots

The pollution hot spots and sensitive areas of Algeria's Mediterranean coast elaborated in the NAP report and published by UNEP/MAP (Ref. 2, 7, 8, 9, 10, 11) are summarised in the following table:

Hot Spots /Sensitive Areas	Status	Rationale
Oran	Hot Spot with urban and industrial effluents	The hot spot is a coastal area where concentrated an important economic activity (painting, tanning and dressing, smelting, steel, plastic, agro-food, dyeing, textile). These releases are discharged directly or through network, in the sea
Rouiba-Réghaia	Hot Spot with urban and industrial effluents	The common Réghaïa is located on a vast plain of northern Mitidja. It has a small border around the north coast of vast beaches with great port. North of the town is a wet marsh area with a lake of 75 hectares. Lake Réghaïa is on the List of Wetlands of International Importance under the RAMSAR convention. A nature reserve surrounds the lake.
Ghazaouet	Hot Spot with urban and industrial effluents	The hot spot is a coastal area where concentrated an important economic activity (metal industry).
Algiers	Hot Spot with urban and industrial effluents	The hot spot is a coastal area where concentrated an important economic activity (fats industry).
Mostaganem	Hot Spot with urban and industrial effluents	The hot spot is a coastal area where concentrated an important economic activity (agro-food, paper, mercury electrolysis, tanning and dressing)
Béjaia	Hot Spot with urban and industrial effluents	The hot spot is a coastal area where concentrated an important economic activity (fats & textile industries)
Annaba	Hot Spot with urban and industrial effluents	The hot spot is a coastal area where concentrated an important economic activity (fats & fertilizers production industries, Steam Power plant)
Skikda	Hot Spot with urban and industrial effluents	The hot spot is a coastal area where concentrated an important economic activity (plastic industry, oil terminal & refinery, organic chemical industry, marble production)
Gulf of	Sensitive area with urban and industrial	Area of high biological value, containing important fisheries

Ghazaouet	effluents	resources (spawning grounds) & zone containing the socio-economic infrastructure with high tourism potential.
Gulf of Arzew Mostaganem	Sensitive area with urban and industrial effluents	Area of high biological value, containing important fisheries resources (spawning grounds) & zone containing the socio-economic infrastructure with high tourism potential.
Bay of Algiers	Sensitive area with urban and industrial effluents	Area of high biological value, containing important fisheries resources (spawning grounds),area of high ecological importance including national parks, wetlands for waterfowl & zone containing the socio-economic infrastructure with high tourism potential.
Bay of Annaba	Sensitive area with urban and industrial effluents	Area of high biological value, containing important fisheries resources (spawning grounds),area of high ecological importance including national parks, wetlands for waterfowl & zone containing the socio-economic infrastructure with high tourism potential.
Gulf of Skikda	Sensitive area with urban and industrial effluents	Area of high biological value, containing important fisheries resources (spawning grounds),area of high ecological importance including national parks, wetlands for waterfowl & zone containing the socio-economic infrastructure with high tourism potential.
Gulf of Béjaia	Sensitive area with urban and industrial effluents	Area of high biological value, containing important fisheries resources (spawning grounds) & zone containing the socio-economic infrastructure with high tourism potential.



Algerian coast with areas of major environmental concern and pollution hot spots (EEA,UNEP/MAP, 2006)

Part III - Sectoral Overview

III.1 - Wastewater

The Ministry for the Water Resources is the government's department in charge of the water resource in Algeria. It exerts its powers in cooperation with other sectors, in order to elaborate a permanent assessment (qualitative and quantitative), of the water resources. The Water Resources Ministry strives to the safeguard, the preservation and the rational use of the water resources. It also strives for the maintenance and the protection of rivers, lakes, the sebkhas and the chotts

The National Sanitation Office «ONA» ensures on the whole national territory the protection of water environment and the implementation of the national sanitation policy in cooperation with the local collectivities (Ref. 13).

The urban effluents are considered to be the most important cause of environmental degradation. The annual volume of wastewater is about 1,200 million cubic meters in 2010 and will reach more than 1,500 million cubic meters by 2020 (Ref. 1). Almost all existing wastewater treatment plants either do not operate or operate partially. As a result, a large amount of effluents are discharged without any treatment to the sea and dry river-beds (wadis).

To remedy this increase in pollution, sanitation policy has become very important. It relies particularly on the conservation of existing resources and recovery of treated wastewater to contribute to the preservation of public health and economic development.

In order to protect water resources and the environment in general, the water resources sector has launched a very ambitious program for wastewater treatment plants. Indeed, several stations are currently underway or being rehabilitated and others will be launched. While in 2000, the national park of sewage treatment plants had only 18 wastewater treatment plants (WWTP) in operation, it reached in 2011 to 123 sewage treatment plants (total capacity of sewage in

2010: 700 million m3/years) (Ref. 1).

96 sewage treatment plants are under construction and the program for 2010-2014 is projected the achievement of 40WWTP, which would make reach the treatment capacity by 2020 to 1.2 billion m3 (Ref. 1)

Program of reuse of treated wastewater is being implemented by the sector of water resources for irrigate 15770 ha in 2009 and 40000 ha between 2010-2014 (Ref. 1).

From 2010 to 2014, the sanitation sector has benefited of 10 million EUR of the government and a donation of 30 million EUR in the framework of European cooperation (Ref. 1).

III.2 – Solid waste

The Ministry of Land planning and the Environment (MATE) is responsible of the implementation of the Municipal Solid Waste Management National Program (PROGDEM). The National Waste Agency (AND) is the instrument of the MATE in terms of implementing the national waste policy.The Ministry of the Interior and Local Communities (MICL) is in charge of financial and logistical support to municipalities (Ref. 14). At the local level, the Municipalities have full responsibility for the management and control of municipal solid waste. The directorate of environment at each Wilaya (governorate) is involved in the control & regulatory implementation.

The National Conservatory for Environmental Training (CNFE) organises for the local authority staff training courses on the management of urban solid waste and sanitary landfills (CETs) (Ref. 2, 14).

The spatial distribution of the population and the high urbanisation rate (~65%) in Algeria has generated great pressure on the environment, particularly in the management of municipal solid waste. This has resulted in the appearance of thousands of uncontrolled landfills and dumps and created difficulties for local communities to take responsibility and ensure the cleanliness of towns (Ref. 14).

The quantity of municipal waste generated in Algeria is estimated at 8.5 million tons/year (household and similar waste). Each Algerian in urban areas generates about 0.7 kg of solid waste daily. In the capital (Algiers), this production is close to 0.9 kg/p/d (2010) (Ref. 14).

Landfill is the preferred final destination for the disposal of urban solid waste. The survey undertaken by the services of the MATE has revealed more than 3,000 uncontrolled dumps throughout the country, occupying an area of more than 150,000 hectares and most often situated in agricultural land or along wadis (dry rivers). The latter are in such a poor state of insalubrity that they constitute a permanent danger to the environment and public health (Ref. 14).

The annual generation of household waste will exceed 12 million tons by 2020, and approximate 17 million tons by 2030 (Ref. 14).

The Municipal Waste Management National Program (PROGDEM) was launched in 2002 whose total investment is estimated at EUR 190 million and aims to:

- *Reinvigorate the role of municipalities in waste management;*
- *Improve the waste management infrastructure (CETs, sorting centers, landfills, etc.);*
- *Stimulate private sector participation and job creation in the sector;*
- *Improve local tax collection, etc.*

The program has made it possible to:

- *Develop master schemes for more than 900 out of the existing 1541 municipalities;*
- *Launch the building of nearly 100 CETs and a similar number of controlled landfills;*
- *Build about ten sorting centers;*
- *Launch the rehabilitation of crude dumps (the Biskra dump has been completed, and the Oued Smar dump is in progress).*

By 2014, the 14 most important dumps across the country will be rehabilitated, while the number of Class 2 CETs will exceed 300 and will, therefore, handle more than 75% of household and similar waste (Ref. 14).

This sector should be funded in the next program (2010 - 2014) with at least an equivalent budget, which allows for presaging some interesting opportunities for developing partnerships particularly in engineering, technical assistance, and

equipment supply as well as CDM (Clean Development Mechanism) projects (Ref. 14).

III.3 – Industrial emissions

The Ministry of Land planning and the Environment (MATE) is responsible of the implementation Industrial and Special Waste Management National Program (PNAGDES).The National Observatory for Environment and Sustainable Development (ONEDD) is the instrument of the MATE in terms of addressing the various management issues resulting from the growing impact of human and industrial activities on the environment. The National Centre for Cleaner Production technologies (CNPTT) is another tool of the MATE in charge to provide all the industries information and to improve production processes and access to cleaner technologies (Ref. 13).

Industrial activity is a major contributor to the global pollution load that reaches the coastal marine environment. Since the '70s Algeria invested consistently in industry, resulting to the rapid development of the sector. Approximately 240 large public industrial plants are in operation (1994) in various sectors including petrochemicals, chemicals, metallurgy and mining. Most than half of the industrial plants of the country are located at the Mediterranean coastal zone and at the vicinity of big cities (Algiers, Bejaia, Oran, Annaba, Arzew and Skikda). Industrial units are often located within the city limits, affecting the urban environment. On the other hand they constitute an attraction pole for people, since they offer jobs, contributing thus to urban population growth (Ref. 2).

The greater part of generated industrial effluents (estimated 85%) is discharged into the sea and neighbouring wadis without proper treatment (Ref. 2).

Algeria has accumulated a significant delay in the management of industrial and hazardous waste (Ref. 14). Thus, it is confronted with the generation and storage of an important quantity of industrial waste, of which hazardous waste constitutes a serious threat to public health, to the quality of the environment and to the preservation of natural resources. The overall generation of industrial waste, including non-hazardous and inert industrial waste is 2,547,000 tons per year, with a stock quantity of 4,483,500 tons. The hazardous waste generated amounts to 325,100 tons per year. The quantities of waste in stock and awaiting a disposal solution amount to 2,008,500 tons (Ref. 14).

Concerning the medical waste, the National Waste Agency (AND) has evaluated the generation of potentially infectious waste from healthcare activities (DASRI) to be about 37,000 tons. The lack of service-providing operators in this domain further aggravates these problems (Ref. 14).

The wastewater treatment experienced a revival in recent years and attention from industry that have resulted in an improvement in the situation of environmental protection. Indeed the industry has launched 158 projects in recent years of new construction of infrastructure for sewage for a total of over 2 billion EUR (Ref. 1).

Concerning the special waste, The Industrial and Special Waste Management National Program (PNAGDES) is aimed at the control and disposal of special industrial waste and potentially infectious healthcare waste (DASRI). In the context of the economic recovery program, the government has allocated an important budget to implement the PROGDEM in all the wilayas of the country. Other funds have also been allocated to the big cities of Algiers, Oran, Constantine and Annaba, with contributions and participation from partner countries and donors (Ref. 14).

Part IV – Projects

IV.1 - Waste water

In Algeria, cooperation, international aid and international loans for wastewater & waste management are minimal in comparison to State investment. The few internationally-funded projects and programs have a primary bearing on national capacity building through provision of training and expertise.

Nr.	Location	Sector	Project Title	Link with Hot Spot	Status	Financing Secured (Yes / No)	Value (m EUR)	Donor / IFI Involvement
1	Ghazaouet	WW	Construction of WWTP	Ghazaouet	Ongoing	Yes	0.25	AfD
2	National	WW	Support Sanitation Program (EAU II)	All Hot Spots	Ongoing	Yes	40.0	EU, State
3	Valleys of Ouargla & Souf	WW	Sewage, drainage, disposal & reuse treated wastewater project		Ongoing	Yes	600.0	State
4	National	WW	Diagnosis and rehabilitation of sewerage systems for 12			Yes	60.0	State

Nr.	Location	Sector	Project Title	Link with Hot Spot	Status	Financing Secured (Yes / No)	Value (m EUR)	Donor / IFI Involvement
			cities					
5	National	WW	Rehabilitation of 11 WWTP			Yes	36.0	State
6	Mersa (Mostaganem)	WW	Construction of WWTP	Mostaganem	Ongoing	Yes	2.3	State
7	National	WW	Operating costs of sanitation systems	All Hot Spots	Ongoing	Yes	20.7	State
8	Communes of Ain Beida Harriche, Ferdjioua & Zeghaia	WW	Construction of WWTP		Ongoing	Yes	80.0	State
9	Mostaganem	WW	Construction of WWTP	Mostaganem	Under preparation			State
10	localities of Sidi Lakhdar, Khadra & Sidi Ali	WW	Construction of WWTP	Mostaganem	Under preparation			State
11	Relizane	WW	Construction of WWTP		Under preparation	Yes	14.7	State
12	Mazouna	WW	Construction of WWTP		Under preparation	Yes	6.95	State
13	National	WW	Rehabilitation of 11 STEP			Yes	36	State

IV.2 – Solid waste

Nr.	Location	Sector	Project Title	Link with Hot Spot	Status	Financing Secured (Yes / No)	Value (m EUR)	Donor / IFI Involvement
14	National	SW	Solid waste infrastructure projects (2001-2010)	All Hot Spots	Ongoing	Yes	500.0	State
15	Mascara	SW	engineered landfills management		Ongoing			Cooperation with Belgium
16	National	SW	Providing engineered landfills managing	All Hot Spots	Ongoing	Yes	0.3	State
17	National	SW	National Fund for Environment and Cleanup (FEDEP)	All Hot Spots	Ongoing	Yes	35.0	State

IV.3 – Industrial emissions

Nr.	Location	Sector	Project Title	Link with Hot Spot	Status	Financing Secured (Yes / No)	Value (m EUR)	Donor / IFI Involvement
18	National	IE	158 industrial sewage infrastructure projects		Ongoing	Yes	2000.0	State

For projects (Ref. 1, 3, 4, 5, 6, 15, 16)

Regarding the MAP/MedPol report of inventory of municipal wastewater treatment plants of coastal Mediterranean cities with more than 2,000 and 10,000, the following table shows the status of the WWTP implementation in Algeria in 2010 (Ref. 11).

Coastal regions	WWTP			
	Completed	Ongoing	Study launched	Project
Annaba	1	4		
El Taref	3			
Tizi Ouzou	8	1		

Coastal regions	WWTP			
	Completed	Ongoing	Study launched	Project
Tlemcen	3			
Chlef	1			
Tipaza	1			
Ain Temouchent	5			
Jijel	1	1	1	
Boumerdes	3			
Skikda		1		
Alger	3			3
Oran	1	1		1 (2012)
Mostaganem	2	1	2	
Total	**32**	**9**	**3**	**3**

Concerning the diffuse pollution, valued at 1,550 tons in 1992, obsolete pesticides stored on the Algerian territory, would about 2 360 tons in 2007, according to the Ministry of Planning and the environment that considers, in addition, 39% of these pesticides completely lack labeling and traceability information (Ref. 19). This issue is more than ever at the heart of the concerns of government knowing that the treatment and disposal of obsolete pesticides stored in Algeria at this date would cost 6.4 million EUR (Ref. 19).

Part V – Potential investment needs

The Algerian national action plan to reduce marine pollution due to land-based activities is an extension of sectoral action plan developed preliminary in April 2005 as part of the SAP. The major categories of pollution are supported by specific actions (PCB, Pop's, used oils, waste cyanide wastewater, solid waste). The approach is based partly on the specific actions for the major categories of pollution and other actions to be taken on the upstream (relocation of most polluting industry, redeployment of populations of the littoral zone, treatment and reuse of wastewater).

The programme of sewage in Algerian coastal areas between 2005 and 2013 provides for a total capacity of 85 million cubic meters of treated wastewater by 2020, for a total investment of 266.50 million EUR, (Ref. 17) is follows:

Project Title	Location		Value (m EUR)
Construction of WWTP	Oran	Oran	75
		Arzew	10
	Ain Temouchent	Ain Temouchent	10
		Béni Saf	7.5
	Mostaganem	Mostaganem	25
	Tlemcen	Ghazaouet	5
	Chlef	Ténés	5
	Béjaia	Akbou	6
		El Kseur	4
		Tazmelt	4
		Sidi Aich	2
	Tizi Ouzou	Bordj Ménael	7
		Azazga	4
	Tipaza	Tipaza	2
	Skikda	Skikda	30
		Collo	5
	Jijel	Jijel	20
	Annaba	Annaba	45
			266.5

Actions foreseen by 2025 (Ref. 17):

- *Clean 684,000 m3 / day of wastewater per year by 2025 and ensure bathing water quality. Continue the program of construction of wastewater treatment plants for the cities of coastal Wilayas.*
- *Arbitrate between the different uses of water by 2025 and significantly reduce withdrawals on groundwater resources: 185.5 million EUR.*
- *Recycle approximately 250 million cubic meters of wastewater a year by 2025.*
- *Rehabilitation of existing sewage systems in smaller cities.*

The programme of solid waste management in Algeria whose total investments made in the PROGDEM is estimated at EUR 190 million (2010) (Ref. 17).

Landfill completed	Landfill ongoing	Landfill in study phase
Skikda	Tlemcen	Oran
El Tarf	Mostaganem	Blida
Jijel		Tizi Ouzou
Chlef		Tipaza
Annaba		Boumerdes
		Ain Temouchent
		Béjaia
		Alger

By 2025 it's planned to continue implementation of the municipal solid waste management program PROGDEM (collection, creation and closure of dumps, recycling and valorisation)

Industrial de-pollution (2010)

Performance contracts of industries located in Algiers, Skikda, Annaba, Tlemcen and Mostaganem.

By 2025 it is planned to continue implementation of the industrial de-pollution programme (Ref. 17).

Industrial waste management (2010)

Scenarios	Common core	high variant	medium variant	low variant
Scenario 1	2 landfills (CET), 6 Collection & transfer Centers (CR), Azzaba containment, transport road / rail	Common core Alzinc valorisation, incineration 2 x 30000t, PCB export, cyanides export	Common core, CET, Alzinc transfer, incineration 1 x 60000t, PCB storage, cyanides storage	Common core, confinement, incineration 1 x 60000t, PCB storage, cyanides storage
Cost (m €)	25.1	147 .7	80. 2	47. 2
Scenario 2	2 landfills (CET), 6 Collection & transfer Centers (CR), Azzaba containment, transport road / rail	Common core, Alzinc valorisation, Incineration 1x15000t, co-incineration high scenario, PCB export, cyanides export	Common core, CET, Alzinc transfer, incineration 1x1500t, co-incineration low scenario, 50% oil regeneration, PCB storage, cyanides storage	Common core, confinement, pilot incineration, co-incineration low scenario, oil regeneration unit, Physical Chemistry unit, PCB storage, cyanides storage
Cost (m €)	25. 1	86. 4	76. 6	62 .6

Source: (Ref. 17)

By 2025 it's planned to continue implementation of the PNAGDES programme (Ref. 17).

Medical waste management (2010)

Scenarios	High variant	Medium variant	Low variant
	Replacing all incinerators by incinerators with flue gas treatment	Collective facilities incinerators	Replacing all incinerators by sterilisation facilities
Scenario 1: in situ treatment Cost (m €)	127. 5		28. 6
Scenario 2: Waste collective treatment Cost (m €)		38. 0	

Source: (Ref. 17)

By 2025 it is planned to continue the PNAGDES programme

Part VI – Assessment

Algeria has made considerable efforts to protect the environment, adopting a number of environmental protection initiatives and establishing a comprehensive legislation and institutional set up. The relatively new Ministry of the Land Use Planning and Environment (MATE), the key institution of environmental protection, needs support to improve its technical capacity in order to manage integrated environmental management systems and technologies.

The last years several environmental programmes have been established and are already in their implementation phase, such as the various Sectoral Programmes (National Water Supply and Sanitation Plan,

Urban Effluent Treatment Programme, the Programme for the management of Municipal Solid Wastes (PROGDEM), the National Plan for the management of special wastes (PNAGDES) and the Programmes for coastal planning PACMA, PACMO and PACMAN, the National Programme for Environmental Action and Sustainable Development (PNAEDD) (2001), the Programme for Economic Development (2001-2003) and the National Action Plan in the frame of Strategic Action Programme of the UNEP/MAP (2005). All these programmes address similar issues and have more or less similar priorities.

Concerning urban effluents, the strategy of the Algerian sector of water resources aims to wastewater treatment through the implementation of sewage treatment plants so as to purify all wastewater discharges throughout the national territory and reuse the treated wastewater for agricultural purposes. More financial support is necessary to complete the planned sanitation activities.

The Municipal Solid Waste Management National Program (PROGDEM): launched in 2002, has already made possible the development of many SWM projects (municipalities master schemes, landfills, sorting centers, etc.).

The industrial and Special Waste Management National Program (PNAGDES) contributed at the control and disposal of special industrial waste. Two Class I CETs are being built, the first in the Tebessa region (in the North-East), and the second in the Ghazeouat (Tlemcen) in the West. But for the medical waste, the incinerators available are too few to satisfy the demand. It is noteworthy that a good part of this waste ends up in landfills. The management of waste resulting from healthcare activities requires implementation of regulations and specific definition of responsibilities.

For industrial pollution a major tool for the protection of environment is the contract for environmental performance, which is signed between the industrial sector and the Ministry of Territorial Planning and the Environment. Under this contract, the industry voluntarily agrees to proceed to necessary measures to protect the environment. In this framework, the industries which meet emission environmental standards need an investment support.

Part VI – Key contacts	
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Key contacts (Environment, Planning, Municipality, Industry, water – to the maximum extent possible)	**Ministère de l'Aménagement du Territoire et de l'Environnement :** Observatoire National de l'environnement et du développement durable **(**ONEDD**)** Centre national des technologies de production plus propre **(**CNTPP**)** Commissariat National du Littoral **(**CNL**)** Agence National des déchets **(**AND**)** **Ministère des Ressources Hydriques :** Office National de l'Assainissement Office National de l'Irrigation et du Drainage Office des Périmètres Irrigués **Ministry of the Interior and Local authorities** **Ministry of Health** **M. Tolba Tahar** Deputy Director MATE

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Country report
Bosnia & Herzegovina

Part I – General background

The Mediterranean coast of Bosnia and Herzegovina (B&H) on the Mediterranean is 25 km long, hosting the town of Neum (population 4 300). However, there are inland pollution sources located in the Adriatic Sea discharge basin that significantly affect the quality of seawater. The main Bosnian rivers carrying pollutants to the sea are the Neretva (from the nearby towns of Konjic, Mostar, Caplinja, Ploce and Metcovic), Trebisnjica (from the towns of Bileca and Neum), Krka and Cetina. Bosnia and Herzegovina has a population of 3,843,126 people out of which about 500,000 live in the Adriatic Sea discharge basin. Urban effluents are discharged to the rivers or the sea without treatment and solid wastes are deposited on dumps without sanitary control. Industrial effluents are also not effectively treated, creating thus local problems in the receiving water bodies (Ref.1).

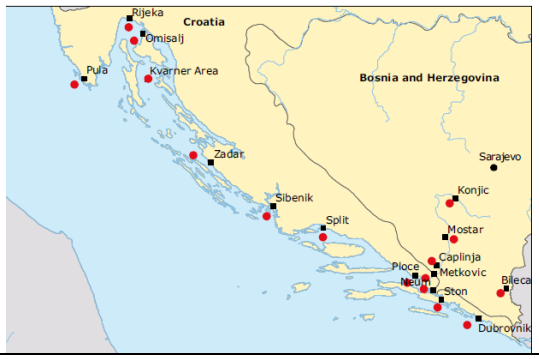
Since publication of the NAP in 2005, a growing number of projects has been identified, prepared and moved into implementation with support from various IFIs (EU, EIB, WB, GEF, etc.). During that period, the EU accession process has been driving most of the political agenda and project development processes in the environmental sector. Waste water treatment (including sewers and collectors) has been as such considered as the highest priority in B&H.

Part II – National pollution hotspots

The pollution hot spots defined for B&H in both TDA and NAP published by UNEP-MAP are the following (Ref. 2 & Ref.3):

Hot Spots	Type	Rationale (2005)
City of Konjic	Domestic, industrial and solid waste	Konjic is located in Neretva's upper river flow. Only the inner central part of the city has a constructed sewerage system of the separate type approximately 20 km long, while the rest of the city does not have collectors, transport and filtering of waste waters, resulting in direct pollution of the Neretva river.
City of Mostar (pop. 130 000)	Domestic and industrial waste	Urban and industrial wastewater is discharged into the River Neretva without any treatment and urban solid wastes are dumped without proper management. Barrels of obsolete chemicals are left on both riverbanks. During the war (1992–1995), bombing destroyed electric power transformers leading to oil leakage and contamination of soil and water with PCBs.
Alumina factory, Mostar	Industrial waste	See above
City of Bileca	Domestic and industrial waste	In Bileća municipality the situation is critical because the existing waste waters flow into the reservoir used for drinking water, thus causing frequent epidemics.
City of Neum (pop. 4 300)	Domestic waste	Neum is the only urban centre in Bosnia and Herzegovina that discharges its primarily treated urban wastewater directly into the Adriatic Sea. The town population doubles during summer months because of tourism

The following map developed by UNEP and EEA in 2006 provides the geographical location of each hotspot (red points) (Ref. 4)



The major source of pollution loads in the country is the River Neretva that discharges pollutants originating from agricultural run of and untreated municipal and industrial wastewater from the upriver sources in Bosnia and Herzegovina (ASEP, 2011). It is estimated that only about 3% of the population is covered by adequate wastewater treatment. Apart from the landfill Uborak near Mostar there are no municipal sanitary landfills in the Adriatic Sea discharge basin. The old coal-pit Vihovići located above Mostar presents a risk of heavy metal pollution of the River Neretva and it will have to be remediated in the perspective (Ref. 1).

The table below provides an overview of the status of largest municipal waste water pollution sources in the Adriatic sea discharge basin (Ref. 1)

Municipality	Wastewater treatment status
Mostar	Partially resolved
Konjic	Partially resolved
Široki Brijeg	WWTP under rehabilitation
Jablanica	Partially resolved
MeĈugorje	Unresolved
Posušje	Unresolved
Ĉapljina	Unresolved
Rama-Prozor	Unresolved

Part III - Sectoral Overview

III.1 - Wastewater

The Constitution of Bosnia and Herzegovina (B&H) is an integral part of the Dayton Peace agreement and has created specific State comprising of two Entities, the Federation of Bosnia and Herzegovina (FB&H) and the Republika Srpska (RS). The following institutional and legislative sections are restricted to the first Entity only, which encompasses most of the Adriatic Sea discharge basin.

Waste water management in FB&H falls under the overall mandate of the Federal Ministry of Agriculture, Water Management and Forestry, which is responsible for water strategy and policy, the issue of agreements and permits, setting of standards and regulations, and the maintaining of compliance with laws and regulations through licensing and inspections. This role is supported at the sub-national level by cantonal ministry for Agriculture, Water Management and Forestry (Ref. 5).

The responsibility of the construction and upgrading of wastewater treatment plants lies with the local authorities and municipal companies, with assistance from the newly established Adriatic Sea River Basin District Agency (based in Mostar).

It is estimated that only about 3% of the population is covered by adequate wastewater treatment in B&H, although this will rise to around 25% after Sarajevo and Mostar WWTPs are completed (Ref. 3). This shows that WWT needs are particularly high in the country.

The following table provides an overview of the existing WWTP in the Adriatic Sea Discharge Basin (Ref. 1).

WWTP	Capacity (PE)[1]	Treatment type	Operational
Ljubuški	5,000	Secondary	Yes
Neum	30,000	Primary	Yes
Ĉitluk	7,000	Secondary	Yes
Grude	2,500	Secondary	With difficulties
B. Grahovo	1,650	Primary	No
Široki Brijeg	5,000	Secondary	No

Important steps have been made recently through the EU pre-accession process and Western Balkan Infrastructure Framework to provide technical and financial assistance for the development of the sector. The EIB has signed a framework agreement with the Bosnian government to fund waste water treatment in 25 municipalities in Bosnia and 15 in RS. However, there have been delays in Bosnian municipalities signing up to this agreement: by 2011 only 6 had done so (Ref. 6). Mostar WWTP, one of the main environmental government priorities and priority hotspot project, is expected to be funded from the 2012 through facilities of the WBIF.

Bosnia developed in 2010 a Water Management Strategy that sets out national objectives and priority measures

[1] Information on population connected not available

for the main water-sub-sectors in the period 2010-2022. In addition, The National Water Supply and the Sewerage Services Sector Strategies have been adopted and the Water Supply and Sewerage Master Plan was developed. The country is now going through a major reshuffle of its water legal framework. The trend of changes in the existing system is based on the principles and in accordance with the requirements set out in the policies and laws of the European Union. The underlying instrument serving as the general paradigm based on the national system is developing is the Water Framework Directive (WFD), along with dozens of other EU regulations, including environmental directives that should be taken into consideration. However, lack of implementation and enforcement of the legislation remains a concern. Also, capacity to assess the quality of water or of waste water discharged by industrial plants remains limited. Development of river basin management plans, including at regional level, is still at an early stage (Ref. 7).

III.2 – Solid waste

The Federal Ministry of Physical Planning and Environment has the competence for regulating and overseeing the solid waste management sector.

Waste represents one of the most important problems of environmental protection in B&H and poses increasing threats on water quality. The NAP as identified a number of national priorities and actions for developing regional sanitary landfills and improving waste collection and treatment. However, municipalities are facing difficulties in managing the growing volume of waste. Collection of the municipal waste derived from households is not organised. Also, processing of the collected waste is not solved in appropriate way and the waste is not being separated into municipal, hazardous or inert one. There is still no procedure for management and control of the landfills in place and several uncontrolled dumpsites are still in use (Ref. 3).

Some progress was made on waste management in recent years, with adoption in 2011-2012 of the Law on Integrated Waste Management. Implementation of the law still needs to be carefully monitored to guarantee that waste is managed and imported legally. Adoption of the regional waste management plans is still pending. Medical and veterinary waste treatment is not properly managed (Ref. 7).

III.3 – Industrial emissions

The governance and control of industrial effluents fall between several ministries and agencies, including the Federal Ministry of Physical Planning and Environment and Federal Ministry of Agriculture, Water Management and Forestry.

Federal Inspection Office (established in 2007) and related water management inspectorates both at central and cantonal levels, also play in supervising the implementation of law enforcement related to water, water quality and use of water (Ref. 3).

According the H2020 WeB&THSiS Study (Ref 6.), industrial pollution control and clean up is hampered by low compliance levels, ownership disputes, privatisation carried out without clarity on clean up liability, and by slow economic growth. Furthermore, industrial pollution is falling between various Directives and enforcement agencies, and needs special attention to turn into bankable projects.

Cleaner production in B&H industries is introduced into national policy and strategy as a tool for accomplishing environmentally sustainable industrial development. Its application in industrial facilities in B&H is based, by adoption of set of environmental laws in B&H (FB&H and RS, in 2003), on EU directive for integral pollution prevention and control (IPPC). Directive is stipulated through provisions related to issuing environmental permit. It is reported however that Ministries of Environment of the Adriatic countries, including B&H, often put an unrealistic expectation on the permitting process of the IPPC and that more emphasis should be put on funding and financial incentives (Ref. 6).

Part IV – Projects

The following table summarises the list of de-pollution projects as described in the NAP and other documents reviewed (Ref. 3, 5, 6, 8). The second phase of the study will provide additional information and updates on these projects, and potential new ones, along with their operation impacts and, if available, contribution towards the SAP 2010 and 2025 de-pollution targets.

IV.1 - Waste water

Nr.	Location	Sector	Project Title	Linked Hot Spot	Status	Financing Secured (Yes / No)	Value (m EUR)	Donor / IFI Involvement
1	Neum	WW	Sewage network construction and WWTP for Klek-Neum	Neum	On-going			
2	Mostar	WW	Construction of main sewerage collectors and WWTP for Mostar (150,000 ES)	Mostar	Under preparation	N (funding gap: 4-5 m EUR)	31,00	WB, EIB, KFW
3	Citluk and Medjugorje	WW	Construction of separate collectors and separate WWTPs (2 X 6,000 ES)	Neum	Completed (?)	N/A		EC IPA
4	Konjic	WW	Construction of primary channels and secondary network and WWTP (10,000 ES)	Konjic	On-going			GEF/WB, IFIs
5	Nevesinje	WW	Construction of collectors and WWTP		Under preparation	N (funding gap: 12,5 m EUR)		
6	Bileca	WW	Sanitation of existing sewerage system, construction of collectors and WWTP	Bileca	On-going	Y	19,50	GEF
7	Caplijna	WW	Construction of main collectors and WWTP	Neretva delta (Croatia)	Under preparation	Y		
8	Livno	WW	Construction of collectors and WWTP (20,000 ES)	Split ?	On-going	Y	5,00	Y
9	Trebinje	WW	Increase of sewerage network and rehabilitation of existing WWTP		Under preparation	N		Possibly covered by EIB loan?
10	Ljubuski	WW	Upgrading of WWTP needed and increase of sewerage network to include new settlements (?)		Under preparation	N		GEF, IPA 2010 ?
11	Various	WW	Alternative biological waste water treatment for smaller communities and settlements		Under preparation	N (funding gap: 1,2 M€)		GEF ?
12	16 municipalities in FBH (2009)	WW	Water and sanitation Federation BH		On-going	N	121	50% EIB loan (secured) and 50% local contribution (not secured)

The RENA project also lists two more WWT projects in Grude and Ljubinje but it was not possible to assess whether these are existing projects or potential investment needs.

IV.2 – Solid waste

Nr.	Location	Sector	Project Title	Linked Hot Spot	Status	Financing Secured (Yes / No)	Value (m EUR)	Donor / IFI Involvement
13	Mostar	SW	Regional sanitary landfill	Mostar	On-going	Y	3,50	WB
14	Neum	SW	Sanitary landfill	Neum	Under preparation	N		

IV.3 – Industrial emissions

Nr.	Location	Sector	Project Title	Linked Hot Spot	Status	Financing Secured (Yes / No)	Value (m EUR)	Donor / IFI Involvement
15	Mostar	IE	Pretreatment/cleaner production of wastewater (BOD5) from industrial plants (textile, slaughterhouses, wineries)	Mostar				
16	Citluk and Medugorje	IE	Pretreatment/cleaner production of wastewater (BOD5) from industrial plants (textile, slaughterhouses, wineries, milk products)	Neretva delta (Croatia)				
17	Siroki Brijeg	IE	Pretreatment/cleaner production of wastewater (BOD5) from industrial plants (meat industries)	Neretva delata (Croatia)				
18	Livno	IE	Pretreatment/cleaner production of wastewater (BOD5) from industrial plants (textile)					
19	Glamok	IE	Pretreatment/cleaner production of wastewater (BOD5) from industrial plants (textile)					
20	Trebinje-tool industry	IE	Pretreatment/cleaner production of wastewater from industrial plants (metal industries - galvanisation)		Under preparation	N		GEF ?
21	Konjic UNIS GAL	IE	Pretreatment/cleaner production of wastewater from industrial plants (metal industries - galvanisation)	Neretva delta (Croatia)	Under preparation	N		GEF
22	Gacko	IE	System for transport and disposal of ashes and cinder - Creation of a landfill site		Completed	N/A		

Nr.	Location	Sector	Project Title	Linked Hot Spot	Status	Financing Secured (Yes / No)	Value (m EUR)	Donor / IFI Involvement
23	Gacko	IE	Treatment of wastewater		Under preparation	N		

Part V – Potential investment needs

It is estimated that only about 3% of the population is covered by adequate wastewater treatment in B&H, although this will rise to around 25% after Sarajevo and Mostar WWTPs are completed. This shows that WWT needs are particularly high in the country.

The NAP identifies a number of actions that will be needed to reach the SAP targets set for 2025:

Waste Water:

- *Second phase of WWTPs for Neum, Mostar, Livno, Citluk and Medugorje, Capljina, Jablanica, Konjic, Tomislav Grad,Siroki Brijeg, Rama-Prozor, Nevesinje, Bileca, Ljubuski, Stolac, Trebinje, Grude, Glamoc,Posusje, Gacko, Bergovici, Bos., Grahovo, Kupres, Jubinje and Kalinovik*

Solid wastes:

- *Sanitary landfills to be created for the agglomerations of Trebinje (25,000) and Livno (42,000).*

Industrial emissions

- *the efforts for the introduction of pre-treatment and cleaner production in all major industries will be continued during the period 2010 – 2025.*

If confirmed, these projects could lead to new investments for the coming decade.

The ASEP study (2011) provides also some estimates of de-pollution investments needs to reach the desirable environmental state in hotspot sites located in the Adriatic Sea discharge basin.

Sector	Current investments (M€)	Funding needed (M€)	Needed in priority hotspots (M€)
Wastewater Management (WWM)	12	50	30
Solid waste management (SWM)	30	15	10
Reduction of non-point source pollution** (RNSP)	15	7	4
Environmental remediation (ER)	3	30	30
TOTAL	**60**	**102**	**74**

*** Estimate for Neretva River nitrogen reduction measures*

Part V – Assessment

It has been found that recent de-pollution efforts in B&H have mainly focused on municipal waste waters. Although the NAP includes projects in the solid waste and industrial sectors, limited progress seems to have been made in these areas so far.

Moreover, it was noticed that prioritisation of bankable projects and integration of the NAP into government were still low in B&H. Reasons for this may include the complex divisions of power and responsibility of the countries (two Entities plus one autonomous territory), the relative lack of involvement in political decision making at entity level, and the overall weakness of the public administration at Federal level, thinking (Ref. 6)).

The NAP was confident in achieving the SAP targets for 2010 through the set of projects identified. However, a significant part of the listed projects, especially in the SW and IE sectors, seem to have encountered delays in implementation. This may have resulted in reduced level of achievement of the SAP targets in B&H.

In terms of potential investments needed to reach the SAP targets in 2025, the NAP and other documents reviewed indicate that important funding gaps remain for the construction and/or upgrading of sewage systems and WWTPs, especially in medium and small municipalities. Financing needs may also prove important in the near future for designing and implementing projects such as sludge treatment and disposal, industrial WWTPs

and pre-treatment facilities or sanitary landfills. The exact nature and scope of these additional needs will be clarified and validated during the second phase through further contacts with focal points and government officials.

Part VI – Key contacts	
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Country report
Croatia

Part I – General background

Croatia has a population of 4,290,612 people out of which about 1.5 million live in the Adriatic Sea discharge basin. About 9 million tourists visit the Croatian coast each year. The larger coastal towns are Split (population 207 000), Rijeka (population 206 000), Zadar (population 137 000), Pula (population 85 000), Sibenik (population 85 000) and Dubrovnik (population 71 400) (Ref 1.).

Since Croatia became an EU Candidate country in 2004, EU accession process has been driving most of the political agenda and project development processes in the environmental sector.

As a result, some improvements can be seen in the development of the wastewater treatment sector on the coast, mostly through help of international donors (WB, EBRD, KfW, EIB) and European Commission (Instrument for Pre-accession Assistance).

At the moment, the main identified pollution source at the Croatian coast is solid waste. Solid waste management is not environmentally sound (partial collection and disposal in unorganised dumping sites), with almost no sanitary landfill on the coast and many dumping sites. Industrial effluents are also mostly discharged untreated into the sea and watercourses, but industrial activity has been seriously reduced in the last decade. Overall, the country needs investments on effluents and solid waste management, as well as construction of treatment infrastructure (Ref. 2).

Croatia has made great efforts in developing its legislative and institutional frameworks for the water and environmental protection with a view to align with the EU legislation. In 2011, leaders from the EU and Croatia closed the EU membership negotiations and signed the accession treaty. Subject to its ratification by all EU countries and Croatia, then the country is expected to become the 28th EU member country on 1 July 2013. The country's main environmental priority remains to implement heavy investment EU legislation, with costs estimated at a preliminary 3.5bn€ for the waste and water sectors (Ref. 2). This has had and will continue to have a clear impact on the NAP.

Part II – National pollution hotspots

The list of pollution hot spots and sensitive areas identified for Croatia by both UNEP/MAP TDA and NAP is the following (Ref 4, 5):

Hot Spots/Sensitive areas	Type	Rationale (2006)
Kastela Bay (HS)	Domestic and industrial waste	Eutrophication and accumulation of organic matter, metals and organohalogen compounds in the sediment due to the discharge of untreated urban and industrial wastewater. Biodiversity changes due to exotic species;
Rijeka (HS)	Domestic and industrial waste	Untreated urban and industrial effluents
Dubrovnik (HS)	Domestic waste	
Split (HS)	Industrial and domestic waste	
Sibenik (HS)	Domestic and industrial waste	
Pula (HS)	Domestic and industrial waste	
Zadar (HS)	Industrial and domestic waste	
Oil Refineries, Mlaka and Urinj (HS)	Industrial waste	The Adriatic Pipeline System is located in the area (JANAF, Plc JAdranski NAFtovod Joint Stock Company), and an international oil transport system from the oil terminal to refineries in eastern and central Europe. The design capacity of the pipeline is 34 million tonnes of oil per year and the current installed capacity is 20 million tonnes per year. Although no major pollution has occurred so far, there is concern about future crude oil leakages.
Neretva River (HS)	Domestic and industrial waste	The pollution sources contributing to the pollution at this site originate from Croatia and Bosnia and Herzegovina. The Neretva River is a recipient of the untreated municipal wastewaters

		from the Bosnian and Herzegovinian settlements upstream (such as Mostar, Čitluk, Široki Brijeg). The non-sanitary landfills in the area Dubravica (Metković), Lovornik (Ploče), and other smaller ones gather approximately 20,000 t of waste per year.
Ston (HS)	Domestic and industrial waste	Untreated urban and industrial effluents
Krka estuary (SA)	Domestic, industrial	
Malostonski Bay (SA)	Domestic, industrial	
Limski channel (SA)	Industrial	

Below is the location map of the above hotspot pollution sites (red points) (Ref. 4).

The WB ASEP study considered that in 2011 (Ref. 3), there were mostly two priority pollution hotspot sites for Croatia: 1) Ploče and the Neretva River Delta and 2) Rijeka Ploče and the Delta of the Neretva River are an important trans-boundary site receiving pollution that originates from Croatia and Bosnia and Herzegovina. The river Neretva discharges nutrients originating from agricultural run-off and untreated municipal wastewater from the upriver sources in Bosnia and Herzegovina. Rijeka with the population of 250,000 is the biggest Croatian port and at the same time the wider area is a significant tourist destination. These confronting activities make a proper spatial planning and coastal zone management especially important to allow for the sustainable development of the area. The unresolved problems of the municipal and hazardous waste disposal presents a great risk of groundwater and sea contamination that could possibly affect the local population and more than 1 million annual tourists (Ref. 3).

According to the H2020 WEBhsIP (Ref. 2), the NAP projects are still priorities and reflect hot spots. Also UNDP industrial hot spots are often discussed in parallel with the Barcelona Convention hot spots. Some confusion seems to remain however on the various definitions of hotspots, which requires further clarification.

Part III - Sectoral Overview

III.1 - Wastewater

In the Water sector the Ministry of Regional Development, Forestry and Water Management (Directorate for Water Management and Directorate for Water Policy and International Projects) shares water sector responsibilities with the Croatian Waters which is a public institution in charge of operative water management activities.

Croatian Waters is the implementing agency for WWT strategy and implementation Plan and is divided into four river basin districts. At the local level, waste water systems are managed by public utility (municipal) companies. These companies are responsible for the construction and operation of WWT facilities.

In 2008, there were 101 operational urban wastewater treatment plants with installed capacity of 3.48 million PE, treating 27% of wastewater from total population, i.e. 62 % of collected domestic wastewater. 15% of urban wastewater is treated at secondary treatment plants, 9% at pretreatment plants, 3% at primary treatment plants and 0.4% at tertiary treatment plants.

The connection rate of the population to public sewerage systems in agglomerations of more than 150,000 PE is the highest and amounts to 74 % (approximately 30% of total population lives in such agglomerations), and the lowest in so-called small agglomerations of 2,000 PE, amounting to approx. 7 % (there are 469 small agglomerations with approx. 13 % of total population) (Ref. 6).

Croatia had a major project developing waste water treatment in the Islands (funded through the WB), while they intended to meet deadlines for complying with the Urban Waste Water Directives for their major cities.

In October 2012, a financing agreement was signed between the Government of Croatia and local utility companies to prepare, with funding support from the IPA, 16 new projects for improved water supplies and waste water treatment to be funded and implemented through the EU Cohesion and Structral Funds. This operation will be implemented in16 agglomerations: Donja Dubrava, Mursko Središće, Ivanić Grad, Ivanec, Jastrebarsko, Novska, Savudrija, Umag, Novigrad Istarski, Pula Sjever, Šibenik, Bibinje-Sukošan, Pirovac-Tisno-Jezera, Sinj, Split-Solin i Jelsa-Vrboska (Ref. 2).

The Croatian plan to implement the EU acquis is still short on financing specifics. In 2011, it still needed to find funding for 294 towns under the EU Urban Wastewater directive (UWWD). This means that waste water discharges are the Ministry's priority for implementing the Barcelona Convention. An implementation Plan for municipal utilities has been prepared separately. However, for waste water treatment, the need for 100 m/year € (World Bank estimate) cannot be realistically met in view of current absorption capacity. Indeed Croatia is currently struggling to absorb the average 30 m/year € planned investments in this sector (Ref. 2).

There has been significant progress in the field of water management and quality. The process of harmonisation of the Croatian water management policy with EU acquis has led to the adoption of the Water Management Strategy 2009-2038, the new Water Acts and Water Management Funding Act , as well as several by-laws. The Waters Act entered into force on 1 January 2010, and the majority of by-laws (a total of 35) were adopted by 2012, by which the requirements on harmonisation with EU legislation were considered as completed.

Croatia also adopted a plan of measures for sudden and unforeseen cases of water pollution. One River Basin Management study has been completed. A draft national River Basin Management Plan is currently undergoing public consultation. It was planned to be adopted in November 2011 (Ref. 7)

III.2 – Solid waste

The Ministry for Environmental and Nature Protection is responsible for the Air and Waste sector, with the ECOFUND as implementation agency). The ECOFUND has its own funds (from environmental taxes/fees) concentrating on waste management, rehabilitation of old landfills and co-financing on energy efficiency.

In Croatia, the main identified pollution source at is solid waste and waste management is currently one of the largest challenges in the environmental sector and certainly one of the most demanding areas in terms of adjustment to the standards of the European Union (EU). There are almost no sanitary landfills at the coast and there are still numerous dumping sites. Due to the karstic nature of terrain, leachates from waste dumping sites are quickly released in the sea increasing health risks of local population and tourists.

Although there is growing awareness of the need to avoid and reduce arising waste, the quantities of municipal waste (household waste and similar waste from manufacturing and services) continue to grow and in 2008 amounted to 1,788,311 tonnes or annually 403 kg per capita (1.1 kg per day). Coverage of population and municipalities/towns by organised municipal waste collection increased from 86% in 2004 to 93% in 2008, which fulfilled the quantitative target for 2015 set by the Waste Management Strategy of the Republic of Croatia.

Out of a total of 1,788,311 tonnes of municipal waste in 2008, 86% was mixed municipal waste (1,541,053 tonnes). Most of the municipal and a portion of process waste is landfilled (Ref.6).

The amount of separately collected types of municipal waste is continually growing and in 2008 it accounted for 14% (247,252 tonnes). However, only part of this quantity ends up being recovered while the rest is landfilled (Ref.6).

The issues that the country needs to address are: i) increase in solid waste, ii) limited recycling programs, iii) unreliable data concerning flows and quantities and iv) lack of organised disposal sites and management issues.

Implementation of activities aimed at remediation of existing landfills and the construction of new waste management centers are ongoing (see table in Part IV). Sustained efforts are still needed for the management of hazardous waste

Croatia has adopted all the necessary strategic/planning documents and also, by now, all the by-laws that needed to be adopted pursuant to the Waste Act. This completed harmonisation with EU regulations in the field of waste management. A National Waste Management Strategy was adopted in 2005 and is being implemented through a National Waste Management Implementation Plan set out in 2007. As far as implementation is

concerned, significant progress was made in the introduction of economic measures – a series of charges were introduced such as the fee for burdening the environment with waste which includes the fee for municipal waste and/or non-hazardous process (industrial) waste and the fee for hazardous waste. Currently municipal waste management in Croatia is undergoing a radical transformation from decentralised disposal of non-treated waste on numerous local sub-standard landfills within counties to centralised waste management and Waste Management Centres (WMC) serving needs of one county or, in some cases, of several counties. The WMC concept has been adopted by the Croatian Government in its National Waste Management Plan. The country is expecting that in 2025 almost the entire population will be included in the organised collection of a municipal waste system, recycled and treated waste will grow significantly, and a important reduction of disposed municipal and biodegradable waste will be achieved (Ref. 7). This objective is compatible with the UNEP/MAP targets.

III.3 – Industrial emissions

According to the Croatian Waste Act, the state is responsible for hazardous waste management and for incineration of waste, while regional self-government units (counties and the City of Zagreb) are responsible for the management of all other types of waste.

The Ministry of Environmental and Nature Protection is the state body in charge of hazardous waste and industrial pollution management, together with the Ministry of Water and Croatian Waters for the latter.

In the Croatian coastal area, industrial facilities are generally located in the vicinity of larger agglomerations or in areas gravitating to the largest cities: Pula, Rijeka, Zadar, Šibenik, Split and Dubrovnik. Wastewater from the industrial facilities is generally discharged into the sewerage systems, but some of them have their own nearshore outfalls.

With respect to hazardous waste, about 213,000 tons of special waste is generated in Croatia per year. Currently, the Waste Cadastre is not yet able to ensure complete and integral data regarding the quantities, types and flows of the generated waste.

There are currently neither regulated sites for hazardous waste landfilling, nor adequate hazardous waste management facility for the hazardous waste collection. Therefore, hazardous waste requiring landfilling (waste which cannot be recycled, recovered, etc.) is exported. In 2005, a total of 13,157 tons of hazardous waste was exported. Lead accumulators and nickel/cadmium batteries represented over 68 percent of exported hazardous waste (Ref. 5).

There has been perceptible improvement in the emission of industrial pollution, helped by some enforcement of IPPC and also by the fact that industrial activity has been seriously reduced in the last decade as a result of economic restructuring and closing down of a number of polluting industries. However, important investments are still required from the industrial sector in the short to mid-term perspective to fully comply with the IPPC directive. Sustained efforts are still needed for the management of hazardous waste. (Ref. 2, 8)

The sector is regulated through a comprehensive set of environmental laws and, including :

- EU directive for integral pollution prevention and control (IPPC)

- Environmental Protection Act (OG 110/07)

- Waste Act (OG 111/06, 60/08)

- More than 30 implementing regulations about management of special waste categories and emission controls (effluent discharge limits, permitting, etc.) adopted between 2005 and 2011 (Ref. 8).

Part IV – Projects

The following table summarises a preliminary list of de-pollution projects as they were described in the NAP and other relevant documents (Ref 2, 5, 7, 9). It also includes information for all NAP projects on main implementation barriers and additional needs as identified by the H2020 WeB&THSiS Study conducted in 2011 (Ref. 2). The second phase of the study will provide additional information and updates on the projects below, and potential new ones, along with their operation impacts and, if available, contribution towards the UNEP/MAP 2025 de-pollution targets.

IV.1 - Waste water

Nr.	Location	Sector	Project Title	Capacity	Population connected[2]	Linked hotspot	Status	Financing Secured (Yes / No)	Value (m EUR)	NAP (Yes/ No)	Donor / IFI Involvement	Main barriers to implementation (H2020, 2011)	Potential assistance and investment needs (H2020, 2011)
1	Split	WW	Collection and treatment of waste water	579,000 PE		Split	On-going (2011)	Y (partial)	164,30	Y	EC, EBRD, WB	The significant amounts required for the implementation of the project are most significant barrier. The WWWTP in Split agglomeration requires upgrading but there is insufficient space for further development. If cannot be expanded, possible solution is transfer of waste water to other/new WWTP. (feasibility study WB).Connection to houses	Upgrading required for either solution: request for additional financial means. Immediate funding GAP: tertiary network. Connection to houses and meters (local goverment to cover). Transfer of ww to new WWTP and additional upgrading needed for new Salin WWTP. Additional funding requirements to be clarified (Plan on financing of heavy investments) Ministry of Water/Croatian waters
2	Rijeka	WW	Collection and treatment of waste water	540,000 PE		Rijeka	Under preparation (2011)	Y (partial)	186,90	Y	EC, EBRD, WB	The significant amounts required for the implementation of the project are most significant barrier.	In accordance with the said barrier, at this stage it seems that the most significant task is to ensure additional financial means. Funding GAP : EBRD and WB interested in results of feasibility study and options for implementation

[2] Information not available at this stage of the review

Nr.	Location	Sector	Project Title	Capacity	Population connected[3]	Linked hotspot	Status	Financing Secured (Yes / No)	Value (m EUR)	NAP (Yes/ No)	Donor / IFI Involvement	Main barriers to implementation (H2020, 2011)	Potential assistance and investment needs (H2020, 2011)
3	Pula	WW	Collection and treatment of waste water	140,000 PE		Pula	On-going (2011)	Y (partial)	45,20	Y	EC, WB, EBRD	Significant amounts are required for designing, construction and maintenance of the sewerage system and wastewater treatment plant. Political changes at municipality level, insufficient public participation. Cultural heritage of port to take into complex account technical solution (pumping stations). Commitment from municipality necessary as well as agreement on refreshing design for appropriate solution.	In accordance with the said barrier, at this stage it seems that the most significant task is to ensure agreement on technical solution and additional financial means Estimate funding gap: ?
4	Zadar	WW	Collection and treatment of waste water	160,000 PE		Zadar	On-going (2011)	Y	68,30	Y	WB		See project related to Adria fish processing. No funding gap, small extension of network to be taken care of community.
5	Sibenik	WW	Collection and treatment of waste water	120,000 PE		Sibenik	On-going (2011)	N	42,00	Y	EC	The significant amounts required for the implementation of the project are most significant barrier. WWTP is relatively new but needs upgrade and extension of existing WWTP to secondary treatment at 50 000 p/e (feasibility?). Expensive as complex coastline, national parks and islands biodiversity.	In accordance with the said barrier, at this stage it seems that the most significant task is to ensure additional financial means. Need of feasibility study (2012) on extension and upgrade to secondary treatment. Funding GAP to meet full cost of project?

[3] Information not available at this stage of the review

Nr.	Location	Sector	Project Title	Capacity	Population connected[4]	Linked hotspot	Status	Financing Secured (Yes / No)	Value (m EUR)	NAP (Yes/ No)	Donor / IFI Involvement	Main barriers to implementation (H2020, 2011)	Potential assistance and investment needs (H2020, 2011)
6	Dubrovenik	WW	Collection and treatment of waste water	125,000 PE		Dubrovenik	Under preparation (2011)	Y (partial)	31,10	Y	WB	The significant amounts required for the implementation of the project are most significant barrier. Upgrading needed to secondary treatment. Relocation as option as difficulties of open works within city. Applications and construction permits.	In accordance with the said barrier, at this stage it seems that the most significant task is to ensure additional financial means. Feasibility study needed 2012, upgrading or re-location of WWTP. Not enough funds in Croatian waters for feasibility study now.
7	Ston (Neum)	WW	Collection and treatment of waste water			Ston	On-going			N			

IV.2 – Solid waste

Nr.	Location	Sector	Project Title	Capacity	Linked hotspot	Status	Financing Secured (Yes / No)	Value (m EUR)	NAP (Yes/ No)	Donor / IFI Involvement	Main barriers to implementation (H2020, 2011)	Potential assistance and investment needs (H2020, 2011)
8	County of Primorje and Gorski Kotar (Rijeka)	SW	Regional Waste Management Centre Marišćina (Rijeka)	306,000 people	Rijeka	On-going	Y (partially, funding gap: 8 MEUR)	53,00	Y	EC, EIB		MWC construction and related activities –see current status: 55,7 million Euros IPA component 3, county waste management, center, ongoing EIB and grant
9	Primorje-Gorski Kotar County	SW	Remediation and closing down of the Sovjak pit	200,000 people		Completed ?	Y (partially, funding gap: 2,4 MEUR)	25,00	Y			

[4] Information not available at this stage of the review

Nr.	Location	Sector	Project Title	Capacity	Linked hotspot	Status	Financing Secured	Value	NAP	Donor / IFI Involvement	Main barriers to implementation (H2020, 2011)	Potential assistance and investment needs (H2020, 2011)
							(Yes / No)	(m EUR)	(Yes/ No)			
10	Split ?	SW	Remediation of the asbestos polluted "Mravinacka kava" site	80,000 people	Split ?	Under preparation (June 2009)	Y (partial)	2,50	N			
11	County of Dubrovnik-Neretva	SW	Waste Management Centre	123,000 people	Dubrovenik	Under preparation (June 2009)	Y	24,80	N			
12	County of Split –Dalmatia	SW	Regional Waste Management Centre	464,000 people	Split	Under preparation (June 2009)	Y (partial)	55,70	Y		Adoption and implementation of the plans for regional waste management centers as part of the Waste management strategy.	MWC construction : 41,78 million Euros IPA(2007) preparation of study Funding gap: (25 mio Euro) - closure of current landfill, remediation and urban development, studies ongoing (landfill location is in the middle of expanding Split).
13	Centre for County of Zadar	SW	Regional Waste Management Center	160,000 people	Zadar	Under preparation (June 2009)	N	64,00	N	EBRD, WBIF		
14	County of Istria	SW	Regional Waste Management Center	200,000 people	Pula ?	Under preparation (June 2009)	N	57,83	N	EC, EBRD		
15	Kaštelanski zaljev	SW	Remediation of Kaštelanski zaljev - hazardous waste disposal site		Kastella Bay	Under preparation (June 2009)	N	10,00	N	EC		

Nr.	Location	Sector	Project Title	Capacity	Linked hotspot	Status	Financing Secured	Value	NAP	Donor / IFI Involvement	Main barriers to implementation (H2020, 2011)	Potential assistance and investment needs (H2020, 2011)
							(Yes / No)	(m EUR)	(Yes/ No)			
16	Karlovačka County	SW	Development of Regional Waste Management Centre		?	Under preparation (June 2009)	N	16,00	N	EC		

IV.3 – Industrial emissions

Nr.	Location	Sector	Project Title	Capacity	Linked hotspot	Status	Financing Secured	Value	NAP	Donor / IFI Involvement	Main barriers to implementation (H2020, 2011)	Potential assistance and investment needs (H2020, 2011)
							(Yes / No)	(m EUR)	(Yes/ No)			
17	Rovinj	IE	Industrial WWTP for MIRNA fish processing	11,000 PE	Pula ?	On-going (2011)	Y	2.6	Y		The company's account has been blocked for the last five years; due to the difficult economic and financial situation, the very survival of the company is questionable, and therefore the implementation of these measures is also questionable.	In accordance with the said barrier, the most significant task is to ensure additional financial means for implementation of the said measures. IPPC unit in Ministry: To check if this project is in the compliance plan for IPPC and if requires assistance/extension after 2012 deadline.
18	Zadar	IE	Industrial WWTP for ADRIA fish processing	25,000 PE	Zadar	On-going (2011)	Y	6.2	Y			The most significant task is to ensure additional financial means for implementation of the said measures. IPPC unit in Ministry: To check if this project is in the compliance plan for IPPC and if requires assistance/extension after 2012 deadline.
19	Split	IE	Industrial WWTP for JADRANSKA PIVOVARA Brewery	18,000 PE	Split	Cancelled (brewery closed)	N/A	4.4	Y			No needs
20	National	IE	Implementation of Stockholm Convention, monitoring, BAT,						Y			

			BEP									
21	National	IE	Lead-free gasoline, Cleaner Production, BAT, BEP for industry						Y			
22	National	IE	Creating new collecting points, recycling, setting up separate waste oil collecting system						Y			
23	National	IE	Collecting and recycling, ban of Hg Cd batteries, setting up used batteries (ncluding car batteries) management system						Y			
24	National	IE	Removal and demolition of PCB-containing equipment, ban of import of PCBs, legislation improvement						Y			

Part V – Potential investment needs

In the NAP no specific actions are planned for 2025, but it is expected that specific actions will be scheduled for urban sewage collection and treatment, as well as solid waste management, for all-important urban centers at the coastal zone of Croatia. Also, industrial wastewater will be effectively controlled with the enforcement of EU-harmonised national legislation (cleaner production, wastewater treatment, effluent discharge limits, etc.).

Nevertheless, some preliminary estimates for the investment needed in the WW sector are available for Croatia (Ref. 2):

- *Total capital investment needed to fully comply with the UWWT Directive (91/271/EEC, 98/15/EC) estimated at approximately 2.75 billion EUR,*
- *Total capital investment needed to fully comply with the Drinking Water Directive (98/83/EC) estimated at approximately 2.75 billion EUR -*

Similarly, for waste water treatment, the World Bank estimates that the country will need around 100 m/year € to achieve the desirable environmental status (Ref. 2).

The WB ASEP study provides more precise figures on the additional investment needed to reduce the coastal hotspots linked to the Mediterranean Sea (Ref. 3).

Sector	Current investments (M€)	Funding needed (M€)	Needed in priority hotspots (M€)
Wastewater Management (WWM)	124	31	5
Solid waste management (SWM)	225	168	34
Reduction of non-point source pollution** (RNSP)	15	11	11
Environmental remediation (ER)	25	16	8
TOTAL	**389**	**226**	**58**

*** Estimate for Neretva River nitrogen reduction measures*

Part VI – Assessment

The NAP had made quite optimistic assessment regarding the prospect of achievement of the SAP targets by 2010. Significant progress towards this aim can be noticed, with a majority of NAP projects being under feasibility assessment or implementation, especially within the WW sector that benefitted the most from the EC and IFIs funding support. However, there remain some important barriers hampering the achievement of NAP priorities and making unlikely that all important environmental projects for the Croatian coastal area are by now fully achieved.

Amongst these barriers feature the important need for investments in all 3 sectors on the one hand and the low absorptive capacity of the country on the other hand.

In terms of potential investments needed to reach the SAP targets in 2025, the NAP and other documents reviewed indicate that important funding gaps remain to fully conform to the EU water-related directives, which will notably imply to complete the construction and upgrading of sewage systems and WWTPs, especially in medium and small municipalities. Financing needs will prove also important in the future for designing and implementing projects such as sludge treatment and disposal, industrial WWTPs and pre-treatment facilities or sanitary landfills. How much of this gap could be bridged through the EU structural funds (consecutive to Croatia's EU accession) and new national financing instruments for water is still to be assessed.

It was also found that there are still important capacity gaps in terms of project identification, prioritisation, preparation and implementation, including disbursement of funds.

Part VII – Key contacts

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Key contacts (Environment, Planning, Municipality,Industry, water – to the maximum extent possible)	

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Country report
Cyprus

Part I – General background

Cyprus formally joined the European Union as a full member on 1 May 2004. EU accession and harmonisation with the acquis communautaire led to significant changes in the business and general economic environment and particularly to the protection of environment. Today the main impacts to the environment are mainly due to urbanisation-challenges identified include those associated with urban dispersal as opposed to agricultural restructuring and nature protection, especially in the countryside, where new development continually encroaches on prime agricultural land and areas rich in natural resources. The last years pressures on land development for holiday homes further complicates the situation where there is already a high demand for the acquisition of holiday homes by overseas owners.

In addition, changes in land use are the greatest threat to the ecosystem, flora and fauna. Urbanisation is considered a main driving force (demographic and economic) and exerts pressure on the natural environment and human health/well-being, at country level. Over the last two decades the rural area of the island has been substantially abandoned, with serious effects on the ecosystems. Agriculture habitats of the traditional landscape are being lost, along with many of their plant and insect species.

Throughout its long history Cyprus has always been confronted with the problem of water shortage. Cyprus has no rivers with perennial flow, while rainfall is highly variable and droughts occur frequently. Up until 1970 groundwater was the main source of water both for drinking and irrigation purposes. As a result, almost all aquifers were seriously depleted because of over-pumping and seawater intrusion was observed in most of the coastal aquifers.

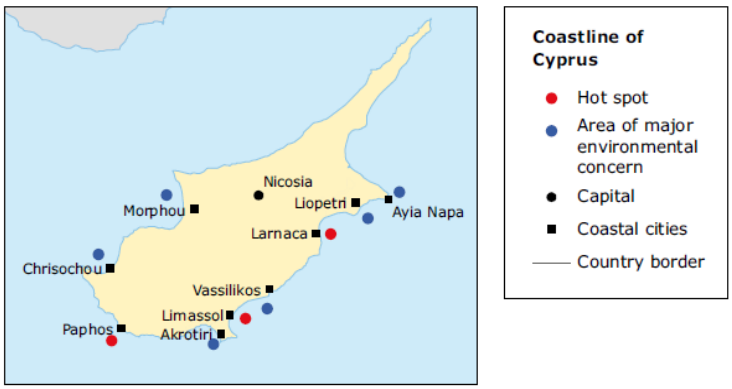
The water problem and its exacerbation over the years were recognised early enough by the relevant state authorities who designed a long-term programme to combat the problem effectively. After independence, attention was turned to the systematic study and construction of water development works, both for storage and replenishing purposes. Despite the remarkable work performed in the sector of water development, due to the increasing demand of water, the declining rainfall, the climatic changes and the greenhouse phenomenon, the available quantities of water for water supply and irrigation are not adequate. In order to face the situation, desalination units were constructed to eliminate dependency of the major residential and tourist centres on rainfall. The government water policy is not limited to desalination but also focuses on the exploitation of other non-conventional sources of water, such as recycled water for irrigation of agricultural cultivation and for the replenishment of the underground aquifers.

The Ministry of Agriculture, Natural Resources & Environment(MANRE) – Dept. of Environment is a contact point and implements most of the provisions of the UN Conventions on the environment and is also involved in the implementation of the Mediterranean Action Plan, (MAP).

Part II – National pollution hotspots

Although the island is divided into 6 administrative regions, due its small geographical size and the relatively small scale of the pollution problems, the whole island is considered as a single region for the preparation of the NAP (2005). The hotspots listed in the SAP-NAP of 2005 are:

Hot Spot	Status	Rationale
EKTO	E	Winery distillery at Limassol bay
SODAP	D	Winery distillery at Limassol bay
LOEL	E	Winery distillery at Limassol bay
KEO	D	Winery distillery at Limassol bay
KEO		Brewery at Limassol bay
Desalination plant	E	Dekeleia (Larnaca bay)



EEA Report No 4/2006

The following sections of this report will present the list of projects listed in the SAP-NAP with their status. At a later stage, the project list will include other projects executed in the previous years with potential investment projects to meet the targets of 2025.

Part III - Sectoral Overview *(Max. 1 page)*

III.1 - Wastewater

The Ministry of Agriculture, Natural Resources & Environment (MANRE) – Dept. of Water Resources Development is responsible for implementing the water policy for the rational development and management of water resources in Cyprus. The Department has also the responsibility for the management operation and maintenance of facilities producing and transferring water where these belong to state. Also it coordinates the work for the management and operation of governmental irrigation works and apply the water policy in cooperation with the District offices of the Department.

The Sector of Pollution Control of the Environment Dept. of MANRE is responsible for the protection, control and prevention of pollution of water and soil from the operation of industrial and farming activities as well as any other human activity that may or tends to pollute the waters and the ground. The Sector has also the overall responsibility for the implementation of the Law on the Quality Management of Bathing Water (Law 57 (I) / 2008). In collaboration with the Ministry of Health the quality of bathing waters are monitored on a monthly basis.

According to the sectoral action plans, there are only four wineries (LOEL, EKTO, SODAP and KEO) and a brewery (KEO) which discharge their effluents into the sea. All these installations are located along the Limassol coast. Furthermore, the treated waters from the Cyprus Petroleum Refinery are also discharged into the sea, after they are mixed with cooling water. The construction of a wastewater treatment plant for the KEO brewery/winery has been finalised and this facility will substantially decrease the solid and nutrient loads discharged at an estimated 50% of current levels. All the installations are already connected or soon to be connected to the Limassol central sewerage system for the treatment of their domestic effluents, a fact that will contribute to the further decrease of the amount of nutrients discharged into the sea. The petroleum refinery, located at the coast of Larnaca, has already seized its operation as a refinery in May 2004 and is currently functioning as a terminal until its final closure in 2010. A study that has been prepared to assess the environmental impacts of the conversion of the refinery to a terminal station proposed the installation of a second effluent treatment facility that will decrease the effluent BOD to less that 30 ppm.

Cyprus, being an EU-MS is progressing towards full implementation of the Water Framework Directive and is committed to the efficient implementation of its principles and provisions. Within this context, ecological quality assessment started in 2005 for the implementation of the WFD. Since 2007, phytoplankton in reservoirs and macro-invertebrates in rivers are routinely assessed. In rivers, monitoring of phytobenthos of macrophytes is going on in parallel with the development of suitable assessment methods.

The main legislative instrument, under which matters of pollution control of water and soil are regulated, is the Law No. 106 (I) / 2002. This law, together with its amendments (No. 160 (I) / 2005, 76 (I) / 2006, 22 (I) / 2007, 11 (I) / 2008, 53 (I) / 2008, 68 (I) / 2009, 78 (I) / 2009) is referred to as "the Control of Water Pollution Acts 2002 to 2009." For certain categories of installations with significant 'polluting' potential activities are additionally implemented «the Integrated Prevention and Pollution Control Laws of 2003 - 2008" (Law 56 (I) / 2003, Law 15

(I) / 2006 and Law 12 (I) / 2008). These laws aim to prevent emissions to air and discharges to water and land take the necessary measures, in particular the application of Best Available Techniques (BAT) to achieve a high level of environmental protection To better protect the water protected areas / water bodies are defined (eg sources and drinking water wells, water bathing areas, water protection areas or aquatic ecosystems of rare species). Vulnerable zones and sensitive areas are also defined for Nitrate due to urban wastewater, based on the levels of nitrogen and / or phosphorus in water bodies (eutrophication). In these areas, more stringent measures are taken.

III.2 – Solid waste

According to Law 185 (I) / 2011 on waste, the Competent Authority for the implementation of the law is defined as follows: Competent Authority for the implementation of the Law is the Minister of Agriculture, Natural Resources and Environment, except in cases where the designated responsible authority is the Minister of Interior. The Minister of Interior is designated as the competent authority for the implementation of this law only for wastes falling into any of the categories specified in the first column of the Annex VI, and the operation for their management and more specifically: household waste, textile or clothe waste, residues from cleaning streets, waste from gardens, parks or cemeteries, inert waste from demolitions and constructions. For the following waste streams as Competent Authority is appointed jointly the Minister of Agriculture, Natural Resources and Environment and the Minister Interior: wood, glass, plastic, copper, bronze, brass (including their alloys), aluminum (including alloys), lead (including alloys), zinc (including alloys), iron and steel (including their alloys), mixed Metals, bulky waste and municipal waste not otherwise specified.

According to the Municipal Law, the municipalities have the full responsibility for implementing the solid waste management systems and thus collecting and disposing the waste. They, however, still have to get government approval for any important and financial decisions they make.

Five major landfills, with a yearly load that corresponds to 80% of the total solid waste load, serve the main regions of the country (i.e. Lefkosia, Lemesos, Larnaka, Paphos, and Paralimni). In addition there are a significant number of other dumpsites spread over the country.

Cyprus is a country with very high consumption rates and as a result of it has one of the most fast rising production rates of waste. The environmental, health and socioeconomic impacts of the uncontrolled disposal of waste is also huge especially considering the fact that Cyprus is a very small island. It is considered very important to reduce the production rates of waste and treat alternatively waste (reuse, recycling, and energy recovery) with final target the minimisation of waste ending to landfills.

In the 11 years from 1996 to 2007 total solid municipal waste amount increased from 421.340 tons to 586.750 tons (+ 39.2 %). The rate of growth is very high but because of the higher increase of separate collection, residuals growth rate is significantly lower (31.7%). Recent data show that residual growth rate is reduce much more due to an extra increase of separate collection (mainly packaging and WEEE) plus an important fragment going for energy recovery.

The main problem Cyprus still has to face is to reduce the production rate of waste. In 2007 is has been calculated that in Cyprus 747 kg/cap/y of waste are produced, one of the highest production rates in the world. For the same period there are is no information about the composition of waste.

The fact that Cyprus is a very small country and an island does not make treatment financially feasible for several hazardous waste streams. Although, there are facilities for the integrated treatment of used oils, clinical waste, part of pharmaceutical and laboratory waste and partly treatment of WEEE, ELVs, Car Batteries. Most of the hazardous collected are sent to OECD countries for treatment.

The total quantities of hazardous waste produced in Cyprus is about 83 000 tons/year. The main industrial sectors importing such substances are the metallurgical industry, home cleaning products, tannery waste and dyeing industry. Privately owned companies are planning to invest in hazardous waste management produced in Cyprus and as such it is expected that the situation in the management of hazardous waste will be improved.

Therefore, the main drivers for waste generation are socioeconomic drivers. The growth rate of solid municipal waste arising in the period 1996 to 2007 is compared more to real GDP growth (51.7%) and less to the population growth (18.5%). Solid municipal waste generation increases much faster than the population. Again is proved that the main problem (pressure) to face is to reduce the generation rate (prevention) which is mainly related to the way of life and not to the population growth.

Other significant pressures at national level, is the fact that the responsibility for different waste streams lies within two different Ministries and also the difficulties and the time consuming efforts to enforce producer responsibility for various waste streams.

The Waste Management Strategy and the Framework of Waste Technical Specifications has been published since 2004. The basic law governing the operation of plants for solid and hazardous waste in Cyprus is the Law 185 (I) / 2011. Law 17 (I) / 2006 is an amendment of the Basic Law 215 (I) / 2002 regarding the Solid and Hazardous Waste and the court setting offenses. The Presidential Decree 158/2003 on Solid and Hazardous Waste (Register Waste) was adopted to comply for the compliance with (a) 75/442/EC on waste which is replaced by the 1013/2006/EK, (b) 91/156/EEC amending Directive 75/442/EEC on waste, and (c) 91/689/EC on hazardous waste. The Presidential Decree 159/2003 on Solid and Hazardous Waste (Identification Forms of Hazardous Waste) was introduced to comply with (a) Directive 91/689/EC for hazardous waste and (b) Resolution 94/774 of the Committee on the standard consignment note referred to in Regulation (EEC) No. 259/93 of the Council on the Monitoring and Control of shipments of waste within, into and out. The Directive 1999/31/EC was transposed into Cypriot law as being the Solid and Hazardous Waste (landfills) Regulations (PD 562/2003). Other key relevant legislation is the PD 535/2004 on the Control of Water Pollution (Disposal of Incineration Waste) Regulations, Law 32 (I) / 2002 on Packaging and Packaging Waste and Law 48 (I) / 2006 amending the Packaging and Packaging Waste Law.

III.3 – Industrial emissions

The Pollution Control Sector of the Environment Dept. of MANRE is responsible for the protection, control and prevention of pollution of water and soil from the operation of industrial and farming activities as well as any other human activity that may or tends to pollute the waters and the ground.

As Competent Authority is appointed jointly the Minister of Agriculture, Natural Resources and Environment and the Minister Interior for the following waste streams: wood, glass, plastic, copper, bronze, brass (including their alloys), aluminium (including alloys), lead (including alloys), zinc (including alloys), iron and steel (including their alloys), mixed Metals, bulky waste and municipal waste not otherwise specified.

The Department of Labour Inspection (DLI) of the Ministry of Labour & Social Insurance (1), as the responsible Authority for Monitoring, Assessment and Management of Air Quality in Cyprus, operates a network of nine monitoring stations, all over Cyprus. The stations are fully equipped with automatic analysers for the measurement of Ozone, Nitric Oxide, Nitrogen Dioxide, Nitrogen Oxides, Sulphur Dioxide, Carbon Monoxide, BTEX, Particulate Matter, and meteorological parameters. The network has been expanded with four more stations in 2010.

The country's industrial sector is small and therefore industrial pollution is limited. In Cyprus the main contributor to air pollution is the energy sector (78.2% of total emissions) and especially the transport sector, which accounts for 46% of energy consumption. Other sectors such as agriculture, industry and waste contribute only 8.3%, 7.4% and 6% respectively and are not considered to be significant contributors to the pollution of Cyprus air.

The main pressure related to industrial activities takes the form of industrial wastewater, which may contain several priority and other substances. An analysis of pressures related to agricultural activities, either in the form of cultivation of land or livestock breeding, shows that the main pressures are in the form of pollution due to nutrients (nitrogen and phosphorus), oxygen demanding compounds, salinity and pesticides. Due to the distribution of cultivated land, increased loads of nitrogen and phosphorous are encountered in the eastern part of Cyprus while the central and western parts are characterised by significantly lower nutrient loads.

Important potential point source pollutions are from solid wastes and from mines. With respect to mining, there is one active mine and several abandoned mines in Cyprus, which primarily affect surface water, but may contribute to contamination of groundwater too.

For the reduction of air pollution in Cyprus, several measures have been established taking into consideration mainly the provisions of Directive 1996/61/EC in relation to emission limit values and the use of Best Available Techniques that can be applied in Cyprus. Furthermore, the provisions of other relevant Directives for emissions control (2001/80/EC, 1999/13/EC, 1994/63/EC, etc), were also taken into consideration.

Regarding emissions inventories, according to the provisions of the NEC Directive and the LRTAP Convention, Cyprus submits each year the national emission inventory to the European Commission, through a web tool, and

to the CLRTAP secretariat/EMEP Protocol.

As far as reduction of emissions of persistent organic pollutants, an Action Plan was prepared in 2007 and submitted to the Stockholm Convention secretariat.

Part IV – Projects

The following table summarises the list of hotspots outlined in the NAPs showing its cost and status with regards to financing. The second phase of the study will provide updates on these projects with its operation impacts and its involvement towards the de-pollution targets:

IV.1 - Waste water

Nr.	Country	Location	Sector	Project Title	Financing Secured (Yes / No)	Value (m EUR)	Donor / IFI Involvement
1	Cyprus	Astromeritis	ww	Sewerage System of the Astromeritis-Peristerona-Akaki Complex	Yes	21,3 (networks & WWTP, construction and operation)	EC/Cohesion Fund
2	Cyprus	Athienou	ww	Sewerage System of the Municipality of Athienou	Yes	13,20 (networks & WWTP, construction and operation)	EC/Cohesion Fund
3	Cyprus	Skouriotissa, Lefkosia	ww	Sewerage System of the Solea Complex	Yes	22,0 (networks & WWTP, construction and operation)	EC/Cohesion Fund
4	Cyprus	Kokkinochoria	ww	Sewerage System of the Kokkinochoria Complex	Yes	95,00 (networks & WWTP, construction and operation)	EC/Cohesion Fund (65%)
5	Cyprus	Acheleia, Paphos	ww	Extension (Phase 2) of Paphos Wastewater Treatment Plant	Constructed and in operation since 2011		
6	Cyprus	Larnaca	ww	Extension (Phase 2) of Larnaca Wastewater Treatment Plant			
7	Cyprus	Ammochostos (Famagusta)	ww	Upgrade of Agia Napa-Paralimni (Famagusta) Wastewater Treatment Plant	Constructed and in operation since 2008		
8	Cyprus	Moni, Lemessos	ww	Extension of Lemessos Wastewater Treatment Plant	Constructed and in operation since 2008	29,00 (Extension of the WWTP)	

IV.2 – Solid waste

Nr.	Country	Location	Sector	Project Title	Financing Secured (Yes / No)	Value (m EUR)	Donor / IFI Involvement
1	Cyprus	Kosi (Larnaca)	sw	Integrated Municipal Wastes Management Facilities for the	Yes	35,00 (Construction) 99,00 (Operation for 10 years)	EC/Cohesion Fund (66%)

				regions of Larnaca & Ammohostos (Famagusta)			
2	Cyprus	Lemessos	sw	Integrated Municipal Wastes Management Facilities for the regions of Lemesos	Yes		EC/Cohesion Fund

IV.3 – Industrial emissions

Nr.	Country	Location	Sector	Project Title	Financing Secured (Yes / No)	Value (m EUR)	Donor / IFI Involvement
1	Cyprus	Larnaca	IE	Complete Closure of Oil Refinery in Larnaca			
2	Cyprus	Cyprus	IE	Hazardous Waste Treatment Plant in Cyprus			

Part V – Assessment

Cyprus being an EUMS its legal framework is well developed and its harmonisation with the EU aquis has contributed to its significant improvement of its environmental situation as all aspects of pollution sources (urban solid/liquid waste, industrial waste, air pollution, hazardous waste etc.) are covered. This framework provides the basis on which the required necessary infrastructure (e.g. wastewater treatment plants, sanitary landfills, sewerage systems etc.), emission limit values, are set and regulated.

The strive to meet the obligations derived by the EU legislation and which practically meet most, if not all, of the key issues raised by the SAP, satisfies in a great extend the targets and obligations set by the SAP.

Part VI – Key contacts

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UfM Focal Points	???
Key contacts (Environment, Planning, Municipality, Industry, water	H2020 focal point: Dr. Charalambos HAJIPAKKOS Tel: +357-22408927 Fax: +357-22774945 Email: chajipakkos@environment.moa.gov.cy

Country Report
EGYPT

Part I – General background

The country report will address the three main environmental concerns in Egypt as they relate to the three main polluting media i.e. air pollution, solid waste, and liquid waste. As far as air pollution is concerned, Egypt has the highest level of particulate pollution (PP) in the world. Cairo, actually ranks as the highest amongst the ten most polluted cities in the world (World Bank, 2012).

Increased economic activities in the different sectors, accompanied by increased population growth, increased fossil fuel consumption encouraged by government subsidy policies have further aggravated the problem. The amount of greenhouse gas emissions is a function of the population size, level of economic and industrial activity. One of the critical problems facing Egypt is the potential impact of climate change on the country, particularly the Delta and coastal areas. Moreover, the expected increase in temperature is likely to have negative impacts on the biota of the Mediterranean region including Egypt. Measures therefore need to be introduced to reduce CO_2 emissions due to its serious consequences on the economy, health and the environment. Due to the potential significant impact this would have on the ecosystem, economic activities and the livelihood of the population, response measures need to be introduced to address GHG emissions. Domestic waste in Egypt is mainly sewage, solid waste, and litter. Industrial is mainly chemical and petrochemical substances, cement, textiles. Agriculture is mainly pesticides, and organic loads. Another source of pollution is the one resulting from construction related activities, landfills, dredging, coastal development, and tourism (SWEEP-Net 2012).

The coastal zone of Egypt along the Mediterranean Sea has experience extensive construction activity represented in the development of tourist resorts extending from Alexandria up to Sallum. One of the significant developments has been the construction of the New Damietta port city. Though the city was initially constructed around the new port, it has subsequently become an urban extension of the cities of Damietta and Ras El Bar. Another coastal resort area is west of El Arish in North Sinai.

Construction activities along the Mediterranean coast have resulted in the removal of the Pleistocene calcareous ridges, which exists along the coast. Ridges, the habitat for natural vegetation and endogenous plants have been removed to allow for construction activities. Moreover, extensive construction activities have resulted in the depletion of limestone ridges in the area.

One of the serious problems facing the Egypt is coastal erosion, which has been aggravated by the reduced sedimentation by the river Nile since the construction of the Aswan High Dam. Climate change and the potential increase in temperatures is expected to have negative implications on sea level rise and on coastal areas. It is expected that with sea level rise a large area of the Delta would be submerged under seawater. This will result in the displacement of large communities from the affected areas to other locations mainly along the coast, thus resulting in increased pressure on marine and coastal ecosystems.

Municipal solid waste including that generated from industry, urban areas, and agriculture continue to be a major problem in the country. It is estimated that Egypt generates around 24 million tons of agricultural waste annually, and about 20 million tons of municipal waste annually (EEAA, 2012). Most of the waste generated is either burnt or disposed of in waterways.

The government entity responsible for environmental aspects in Egypt is the Egyptian Environmental Affairs Agency (EEAA). Two National Environmental Action Plans have bee prepared for Egypt in 1992 and 2002. The latter cover the period between 32002-3017. A National Integrated Coastal Zone Management (ICZM) Plan is also coordinated by EEAA. Subsequently a National Committee for ICZM was issued in 1994 and amended in 1996 and 2002 (Nap, 2005).

Part II – National pollution hotspots

Pollution hotspots are defined as point sources on the coast of the Mediterranean Sea that affects human health, ecosystems, biodiversity, and sustainability of the locality and region. They are considered to be environmentally sensitive areas prone to deterioration or degradation resulting from damaging human and economic activities. Sources of pollution include: COD, BOD, heavy metals, nutrients (nitrogen, phosphorus), persistent organic pollutants, radioactive substances, oil (petroleum hydrocarbons), suspended solids, microorganisms, and solid

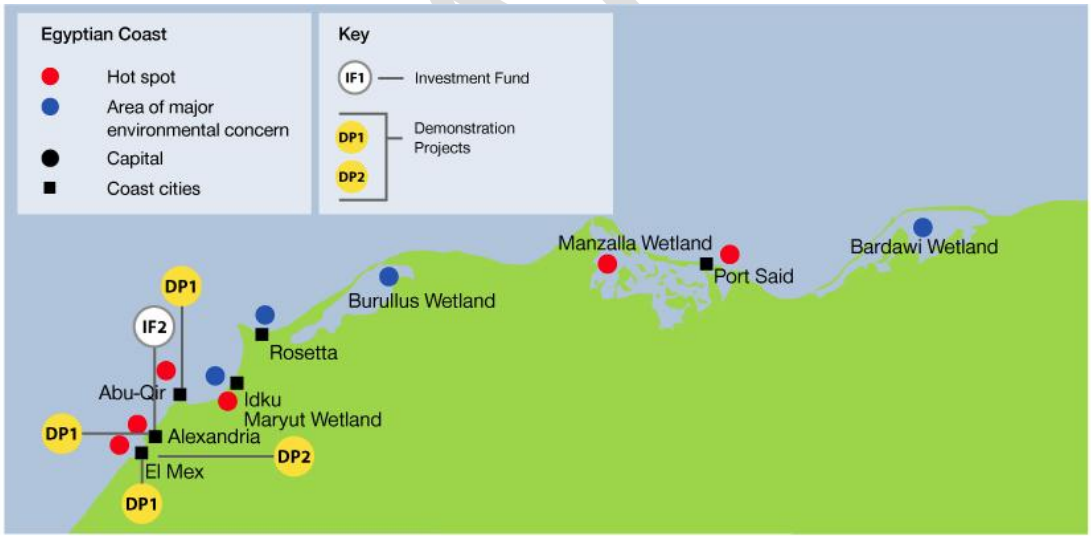
waste. The selection of hotspots is determined on the basis of level and content of the pollution the area is being exposed to. Assessment of the seriousness of exposure of the identified areas to pollution is based on the extent of impact this would have on health of the population, negative impacts on food security, damage to coastal area, marine and coastal ecosystem and associated social and economic impacts (UNEP MAP 2002).

Egypt has eight governorates on the Mediterranean coast. These are: Marsa Matruh, Alexandria, Behaira, Kafr El-Sheikh, Damietta, Daqahliya, Port Said, and North Sinai. The cities of Alexandria (about 4 million) and Port Said (about .5 million) are the most populated governorates along the Mediterranean coast. The Egyptian coastal areas suffer from high pollution loads resulting from high population levels and increased economic activities mainly agricultural and industrial. Pollution is mainly channelled through waterways the Mahmudiya and Nubariya drainage and irrigation canals (El Tabia and El Ummum), and the Rosetta branch of the River Nile that discharge their water into the sea. Other sources f pollution are the lakes: Burullus, Edku, Manzala, and Maryut. It is estimated that these sources discharge about 8 billion m^3y^{-1}into the Mediterranean. It should be emphasised that most of these lakes suffer greatly from pollution resulting from the discharge of domestic sewage, agricultural and industrial waste. Moreover, large areas of the Nile Delta suffer from coastal erosion. As these coastal cities are a host to main ports for the country, vessels represent a major source of pollution for the coastal area. This is generally in the form of discharges from vessels, oil, plastics and other litter (NAP, 2005).

Hotspots and sensitive areas in Egypt may be identified with three main zones. The central zone is the area between Alexandria to the west and Port Said to the east. This area includes lakes and wetlands and extends along the administrative boundaries of six governorates. The second area to the east of the central zone extends from Port Said to Rafah North Sinai governorate. The third zone covers the area from Alexandria to Sallum, Mersa Matruh governorate.

Figure 1 below shows the main hotspots identified in the three zones, while table 1 shows a summary of main economic activities in the coastal governorates. Moreover, Table 2 the pollution hotspot in the Mediterranean of Egypt ranked according to priorities and table 3 shows the ranking of contaminants by Governorate.

Figure1: Main hotspots in Egypt



Source : MedPartnership, Activities in Egypt (2009 to 2013)

Table 1 : Summary of the main economic activities in the coastal governorates

Governorate	Agriculture	Fisheries	Industry/ Energy	Tourism	Ports/ Construction
Matruh	3	2	3	1	1
Alexandria	2	2	1	1	1
Behira	1	1	1	3	3
Kafr El Sheikh	1	1	3	3	3
Damietta	2	1	2	3	1
Dakahleya	1	1	3	2	2
Port Said	3	2	2	2	2
North Sinai	3	2	3	2	2

High:1 Moderate:2 Low:3 *Source: NAP, 2005*

Table 2: Pollution Hotspot in the Mediterranean of Egypt ranked according to priorities

Location	Type	Health	Drinking water quality	Aquatic	Recreation	Other uses	Welfare/ economy
Alexandria	Dom	2	1	2	2	1	2
El Mex	Dom./Ind	2	1	3	2	2	4
Abu Qir	Ind	2	1	3	2	2	4
Port Said	Dom.	1	1	2	1	1	1
Lake Manzala	Dom/ Ind	2	1	2	2	2	5

High: 1 Moderate: 2 Low: 3 *Source: NAP, 2005*

Table 3: Ranking of contaminants by Governorate

Governorate	Liquid waste	Solid waste	Air pollution	H. Metals/Org pollutants	Nutrients & Eutrophication
Matruh	3	2	3	3	3
Alexandria	1	1	1	1	1
Beheira	1	2	1	1	1
Kafr El Sheikh	2	1	2	2	2
Damietta	2	2	2	2	1
Dakahleya	2	2	1	1	1
Port said	2	2	2	2	2
North Sinai	3	3	3	3	3

High: 1 Moderate: 2 Low: 3 *Source: NAP, 2005*

Marine eutrophication is created by inland activities and affects estuaries, harbours, lagoons, and coastal areas close to river discharge points. Most countries do generally experience eutrophication problems. It can safely be stated at least for now that the Mediterranean Sea as a whole does not face a serious eutrophication problem. However, given the rate of population growth and level of economic activity in the region, particularly in southern countries of the Mediterranean, eutrophication is becoming an increasing concern. Three main areas along the Egyptian Mediterranean coast show high levels of eutrophication. These are Alexandria, Abu Qir, and the area from new Damietta to Port Said. The three areas suffer from the discharge of domestic waste, agriculture drainage wastewater through the River Nile and coastal lakes. Table 4 below shows the destruction and physical changes by extent and level of damage due to the discharge of untreated sewage and wastewater.

Table 4: Ranking of extent of destruction and physical alterations in the Egyptian coastal governorates

Governorate	Construction/ Alterations	Wetlands alterations	Marine waters & Coastal watershed alterations	Biological threats
Matruh	1	3	2	3
Alexandria	2	3	1	1
Beheira	3	2	1	1
Kafr El Sheikh	3	2	2	2
Damietta	2	3	1	1
Dakahleya	2	1	1	1
Port said	2	3	2	2
North Sinai	1	3	3	3

High: 1 Moderate: 2 Low: 3 *Source: NAP, 2005*

Part III - Sectoral Overview *(Max. 1 page)*

III.1 – Wastewater

Within the EEAA, the Environmental Information and Monitoring Programme (EIMP) is responsible for the implementation a water quality monitoring programme for the Egyptian coastal water. The programme includes monitoring of water quality parameters and levels of contaminants in sediments along the Mediterranean

coastline of Egypt.

Based on data provided by the Coastal Water Monitoring Programme of the EEAA in 2001, high levels of nutrients were reported in water disposed in the Mediterranean. Only 6 out of 12 coastal cities have wastewater treatment facilities. While the treatment plant in Alexandria provides primary treatment and the remaining provide secondary treatment. Two additional treatment facilities in Rashid and Baltim are under construction. Information on the quantity of treated and untreated discharged seawater into the sea will be secured through further research (NAP, 2005).

Government policies include the increasing the capacity and number of wastewater treatment facilities in order to reduce the quantity of untreated wastewater discharged in the sea.

III.2 – Solid waste

Responsibility for handling solid waste in Egypt lies within the EEAA, State Ministry of the Environment (SME). A decision has recently been take to create a new agency within the SME to be entrusted with the responsibility of handling solid waste in the country. The role of this entity will mainly be monitoring and assessment and support to solid waste management activities. Activities are intended to be centralised at the Governorates, with an increasing role for the private sector.

It is estimated that Egypt as a whole generates about 18 million tons of municipal waste and 30 million tons of agricultural waste annually. Solid waste represents a substantial environmental, social and economic problem in the country.

Recently the Egyptian Government represented by the State Ministry of the Environment has initiated a process for the development of a National Solid Waste Management Programme (NSWMP). Under the programme an Egyptian Solid Waste Affairs Agency (ESWA) will be created with the main responsibility of supervising and monitoring solid waste management activities in the country. The following are the main components of the programme:

- *The creation of a modern institutional setup for the sector, including SWM units in the Governorates.*
- *Development of a legal, economic, and policy framework for the sector.*
- *Identification of investment and capacity building requirements with particular focus on four Governorates: Qena, Kafr El Sheikh, Assuit, and Gharbeya.*

Financial support amounting to Euros 51 million is provided to support this programme as follows:

- *European Union: Euros 20 million in the form of a grant to be singed in 2013*
- *German Cooperation:*
  - *KFW: 12 million (30 years payback period, 10 years grace period) and Euros 3 million Grant for supporting measures.*
  - *GIZ: Euros 3,75 million Grant*
- *Egyptian contribution: Euros 13,1 million (LE 120 million)*

III.3 – Industrial emissions

The responsibility for monitoring and assessing industrial pollution, including the development and institution of necessary legislation to reduce emissions is the responsibility of EEAA.

Industry represents one major source of pollution for the Egyptian Mediterranean coastal areas. Pollution sources include main urban and industrial cities, Nubariya and Mahmudiya canals, Rosetta branch of the River Nile, drainage canals scuhs as El-UMMUM, and El Tabia, or from coastal lagoons and lakes such as Idku, Maryut, and Mnazala. Vessels represent another major source of pollution for the Egyptian Mediterranean coastal area.

A number of lakes and wetlands in the northern Delta have been drained to allow for cultivation and industrial development. Lake Maryut for example has been reduced to 25% of its original size, while lake Manzala is now 1200 km^2 in 1980 as compared to its original area of 1710 km^2.

The most polluted area in Egypt along the Mediterranean is in the industrial area surrounding Alexandria and as a result of increased traffic along the coast. Though the impact of air pollution at current levels does not represent a serious problem for the marine and coastal environment, if continue to remain unchecked is likely to

have an impact in the near future.

One of the main projects of EEAA is the Egyptian Pollution Abatement Project (EPAP), which includes undertaking an inventory of industrial emissions at the Governorate level. This will provide an assessment of current emission levels by industry and the potential impact on health and the ecosystem, including the coastal and marine ecosystem (NAP, 2005).

Part IV – Projects

IV.1 – Wastewater

Nr.	Location	Sector	Project Title	Linked to hotspot	Status	Financing secured	Value	Donor/ IFI Involvement
1	Marsa Matrouh	WW	Integrated Water and Wastewater Project		Under preparation	No	87	
2	Lake Burullus (15 villages in Kafr El-Sheikh)	WW	Wastewater expansion for Kafr El Sheikh Governorate		Under preparation	No	130	
3	Cairo/Abu Rawash	WW	Untreated domestic sewage		Ongoing	Yes	50	
4	Cairo/Gabal El Asfar	WW	Expansion of existing WWTP for biological treatment		Ongoing	Yes	228	
5	National	WW	Improved water and wastewater services programme (IWSP)		Ongoing	Yes	295	
6	National	WW	Integrated Sanitation and Sewage Infrastructure Project-ISSP		Ongoing	Yes	87	
7	Alexandria	WW	Wastewater Treatment Amriya		N/A	Yes	81	
8	Alexandria	Domestic Sewage	Construction of El-Amria secondary WWTP (300,000m3), construction of 5 pumping stations, reuse of treated effluent				EGY400	
9	Alexandria	Domestic Sewage	Construction of El Mex-El Agamy (300,000m3 wastewater treatment plant, construction of 13n pumping stations and one sea outfall				EGY250	
10	Alexandria	Industrial effluents	Application of cleaner technologies and wastewater treatment plants in the companies of :Ratka paper, national paper, Mist Dairy Siclam, Eastern Linnen, Abu Qir Fertilizer, Edfinal Canning, Arab United Textiles, Siouf Spinning,				EGY101.2	

Nr.	Location	Sector	Project Title	Linked to hotspot	Status	Financing secured	Value	Donor/ IFI Involvement
			Alexandria Pharmaceuticals					
	Qena	INT	Water Supply and Sanitation Qena I		N/A	Yes	8.4	
11	Gharbya	WW	Horizon 2020 Wastwater programme for Gharbya Governorate		Under preparation	No	76.6	
12	Dakahlya	WW	Horizon 2020 Wastewater programme for Dakahlya Governorate		Investment needs as identified in the national strategy for water supply and sanitation: compilation of water and sanitation master plans (EU funded). Since IWSP is covering Gharbia, Sharkia, Dameitta, and Beheira, focus could be on Dakahlya and or Munofia as proposed in MeHSIP 6th progress report. MeHSIP has developed an approach for ongoing kafr El Sheikh wastewater expansion programme which could be applicable for both Dakahlya and Munofia (Status applies for 14-18) (MeHSIP 6th Progress report June-Dec 2012).	No	17.6	
13	Al Behira	WW	Horizon 2020 Wastewater programme for Al Behira Governorate			No	726.9	
14	Al Behira	Domestic Sewage	Construction of sewer network and WWTP for the cities of Kafr El Zayat, Shubrakit,				Not available	

Nr.	Location	Sector	Project Title	Linked to hotspot	Status	Financing secured	Value	Donor/ IFI Involvement
			Damieta, Mhmoudia, Samanoua, Kafr El Dawar, Abu El matameer, El Mahmoudia, Zarka, Edku, Hosh Eisa, Abo Hommos					
15	Al Behira	Industrial effluents	Application of cleaner technologies and wastewater treatment plants for the companies: Ismadye, Misr Rayon, El Beida Dye				Not available	
16	Damietta	WW	Horizon 2020 Wastewater programme for Damietta Governorate		Under preparation	No	69.1	
17	Port Said	Domestic Sewage	Construction of sewer network (12km) and a WWTP for El Garabaa El'manasra area west of the city				EGY57	
18	Port Fouad	Domestic Sewage	Construction of a WWTP for Port Fouad district east od Suez Canal				EGY150	
19	Port Said	Industrial effluents	Industrial effluents				Not available	
20	Sharkya	WW	Horizon 2020 Wastewater programme for Sharkya Governorate		Under preparation	No	78.1	
21	Munofia	WW	Horizon 2020 Wastewater programme for Munofia Governorate		Under preparation	No	369.9	
22	Alexandria	WW	Alexandria East				180	
23	Alexandria	WW	Alexandria West		CAPWO - Alexandria General Organisation for Sanitary Drainage (ASDCO)			
24	Helwan	WW	Expansion of Helwan WWTP		CAPWO			
25	National (Menoufia, Sharkeya Assiut and	WW	Integrated Sanitation and Sewerage Infrastructure Project – ISSIP 2		HCWW		154	

Nr.	Location	Sector	Project Title	Linked to hotspot	Status	Financing secured	Value	Donor/ IFI Involvement
	Sohag)							

IV.2 – Solid waste

Nr.	Location	Sector	Project Title	Linked to hotspot	Status	Financing secured	Value	Donor/ IFI Involvement
1	Alexandria	INT	Coastal Zone Management Project		Ongoing		Yes	4
2	Alexandria	SW	Alexandria Hazardous Waste Management Project		Government in the process of estblishing an Agency to be responsible for SWM following the National Solid Waste Managment Programme (2011/KfW) recommending the establishment of the Agency and with the support of the. Euros 51 has been approved by the EU, GIZ, and KfWin the form of grants and loan. Priority Governorates to receive funding are Gharbia, Kafr El Sheikh , Qena, and Menia? (MeHSIP 6th Progress report (July-Dec 2012)		No	25
3	Alexandria	SW	Organise a sanitary landfill in the desert west of Alexandria					Not available
4	Alexandria	SW	Transfer 2 plants of organic fertilizer production (operating at Abis and Al Mountazah) outside the city limits					Not available
5	Alexandria	Obsolete	Built a hazardous wastes treatment facility with a capacity of 3000 tons/year at 12 km from Burg Al Arab					Not avaialble
6	Port said	SW	Construction of a sanitary landfill for the Governorate					Not Available
7	Suez	SW	Industria Solid Waste landfill for Suez		See comment on E9		No	25

			governorate					
8	National	SW	Solid Waste Management Project		Under preparatopn			
9	National	IE	Egyptian Pollution Abatement Programme (EPAP III)		Under preparation			

IV.3 – Industrial emissions

Nr.	Location	Sector	Project Title	Linked to hotspot	Status	Financing secured	Value	Donor/FI Involvement
1	Delta &Upper Egypt	IE	Private Public Sector Industry Project-PPSI		Ongoing		Yes	124
2	Cairo	IE	Egyptian Pollution Abatement Programme (EPAP II)		Ongoing		Yes	145
3	Alexandria	IE	Air filters for the companies El Amria Cement, Carbon Black, Wood industries, Portland Cement Alex, Petrogas					EGY101.2
4	Alexandria	IE	Built a hazardous wastes treatment facility with a capacity of 3000 tons/year at 12 km from Burg Al Arab					

Source: MeHSIP-PPIF, Horizon 2020, June 2012

Part V – Assessment

Municipal solid waste posses a particular problem in Egypt requiring immediate attention and remedy. Solutions to the problem include changing consumption and production patterns, encouraging producer responsibility, promoting reducing waste, recycling, and reuse. Wastewater also is another challenge in Egypt, where large quantities of untreated wastewater is being discharged in the Mediterranean Sea. Measures also need to be introduced to address industrial pollution, where many industries discharge their industrial pollutions in the Nile River, which eventually ends into the Mediterranean Sea. This is in addition to industrial pollution from major cities such as Alexandria and Port Said. Moreover, the current transition period the country is going through represents a particular challenge to dealing with pollution problems in the country, where funding is diverted to other priorities.

Part VI – Investment Needs

Based on the initial desk review, reveal a number of findings that will assist in identifying investment needs and projects. Regarding wastewater, current capacity of existing facilities combined with increased rate of population growth and the reliance on tourism as major source for income generation indicates that additional investment needs and projects to meet the UNEP/MAP 2025 depollution targets will be needed. Solid waste is another major environmental concern with implications on coastal and marine life resulting from the burning of agricultural waste, methane emissions from open dumpsites and discharge of solid waste in waterway that

eventually find their way to the sea. Investment needs and projects is likely to be in the conversion of open dumpsite into sanitary landfills and the refurbishing of existing non operating plants, waste to compost and waste to energy facilities and possibly in integrated agricultural waste, municipal and wastewater facilities into compost, energy, and biofuel.

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Country report
France

Part I – General background

France's coastline in the Mediterranean extends for 1 960 km in the regions of Languedoc-Roussillon, Provence-Alpes-Côte d'Azur (PACA) and Corsica. Significant environmental problems are caused by river transported pollution, and treated industrial and urban wastewater. In addition, intense urbanisation along the densely populated coastline is also a major cause for concern. Three types of areas are particularly affected by land-based pollution: estuary of rivers, ponds and urbanised shorelines. Pollution pressures mainly originate from domestic waste water. The seaside is highly urbanised with large cities such as Montpellier, Marseille, Toulon and Nice. Tourism activity is largely predominant and concentrated in the months of July and August. During these months, the population living on the coast grows by 75% in the Languedoc and PACA regions and 150 % in Corsica. Industrial activity is highly concentrated around the Etang de Berre and at cities of Toulon and Marseille. As for the pollution from agriculture, it spares the eastern part of the Côte d'Azur but is diffusely present over the rest of the coastline (Ref. 1, 2).

All French rivers and their tributaries that flow into the Mediterranean (Rhône, Var, Aude, Tech, Golo, etc.) are located in the two Basins of Rhone-Mediterranean and Corsica which together extend over 130,000 km ², nearly 25% of the national territory, and encompass nine regions and 30 departments (provinces). These two basins are under the management of the Rhone-Mediterranean and Corsica Water Agency (RMC) whose role is to help elected representatives and local communities, economic stakeholders and inhabitants use water resources rationally and fight against the pollution and deterioration of aquatic environments. In accordance with European and domestic water management policies, the Water Agency implements the guidelines and funding programmes defined by the Rhone-Mediterranean and Corsica Basin Committees, which like genuine "water parliaments" bring together the representatives of the water stakeholders from these major river basins.

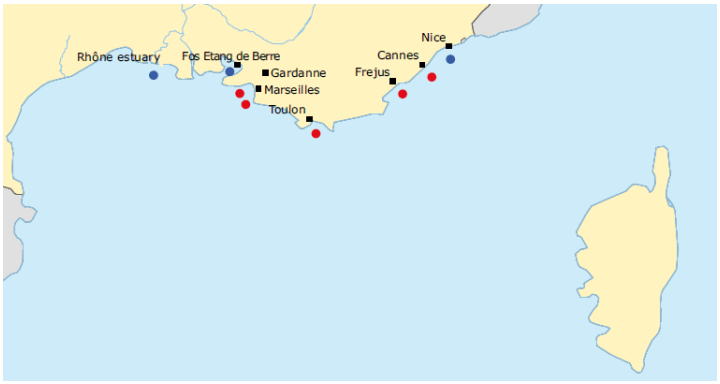
Currently, water policy in France is going through a period of accelerating change due to a number of pressing issues and also as a response to the need for advancing implementation of the EC environmental directives, including the Water Framework Directive and its ''daughter'' directives. These issues concern both water quality - achieving good water status by 2015, efforts to reduce pollution from urban, industrial and agriculture - and quantity - adaptation to climate change and extreme events such as floods and droughts. In France, the recent "Grenelle of Environment" laws and the water management master plans (SDAGE), actually translate these ambitions across each major river basin. In addition, France must comply with the Marine Strategy Framework Directive (2008/56/EC) that requires taking all necessary measures to achieve or maintain good environmental status in the marine environment by the year 2020 at the latest (Ref. 3. The fight against land-based pollution of the sea thus results in the application and preparation of numerous European and national standards and regulations. For this reason, most of the targets set by the SAP for 2010 and 2025 are already met or very well advanced (Ref. 2).

Part II – National pollution hotspots

No hotspots were listed for France in the UNEP/MAP/MEDPOL Transboundary Diagnostic Aanalysis document published in 2005 (Ref. 3).

However the NAP and UNEP/EEA regional study identified the following pollution hotspots (and areas of concerns for the French Mediterranean Coast (see also map below - hotspots in red) (Ref. 1, 2)

- *Marseilles and Nice are relatively big coastal cities (density > 3 000 persons per km2) discharging mostly treated urban wastewater into the sea;*
- *River Rhône: transports significant loads of nutrients and other pollutants (organic matter, metals) from its drainage basin;*
- *Fos Etang de Berre: Fos is the biggest French and the second largest European harbour hosting oil and methane terminals (natural gas is imported from Algeria), as well as a large industrial complex;*
- *rivers Herault, Gard and Vaucluse are considered as vectors of industrial pollution (hydroelectric and nuclear plants, petroleum processing, electronic, metal plants and chemicals);*
- *harbours of Marseilles, Sète, Port-la-Nouvelle, Port-Vendres, Toulon (French naval base), Nice, Bastia and Ajaccio: petroleum hydrocarbon pollution occurs because of deballasting practices and accidental oil spills.*



(Source: EEA, UNEP/MAP, 2006)

Part III – Projects

The following table summarises the list of de-pollution projects as described in the NAP and other documents reviewed (Ref. 2, 4). The second phase of the study will provide additional information and updates on these projects, and potential new ones, along with their operation impacts and, if available, contribution towards the SAP 2010 and 2025 de-pollution targets.

IV.1 - Waste water

Nr.	Location	Sector	Project Title	Linked Hot Spot	Promoter	Status	Financing Secured (Yes / No)	Value (m EUR)	NAP (Yes/ No)	General Comment
1	Marseille	WW	Construction of Geolide underground WWTP	Marseille	Urban Community of « Marseille Provence Métropole »	Completed	Y	180,00	Y	
2	Montpellier	WW	Construction of Maera WWTP	Montpellier	Urban Community of Montpellier	Completed	Y	150,00	Y	
3	Distric of Besançon	WW	Upgrading of WWTP EUROSÉRUM		Municipality (ies)	New project	Y		N	These projects correspond to the priority 23 WWTPs located within the RMC basins that need to be made compliant with the requirements of the EC UWWT Directive
4	Culoz	WW	Upgrading of WWTP		Municipality (ies)	New project	Y		N	
5	Manziat	WW	Upgrading of WWTP		Municipality (ies)	New project	Y		N	
6	Saint-Denis-Les-Bourg	WW	Upgrading of WWTP		Municipality (ies)	New project	Y		N	
7	Bourg St Andeol	WW	Upgrading of WWTP		Municipality (ies)	New project	Y		N	
8	Saint Privat	WW	Upgrading of WWTP		Municipality (ies)	New project	Y		N	
9	Gresse En Vercors	WW	Upgrading of WWTP		Municipality (ies)	New project	Y		N	
10	Montalieu Vercieu	WW	Upgrading of WWTP		Municipality (ies)	New project	Y		N	
11	Septeme	WW	Upgrading of WWTP		Municipality (ies)	New project	Y		N	
12	Virieu	WW	Upgrading of WWTP		Municipality (ies)	New project	Y		N	
13	Beaujeu	WW	Upgrading of WWTP		Municipality (ies)	New project	Y		N	
14	Arvieux	WW	Upgrading of WWTP		Municipality (ies)	New project	Y		N	
15	Aiguilles Chateau Villevieille	WW	Upgrading of WWTP		Municipality (ies)	New project	Y		N	

16	Chateauneuf De Grasse	WW	Upgrading of WWTP		Municipality (ies)	New project	Y		N	
17	Levens - Village - La-Cumba	WW	Upgrading of WWTP		Municipality (ies)	New project	Y		N	
18	St Martin Vesubie	WW	Upgrading of WWTP		Municipality (ies)	New project	Y		N	
19	Grans	WW	Upgrading of WWTP		Municipality (ies)	New project	Y		N	
20	Cervione	WW	Upgrading of WWTP		Municipality (ies)	New project	Y		N	
21	Santa Maria Poggio Murianincu	WW	Upgrading of WWTP		Municipality (ies)	New project	Y		N	
22	Le Luc Payette	WW	Upgrading of WWTP		Municipality (ies)	New project	Y		N	
23	Cavaillon Chef-Lieu	WW	Upgrading of WWTP		Municipality (ies)	New project	Y		N	
24	L'isle-Sur-La-Sorgue	WW	Upgrading of WWTP		Municipality (ies)	New project	Y		N	
25	Pertuis	WW	Upgrading of WWTP		Municipality (ies)	New project	Y		N	
26	La Franqui	WW	Upgrading of WWTP		Municipality (ies)	New project	Y		N	
27	Ponteilla	WW	Upgrading of WWTP		Municipality (ies)	New project	Y		N	
28	St Genis des Fontaines	WW	Upgrading of WWTP		Municipality (ies)	New project	Y		N	
29	Languedoc Roussillon, PACA and Corse	WW	Reduction of pollution from stormwater		Municipality (ies)	On-going	Y		N	

IV.2 – Solid waste

Nr.	Location	Sector	Project Title	Linked Hot Spot	Promoter	Status	Financing Secured	Value	NAP	General Comment
							(Yes / No)	(m EUR)	(Yes/ No)	
30	Languedoc Roussillon	SW	Port waste collection and treatement facilities (80 units)		Local authorities	On-going		8	Y	
31	Languedoc Roussillon	SW	Municipal waste management programme		Local authorities	On-going		550	Y	
32	Languedoc Roussillon, PACA and Corse	SW	Construction of Waste Management Centers		Local authorities	On-going			Y	
33	Languedoc Roussillon, PACA and Corse	SW	Prévention et réduction du flux de déchets		Local authorities	On-going			Y	

IV.3 – Industrial emissions

Nr.	Location	Sector	Project Title	Linked Hot Spot	Promoter	Status	Financing Secured	Value	NAP	General Comment
							(Yes / No)	(m EUR)	(Yes/ No)	
34	Languedoc Roussillon, PACA and Corse	IE	Programme national de prévention et de réduction de la pollution des eaux par certaines substances dangereuses déversées dans le milieu aquatique		Ministry (DRIRE)	On-going			Y	
35	Languedoc Roussillon, PACA and Corse	IE	Mesures de réduction de la pollution des installations classées		Ministry (DRIRE)	On-going			Y	
36	Languedoc Roussillon, PACA and Corse	IE	Autres mesures spécifiques (engagements volontaires des entreprises, Meilleurs Techniques Disponibles, etc.)		Industries	On-going			Y	
37	Languedoc Roussillon, PACA and Corse	IE	Mesure de réduction des déchets industriels (objectif -10%)		Industries	On-going			Y	
38	Languedoc Roussillon, PACA and Corse	IE	Démarche de management environnement (gestion interne de l'entreprise)		Industries	On-going			Y	
39	Languedoc Roussillon, PACA and Corse	IE	Démarche d'eco-conception		Industries	On-going			Y	
40	Languedoc Roussillon, PACA and Corse	IE	Reduction of industrial pollutions and hazardous substances (>45 projects)		Industries, Water agency	On-going			N	

Part IV – Potential investment needs

The NAP does not mention specific actions for the period 2015-2025. It considers that the EU and national policies implemented by France in the water and marine protection sector will continue over time and thereby, will contribute to achieving the SAP targets in 2025.

Among these national efforts, a number of new projects and additional investments have been identified that will need to be addressed in the coming years to reach the desired environmental status for both water and marine environments.

The RMC Water agency recently approved its 10th Programme of Action for the period 2013-2018 which intends to invest up to 1 941,7 M€ to reduce pollution loads from the urban, industrial and agricultural sectors by supporting the following actions:

- *Reduction of the fluxes of nitrates, phosphorus and pesticides generated by agriculture through support*

to more environmental-friendly and low inputs farming systems,

- *Reduction of hazardous substances through more than 45 concerted operations involving over 75 industries,*
- *Upgrading of more than 200 sanitation systems to better manage and treat pollution from storm water*
- *Upgrading of 100 % of WWTPs that are not yet compliant with the EC UWW Directive,*
- *Establishment in all RMC sub-basins of sludge disposal and management plans fully articulated with the Municipal Waste Prevention and Management Plans,*
- *Support to the rehabilitation of 17 300 non-compliant autonomous sanitation systems.*

As for the solid waste sector, while tremendous efforts have been made over the past decade to raise the profile of solid waste management systems throughout the country, additional investments are still needed in the three Mediterranean regions of PACA, Languedoc-Roussillon and Corse to develop appropriate equipments and measures in support of reduction and recycling of wastes and modernisation/extension of sanitary landfills.

The NAP provides some indication on the proportion of solid waste equipments that were still to be constructed in 2003 for the Languedoc-Roussillon region :

Equipments/facilities	Remaining gap
Solid waste incineration units	25%
Organic composting platforms	42%
Waste separation facilities	17%
Waste sorting and recycling centers	11%
Waste transfer stations	41%
Sanitary landfill facilities	30%
Rehabilitation of uncontrolled dumping sites (closed)	71%
Rehabilitation of controlled dumping sites	74%

Part V – Assessment

As mentioned in the NAP, France is already well advanced and had achieved in 2006 all SAP targets for 2010.

The two sanitation projects listed in the NAP (Marseille and Montpellier WWTPs) have been completed and are now fully operational.

Further projects are on-going under the three WW, SW and IE sectors, mainly through the RMC Water agency five-year Programmes of Action and the various municipal and industrial waste reduction and management plans implemented at the regional and departmental levels in the context of the ''Grenelle de l'Environnement'' Act.

De-pollution policy and investment efforts focus on compliance of sanitation systems with the UWWT and other water-related EC Directives, reduction of toxic pollutions from industry and agriculture and enhancement of waste management systems as per the EC Directive on waste (2008).

The second phase of the study should help clarify whether these efforts have translated in the reduction/elimination of the coastal hotspots identified in 2006. The scientific works currently being undertaken by France under the Marine Strategy Framework Directive to define the criteria and methodological standards on good environmental status of marine waters will certainly shed lights on this issue.

Part VI – Key contacts

UNEP-MAP Focal point	**Franŋois Gave** Sous-direction de l'environnement et des ressources naturelles Ministère des Affaires Etrangères Tel. : +33 (0)1 43 17 44 32 Fax :+ 33 (0)1 43 17 73 94 francois.gave@diplomatie.gouv.fr
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Key contacts (Environment, Planning, Municipality, Industry, water	**Nicolas Delbreilh** Direction des interventions et actions de bassin Agence de l'eau Rhône Méditerranée & Corse tel : 04 72 71 26 53 Email : Nicolas.DELBREILH@eaurmc.fr

References

1. UNEP/EEA, *Priority issues in the Mediterranean Environment*, 2006
2. Republic of France, *National Action Plan for Environment,* 2005
3. UNEP/MAP/MEDPOL, *Transboundary Diagnostic Analysis for the Mediterranean Sea*, 2005
4. RMC Water Agency, ''*10th Programme of Actions*'', 2012

Country report
Greece

Part I – General background

Being one of the oldest member states results to advanced integration of EU environmental policy in terms of implementation and reporting. Therefore this report is based on National Action Plan of Greece (year 2005), which in turn is based on individual Sectoral Plans for each River Basin in Greece.
The sectors reported in Sectoral Plans and NAPs are:

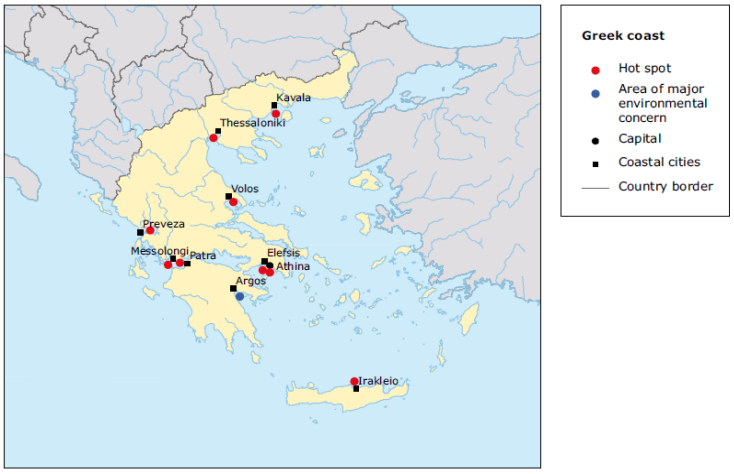
- *Sewage management*
- *Urban solid wastes*
- *Air pollution*
- *Pollution caused by Hg, Cd and Pb*
- *Organohalogens*
- *Wastewater and solid waste from industrial installations*
- *Lubricating oil, hazardous chemicals and obsolete chemicals stockpiles*
- *Updating and adopting of national regulations on sewage discharges to the sea and rivers*
- *Establishment of a system of previous authorisation by competent national authorities for works which cause physical alterations on the natural state of the coastline or the degradation of coastal habitats*
- *Phasing out of the use of the nine pesticides, except for those for which WHO recommendations related to the safeguarding of human life suggest otherwise*
- *Prohibition of the manufacture, trade and new uses of PCBs*

All the projects mentioned below are part of the national planning according to the obligations and timetables set by the current EU Directives.

Part II – National pollution hotspots

The hotspots in Greece are presented in the below list showing the name of the hotspots and the type of pollution. This list is taken from SAP of 2003 since the newest NAP did not clearly identify the hotspots by name. National Action Plans are river basin oriented and not hot-spot oriented any more.

Hot Spot	Type of pollution
Thermaikos gulf	Municipal, industrial
Inner Saronic gulf	Municipal, industrial
Patraikos gulf	Municipal, industrial
Pagasitikos gulf	Municipal, industrial
Gulf of Heraklio	Municipal, industrial
Elefsis bay	Municipal, industrial
North-Western Saronic gulf	Municipal, industrial
Nea Karvali bay	Industrial



EEA Report No 4/2006

Part III – Projects

The projects as identified in the NAPs and their construction status are listed below:

III.1 – Sewage Management

Nr.	Location	Sector	Project Title	Promoter	Status	Value (m EUR)	NAP (Yes/ No)	Donor / IFI Involvement	General Comment
1	Elefsina	Sewage management	WWTP of Thriasio	Athens water supply and sewerage company (EYDAP SA)	Testing Period	67.00	Yes	Cohesion Fund - National Funds	Value includes the ww collection network
2	East Thessaloniki	Sewage management	Sewage network at Thessaloniki touristic areas	Water and Sewage company of Thessaloniki (EYATH SA)	Under Construction	-	Yes	-	Unknown status. Project is divided in a number of subprojects
3	Nea Kydonia Chania	Sewage management	WWTP of N. Kydonia	Inter municipal Water & Sewage Company of the Northern Coast of the Prefecture of Chania (DEYAVA)	Working	-	Yes	Cohesion Fund - Municipal Funds	
4	Malia	Sewage management	WWTP of Mallia	Municipal Water & Sewage Company of Hersonisos (DEYAH)	Working	-	Yes	Cohesion Fund - Municipal Funds	
5	Kalymnos	Sewage management	WWTP of Kalymnos	Municipality of Kalymnos	Working	6.1	Yes	Cohesion Fund - Municipal Funds	
6	Koropi	Sewage management	WWTP Koropi - Paiania	Municipality of Kropia	Preparation for tendering	124.9	Yes	Cohesion Fund - National Funds	Value includes the ww collection network
7	-	Sewage management	WWTP Rafina - Artemida	-	Under consideration		Yes	-	Under consideration
8	-	Sewage management	WWTP Marathonas	-	Under consideration		Yes	-	Under consideration

III.2 – Urban Solid Wastes

Nr.	Location	Sector	Project Title	Promoter	Status	Value (m EUR)	NAP (Yes/ No)	Donor / IFI Involvement	General Comment
1	**Fyli**	**Urban solid wastes**	**2nd Sanitary Landfill of West Attica**	**Assiciation of Communities and Municipalities in the Attica Region (ESDKNA)**	**Working**	**25.10**	**Yes**	**Cohesion Fund - National Funds**	
2	Grammatiko	Urban solid wastes	Composting Unit in North East Attica (Grammatiko)	Assiciation of Communities and Municipalities in the Attica Region (ESDKNA)	Tendering through PPP	96.50	Yes	National Funds - Private investment	Public Private Sector Partnership for 4 Units in Attica

Nr.	Location	Sector	Project Title	Promoter	Status	Value (m EUR)	NAP (Yes/ No)	Donor / IFI Involvement	General Comment
3	Keratea	Urban solid wastes	Composting Unit in South East Attica (Keratea)	Assiciation of Communities and Municipalities in the Attica Region (ESDKNA)	Tendering through PPP	96.50	Yes	National Funds - Private investment	Public Private Sector Partnership for 4 Units in Attica
4	Ano Liosia	Urban solid wastes	Composting Unit in West Attica (A. Liosia)	Assiciation of Communities and Municipalities in the Attica Region (ESDKNA)	Tendering through PPP	230.00	Yes	National Funds - Private investment	Public Private Sector Partnership for 4 Units in Attica
5	Fyli	Urban solid wastes	Composting Unit in West Attica (Fyli)	Assiciation of Communities and Municipalities in the Attica Region (ESDKNA)	Tendering through PPP	408.00	Yes	National Funds - Private investment	Public Private Sector Partnership for 4 Units in Attica
6	Prefecture of Argolida	Urban solid wastes	Sanitary Landfill of Argos-Nafplio-Tolo	-	Unkown		Yes		There is not such a project in the pipeline. Waste from this region is transferred (termporarily) to the Sanitary Landfill of West Attica
7	Vlacherna	Urban solid wastes	Sanitary Landfill of Arta	Municipality of Arta	Working	9	Yes		
8	Epirus	Urban solid wastes	Sanitary Landfill of Epirus	Region of Epirus	Preparation of tender documents		No		Public Private Sector Partnership
9	Karvounari	Urban solid wastes	Sanitary Landfill of Thesprotia - Preveza - Igoumenitsa	Region of Epirus	Working		Yes		
10	Elliniko	Urban solid wastes	Sanitary Landfill of Ioannina	Region of Epirus	Construction almost completed	12.6	No	Cohesion Fund - National Funds	86% complete
11	Litochoro	Urban solid wastes	Sanitary Landfill of Litochoro	Municipality of Litochoro	Working		Yes		
12	Thasos	Urban solid wastes	Sanitary Landfill Thasos	Municipality of Thasos	Closed		Yes		Waste from Thasos is transferred to the Sanitary Landfill of Kavala

No projects found related to the rest of the Sectors

Part IV – Potential investment needs
This section will be further developed in the next phase of the study based on the updates on the above listed projects and to identify the future needs to meet the 2025 investment needs since the above projects intend to meet the 2010 targets. In any case, as seen in the tables, environmental related projects in Greece are usually co-funded by EU'S Structural Funds through the National Strategic Reference Framework (NSRF), as well as the Cohesion Fund. This is expected to continue during the next programming period (2014-2020).
Part V – Assessment
The above listed projects are the product of the original list of projects presented in the NAP of Greece (year 2005). Most of the projects are already implemented or are at the final stages of construction. In any case, their future is relatively secured as almost all environmental projects are co-funded by EU.
Part VI – Key contacts

Country report
Jordan

Part I – General background

Jordan is a country member of UFM and Horizon 2020 CB/MEP initiative. Although Jordan does not have a coastal zone on the Mediterranean Sea, a list of projects were identified as part of the H2020 MeHSIP which targets as well the de-pollution of the Mediterranean.

Part II – National pollution hotspots

Since Jordan does have a coastal zone on the Mediterranean Sea, NAP was not prepared as Jordan is not part of UNEP-MAP.

The following sections of this report will present the list of projects of H2020 MeHSIP with its status. At a later stage of the study, the project list will be amended with other projects executed in the previous years and potential investment projects necessary to meet the targets of 2025.

Part III - Sectoral Overview

III.1 - Wastewater

Water and wastewater management in Jordan are managed by three public agencies:

- *The Ministry of Water and Irrigation (MWI) is responsible of water resources policy and strategy development, water resources planning, research and development, information systems, procuring financial resources.*
- *Two other agencies are 'executive agencies': the Water Authority of Jordan (WAJ) and the Jordan Valley Authority (JVA) under the umbrella of MWI with the Minister of MWI heading their boards of Directors. WAJ is responsible for providing water and sewage services throughout Jordan and for water resources management while JVA responsibilities cover the development of Jordan Rift valley, including water resources, primarily for agriculture in the Jordan valley and southern Ghors.*

At present around 65% of the urban population have access to public wastewater collection and treatment systems. However, only a limited percentage (3%) of the rural population is connected to sewerage networks. In these areas wastewater is discharged to septic tanks, or directly to the Environment. Treated wastewater coming from nineteen existing wastewater treatment plants is an important component of the Kingdom's water resources. However, it is reported that several plants are overloaded and do not provide effluents that meet the Jordanian standards.

The primary legislation for the protection of water is a by-law issued under the Environment Protection law of 1995. This sets the water quality objectives; determines standards for wastewater treatment plants and waste disposal sites; and addresses water savings opportunities in the industrial, agricultural and construction sector.

Several other laws, by-laws, specifications and standards for water quality were developed based on WHO standards which should be used for various agricultural crops and for discharges into various water bodies. However, neither the monitoring nor the enforcement of these standards has been addressed by any by-law or Decree.

III.2 – Solid waste

Municipalities are responsible for waste management operations. In the waste management sector Jordan has implemented inter-municipal agreements that provide for individual municipalities to collect wastes, and for inter-municipal management of waste management facilities. As a consequence, municipalities share waste disposal facilities and in some cases waste collection systems. Governorates are in charge of monitoring waste disposal sites from the health and safety point of view.

Two national level entities have responsibilities for solid waste management: The Ministry for Municipal Affairs plays a key role, in the provision of funds through which the municipalities finance waste management capital expenditures; The Ministry of Environment has the responsibility for regulating the activities that may have an

impact on the environment.

There are currently no standards or specifications for solid waste management in Jordan. In the absence of environmental standards for landfill design, only the EIA process is available to evaluate the new landfills. National solid waste management policy or strategies for solid waste management do not exist.

Solid waste management is a growing concern in Jordan. There is no national strategy for solid waste management. As a result, solid waste management systems, with the exception of Greater Amman, have not been developed to adequate levels and collected waste is generally 'managed' in dumps. No new landfills have been established for the last 15 years apart from the one that serves the city of Amman.

The collection system is considered to be adequate in urban centers, but services tend to be poor or non-existent in rural areas and small towns. Collected waste is not separated. With NGO leadership, modest recycling programs for aluminum cans and paper have been launched in Amman. Municipal and industrial solid wastes generated in the country are mainly discharged to landfill sites. At present, there are 24 authorised disposal sites in Jordan but most of these sites are not lined and do not have a leachate collection system to reduce contamination.

NEAP has identified solid waste management as a national priority and has defined a wide range of actions to improve the SWM situation. The Environment Protection Law No. (1) of 2003 addresses the issue of solid waste and SWM is addressed by a recent regulation.

III.3 – Industrial emissions

The Ministry of Industry and Trade is the main governmental entity in charge of the sector; however, the Ministry of Environment holds the responsibility of promoting Environmental protection.

Industries discharge their wastewater either untreated or only partially treated into municipal sewers or into the Environment. Industrial establishments reach around 27,000 in Jordan and have the potential to increase since the Jordanian Government has put plans for the sector development. However, the weak control over the sector from the Environmental perspective does lead to the leak of detailed information in this regard.

The industries are subdivided into three main sectors: mining, manufacturing and electricity & water. In each of these sectors, several governmental bodies are involved in addition to the private sector. Policies and legislations from the environmental point of view are lacking.

Part IV – Projects

The following table summarises the list of projects outlined in the H2020 CB/MEP initiative showing its cost and status with regards to financing. The second phase of the study will provide updates on these projects with its operation impacts and its involvement towards the de-pollution targets:

IV.1 - Waste water

Nr.	Country	Location	Sector	Project Title	Financing Secured	Value	Donor / IFI Involvement
					(Yes / No)	(m EUR)	
JOR 1	Jordan	Various	WW	Wastewater System	No	70,000,000.00	
JOR 3	Jordan	Various	WW	Box culvert (40km) for wastewater conveyance	No	50,000,000.00	
JOR 4	Jordan	Dead Sea	WW	East Cost WWTP construction with pump station	No	18,000,000.00	
JOR 7	Jordan	Various	WW	Expansion & upgrade of wastewater facilities	No	56,000,000.00	
JOR 8	Jordan		WW	Expansion of WWTP or construcion of new WWTP	No	172,000,000.00	

Nr.	Country	Location	Sector	Project Title	Financing Secured	Value	Donor / IFI Involvement
					(Yes / No)	(m EUR)	
JOR 9	Jordan		WW	Construction of sewer pipelines (160km), pump stations, WWTP (9000 m³/day) (to serve hotels)	No	60,000,000.00	
JOR 10	Jordan		WW	Construction of a proper cross section: closed Canal (50km)	No	47,000,000.00	
JOR 11	Jordan		WW	Upgrading and expansion of WWTP	No	8,000,000.00	
JOR 12	Jordan		WW	Septic treatment facility capacity (10,000 m3/day)	No	23,000,000.00	
JOR 13	Jordan		WW	Wastewater System Reinforcement and Expansion	No	35,250,000.00	
JOR 16	Jordan		WW	Wastewater System	No	70,000,000.00	

IV.2 – Solid waste

Nr.	Country	Location	Sector	Project Title	Financing Secured	Value	Donor / IFI Involvement
					(Yes / No)	(m EUR)	
JOR 2	Jordan	Al Ekaider	SW	Integrated SWM Project	No	35,000,000.00	
JOR 5	Jordan		SW	Rehabilitation of a dump site and wastewater collection tank	No	22,000,000.00	
JOR 15	Jordan		SW	Integrated SWM Project	No	37,700,000.00	

IV.3 – Industrial emissions

Nr.	Country	Location	Sector	Project Title	Financing Secured	Value	Donor / IFI Involvement
					(Yes / No)	(m EUR)	
JOR 6	Jordan	Amman and Middle Governorate	HW	Medical and Industrial Waste Treatment Plant	No	28,500,000.00	
JOR 14	Jordan	Zarqa	Ind	Zarqa Industrial Wastewater Plant (central industrial WWTP, 1,430 cu m/d)	No	3,300,000.00	

Part V – Investment Needs

Based on the initial desk review, it is certain that much more effort is needed and additional projects are required to meet the 2025 targets. This section will be further developed in the next phase to identify those investment needs for all sectors.

Part VI – Assessment

The list of projects identified was reported by H2020 CB/MEP initiative and it will be further considered in this

study. *More projects may be identified noting that Jordan may be indirectly affecting the Mediterranean through rivers and watersheds.* *Legislations and policies are still lacking in the industrial sector from the environmental point of view. Moreover, Jordan has put plans for protection of water resources and reuse of treated water since they face water scarcity problems and the policies concentrate on that aspect.*

Part VII – Key contacts	
MEDPOL Focal points	No focal point since Jordan is not part of Barcelona Convention
UfM Focal Points	???
Key contacts (Environment, Planning, Municipality, Industry, water – to the maximum extent possible)	H2020 Focal Point Maha Al Zu'bi Ministry of Planning & Internl. Cooperation Deputy Director, Projects Dept. Head of Water & Agriculture Division P.O.Box: 555 Amman 11118 Jordan Tel: 962 6 464 4381 Fax: 962 6 464 9341 E: HUmaha.z@mop.gov.joU

Country report
ISRAEL

Part I – General background

About 70% of Israel's population lives within 15 km of the Mediterranean coast where the major economic and commercial activities of the country are concentrated. Industrial and urban effluents are usually treated together in wastewater treatment plants but some industries discharge effluents directly to rivers and the sea.

Israel has completed more than 90% of the country's wastewater infrastructure and 70% of the water is re-used, putting Israel on the top of the list on water re-use. The next phase of the country's plan is for the municipalities to upgrade a number of WWTPs to tertiary treatment and treat the sludge generated from the treatment plants, especially the sludge coming from the Shafdan plant which represents the largest source of pollution of Israel's Mediterranean coastline (84.4 % of metals, 90% of suspended solids and 79% of BOD discharged annually directly to the sea) (Ref. 1).

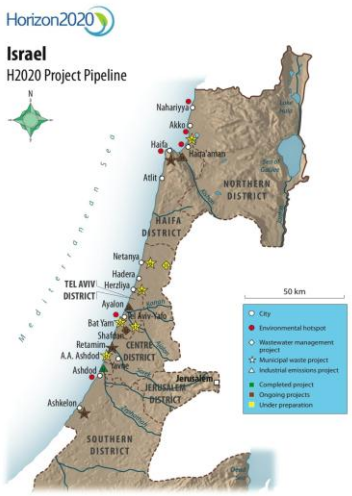
Solid waste remains an important environmental problem, despite the country's relatively well developed and implemented waste legislation. Waste management (disposal and treatment) constitutes a serious challenge that is compounded by several factors: high population growth and density, high volume of waste generated by rising standard of living and consumption patterns, and limited availability of land that restrict the designation of sites for creating or extending landfills. As a result, the waste sector has become over the past years a high priority on the national environmental agenda (Ref.2).

Part II – National pollution hotspots

The TDA prepared by UNEP/MAP in 2004 defined 6 hotspots for Israel and no sensitive areas (Ref. 3).

Pollution Hot Spots	Type
1. Haifa Bay	Mixed (industrial discharges; river discharges)
2. Shafdan (Tel-Aviv region), Yalmachim outfall	Activated sludge from sewage treatment plant discharged 5 km out at sea
3. Akko	Municipal discharge
4. Nahariya	Municipal discharge
5. Ashdod	Industrial discharge
6. Naaman	Municipal discharge

The following map developed by the H2020 MEHSIP Programme (Ref. 4) provides the geographical location of each hotspot (red points).



From the 6 hotspots initially defined in the UNEP/MAP TDA, the NAP considered that only 4 hotspots remained in 2006. The table below presents the main characteristics of these hotspots along with the planned solutions to reduce them (Ref. 1):

Hotspots	Main pollution sources	Planned solutions
Na'aman River	Surpluses of the Karmiel WTP (via the Damn reservoir), Tamra raw sewage, Ebelin and Afeq	Directing the wastewater of Kfar Marsik and Ein Hamifratz to the Acre WWTP; pretreatment in Miluban;

mouth	pig farms. Kfar Maserik raw sewage, fishpond waters of Kfar Maserik and Ein Hamifratz, Miluban	compliance with Inbar Committee standards for discharge to rivers; high priority to establishing a dedicated WWTP for fishponds
Haifa Bay	Ma'ale Hakishon, Haifa Oil Refineries, Haifa WTP, Carmel Olefins, Gadot, Haifa Chemical, Deshanim	Pretreatment and compliance with the Inbar Committee standards for discharge to rivers; plants which cannot comply with Inbar Committee standards will discharge their wastewater directly to sea while complying with criteria of the Ministry of the Environment on quantity and quality of brines permitted for discharge to sea. High priority to establishing a dedicated WWTP for fishponds
Shafdan	Marine outfall of the Shafdan sludge	Cessation of sludge discharge to sea by 2008
Ashdod	Agan Chemicals, Ashdod oil refineries, brines of Kvuzat Yavne and Bnei Dror	Promotion of advanced pretreatment of industrial wastewater at source – in the plants, and enforcement of quality and quantity of industrial wastewater permitted for disposal to sea

The Nahariya site previously reported as a hotspot in the TDA was removed from the list when the Fruratom plant, which was the main contributor, was shut down. No information could be found in the documentation reviewed regarding the actual status of the Akko hotspot and the reason why it was not included as such in the NAP document.

In addition to the above hotspots, the UNEP/EEA study (Ref. 5) identified 6 areas of major environmental concerns: Ashkelon, Yavne, Hadera, Netanya, Atlit, Kyriat Haim/Kyriat Yam.

Part III - Sectoral Overview

III.1 - Wastewater

The water commission of the Ministry of Infrastructures, the sewage Infrastructure Development Administration, municipal authorities and associations of towns for Sewage, and the Ministry of the Environment are responsible for managing the wastewater sector In Israel.

The responsibility of the construction, upgrading and funding of wastewater treatment plants lies with the local authorities (Ref. 1, 4)

Israel has invested a considerable amount of funds (estimated at 1.5 billion EUR) since the 1980s in the construction of WWTPs. Whereas until the 80s Israel only had one operational WWTP, today around 95% of households are connected, accounting for close to 92% of the total wastewater of Israel. Half of the WWTPs are secondary (or tertiary), with 82% of the total municipal wastewater now being reused for irrigation purposes which is the highest figure anywhere in the world. The master plan for water sector development (2002-2010) requires that wastewater treatment plants be upgraded and constructed and that Israel's entire effluent potential be utilised as a source of water for agricultural consumption. In sum, the wastewater management sector is highly developed in Israel and future investments will now focus on closing the small gap of untreated waste water, upgrading a number of existing WWTPs to tertiary treatment and treating the sludge generated from the WWTPs. In 2008, around 46% of the sludge was not treated and discharged directly into the sea, mainly from the Dan Wastewater Treatment Plan in Shafdan. Stopping the discharge of the Shafdan Sludge would bring about a reduction of 85%-98% in the scope of pollution emitted to the sea from all of Israel's marine outfalls. In 2015, it is expected that no more untreated sludge will be disposed into the sea (90% of sludge set to be treated to Class A and B, and 10 % incinerated or heat dried) (Ref. 2, 4).

Key figures:

- *More than 500 facilities for the treatment of sewage exist in Israel today, of which around 35 are advanced wastewater treatment plants with a minimum capacity of 0,5 Mm3 each*
- *In 2010, over 500,000 people, in around 150 settlements in Israel were not connected to a sewage network.*
- *In 2010, around 30 Mm3/ year of untreated wastewater have been released to rivers, lakes and the sea, of which 10 Mm3/ year come from Jerusalem (IUED, 2010)*
- *By 2001, 70% of the effluents produced by the country's treatment plants complied with the standards set in regulations (20 mg/litre BOD and 30 mg/litre suspended solids).*
- *About 25% of Israel's total wastewater (about 120 Mm3) undergoes treatment in the Dan Region*

Wastewater Treatment Plant (Shafdan) (Ref. 4).

Israel benefits from an extensive policy and legislative environment in the water sector which includes a number of laws and decrees that regulate water management, quality and use in detail throughout the entire water and wastewater sector.

The main law is the water law of 1959 which establishes the framework for the control and protection of Israel's water resources. In 1971, the law was amended to include prohibitions against direct or indirect water pollution, regardless of the state of the water beforehand. This framework law has been complemented by a number of specific texts and regulations (Ref. 6,7):

Water management

- *Potable Water and Source-Water Quality Laws - Public Health Regulations (Sanitary Quality of Drinking Water),*
- *Marine and coastal environment:*
- *Prevention of sea pollution (dumping of waste) Law 1983:*
- *Prevention of Sea Pollution from Land-Based Sources Regulations, 1990*
- *Protection of the coastal Environment law 2004:*

Water pollution:

- *Cesspools and Septic Tanks, 1992 Regulations*
- *Effluent quality standards and rules for sewage treatment 2010 (Inbar Standards): They include maximum levels for dissolved and suspended elements and compounds and for 37 different parameters in effluents for unres tricted irrigation and discharge to rivers*
- *Water Regulations (Prevention of Water Pollution) (Wastewater Transport System), 2011*
- *Desalinated Water Quality Laws*

In 2002, a National Master Plan for Water Sector Development (2002-2010) was prepared by the Water Commission and adopted more stringent standards for effluents disposed to rivers. It also required that WWTP be upgraded and constructed and that Israel's entire effluent potential be utilised as a source of water for agriculture consumption.

In 2012, Israel started the development of a new Water National Master Plan (up to 2020) which focuses on the following areas: 1) Water balance under uncertainty (scenarios), 2) Management of the potable water system, 3) management of sewage and treated wastewater, 4) Management of natural water sources, 5) Water quality, 6) Demand management, 7) Urban water management, 8) Water and agriculture, 9) Management of drainage and runoff water, 10) Water and energy, 11) Environment and water for nature (Ref. 6)

III.2 – Solid waste

The sector is *under the governance and control of the Ministry of Environment.*

However, Local authorities are responsible for storage, collection and disposal of municipal solid waste, and municipal bylaws determine the legal and administrative arrangements for collection and disposal. Municipalities are authorised to establish sites for landfills and to determine other waste disposal and treatment locations in accordance with the Planning and Building Law and its regulations and the National Master Plan for Solid Waste Disposal (Ref. 1, 4).

The situation for solid waste management improved markedly over the last decades. Today, most of Israel's waste for final disposal (about 95%) is disposed to state-of-the art sanitary landfills across the country and the country is in the process of completing the remaining ones planned. However, considerable investment will be needed to ameliorate pollution caused by leachate reaching the sea from old closed dump sites. Although more than half of the 500 unauthorised dumps have been closed and many others have been substantially upgraded or improved, several large dump sites remain. The rehabilitation of the 55 sanitary landfills (all closed - the last one was closed in 2005) seems to currently be the key environmental priority of the Ministry of Environment (Ref. 2, 4).

Key figures (Ref. 2, 4):

- *Currently 14 landfills are operated in Israel which between them deal with 4.5 million tonnes of waste per year.*
- *Over 90% of solid waste is still sent for landfilling*
- *In 1993, only 4% of Israel's municipal solid waste was recycled. By 2005, this figure reached about*

12.5%.

In 2006, Israel set out a Sustainable Solid Waste Management Master Plan up to the year 2020. The plan presents a comprehensive framework for environmentally sound management of solid waste, including rules, criteria, approaches and long-term goals for achieving integrated solid waste management, with a particular focus put on recycling. The plan is currently undergoing some amendments for simplifying and offering different treatment options for recycling and recovery facilities, based notably on environmental criteria (Ref. 2).

III.3 – Industrial emissions

Industrial effluents currently present a major environmental concern with a number of studies being conducted in Israel to increase knowledge of these pollution sources and to formulate policies and regulations for effluent reduction and treatment. Until recently the policy on industrial pollution control has had a tendency to implement pollution prevention measures rather than end of pipe solutions and to adopt specific quantitative targets for pollution reduction. The industrial inspection and enforcement system has been given increasingly enhanced competencies (Ref. 1, 2, 7).

- *Industrial water consumption constitutes 5% of Israel's total water consumption, yet industry emits about 19% of the country's total wastewater*
- *Industrial sources are also responsible for significant quantities of pollutant emissions into the air*

The NAP mentions that, as of 2005, most spot sources of pollutions discharged from industrial plants into rivers had been eliminated, with exception of the Kishon river and Hadera River.

In addition to the water pollution management policies and legislation described above, the main frameworks for industrial emissions and chemicals management in Israel are the Licensing of Businesses Law, 1968 and the Hazardous Substances Law, 1993.

Moreover, in recent years, an Integrated Pollution Prevention and Control (IPPC) approach was introduced into the major industrial hotspots: Ramat Hovav in the south, Ashdod on the southern Mediterranean coast and Haifa Bay in the north of the country (Ref. 1, 2, 7).

Part IV – Projects

The following table summarises the list of de-pollution projects outlined both in the NAP and in the H2020 project list (Ref. 1, 8), showing their cost and status with regards to financing. The second phase of the study will provide updates on these projects, along with their operation impacts and, if available, contribution towards the de-pollution targets.

IV.1 - Waste water

Nr.	Location	Sector	Project Title	Linked Hot Spot	Status	Financing Secured (Yes / No)	Value (m EUR)	Donor / IFI Involvement
1	Shafdan	WW	Construction of sludge incineration plant or sludge drying plant	Shafdan	Ongoing	Yes	200,00	National funding
2	Alexander river	WW	Construction of WWTP at Alexander river		Under preparation	Yes	?	National funding
3	Western Galilée	WW	Establishement and upgrading of main WTPs (5 WWTPs)				27,60	
4	Kishon	WW	Establishement and upgrading of main WTPs (9 WWTPs)				41,40	
5	Hof Hacarmel	WW	Establishement and upgrading of main WTPs (2 WWTPs)				10,50	
6	Sharon	WW	Establishement and upgrading of main WTPs (9 WWTPs)				43,00	

Nr.	Location	Sector	Project Title	Linked Hot Spot	Status	Financing Secured (Yes / No)	Value (m EUR)	Donor / IFI Involvement
7	Center	WW	Establishement and upgrading of main WTPs (13 WWTPs)				71,60	
8	Negev	WW	Establishement and upgrading of main WTPs (5 WWTPs)				19,60	
9	Various	WW	Construction of dedicated WTPs for treating the remaining waters of fishpond				32,70	
10	Various	WW	Diverting the flow of urban run offs to constructed wetlands (20 units)				6,10	
11	Various	WW	Integrated treatment to reduce pollutants from diffuse sources through reduction at source. Rehabilitation of riverbank vegetation and creation of buffer zones and intensification of the self-purification capacity of rivers		On-going		684,00	
12	Various	WW	Development of a pilot project to assess the most efficient treatment method for water emissions from fishponds.				26,00	
13	Various	WW	Diverting the flow of urban runoff to constructed wetlands (follow up of the pilot project in the Yarkon river)				9,00	

IV.2 – Solid waste

Nr.	Location	Sector	Project Title	Linked Hot Spot	Status	Financing Secured (Yes / No)	Value (m EUR)	Donor / IFI Involvement
14	Netanya	SW	Netanya Landfill Mining and Reclamation		Under preparation	No	50,00	N/A
15	Haifa	SW	Rehabilitation of closed landfill	Haifa bay	Under Preparation	No	6,00	N/A
16	Ashkelon	SW	Rehabilitation of closed landfill		Under preparation	No	6,70	N/A
17	Rishon LaZion	SW	Rehabilitation of closed landfill		Under Preparation	No	5,00	N/A
18	Retamim	SW	Rehabilitation of closed landfill		Ongoing	Yes	8,20	?
19	Hana'aman	SW	Rehabilitation of closed landfill	Naaman river mouth	Under preparation	No	2,20	N/A
20	Herzliya	SW	Rehabilitation of closed landfill		Under preparation	No	6,80	N/A
21	Ashdod	SW	Rehabilitation of closed landfill	Ashdod	Under preparation	No	4,60	N/A
22	Bat Yam	SW	Rehabilitation of closed landfill (removal of waste)		Under preparation	No	0,80	N/A
23	Hiriya	SW	Rehabilitation of closed landfill				?	
24	Ayalon	IE	Rehabilitation of sewage collector and construction of pumping station		Under preparation	No	123,00	N/A

25	Ashdod	IE	Upgrade of WWTP to biological treatment	Ashdod	Under preparation	?	?	?

IV.3 – Industrial emissions

Nr.	Location	Sector	Project Title	Linked Hot Spot	Status	Financing Secured (Yes / No)	Value (m EUR)	Donor / IFI Involvement
26	Haifa	IE	Rehabilitation of Kishon River (dredging of river bed, etc.)	Haifa bay	Under preparation	No	20,00	N/A
27	?	IE	Pre-treatment in Miluban plant	Naaman river mouth			?	
28	National	IE	Control the reduction rate of the metals Hg, Cd and Pb (in air and liquid emissions) in comparison to the NBB.					
29	National	IE	Equipping gasoline-powered vehicles with catalytic converters (90% of vehicles by 2014)					
30	National	IE	Compliance of diesel engines of vehicles with Euro "3" and "5" standards (by 2014, 74% of trucks, 97% of taxis, 73% of minibuses and 64% of buses)					
31	National	IE	Monitoring and compliance of electricity sector (power plants) and review of their compliance with air standards (by 2010). Enforcement of measures for compliance with national standards (2010-2014)					
32	National	IE	Monitoring and compliance of all industrial plants/facilities and review of their compliance with air standards (by 2010). Enforcement of measures for compliance with national standards (2010-2014)					

Part V – Potential investment needs

The NAP has conducted detailed analysis of potential gaps between anticipated reduction of pollution loads under the ''baseline as usual'' scenario[5] and the SAP targets in 2014 and 2025.

The tables below illustrate some of the results of these assessments (NAP, 2006):

Forecast of pollution loads from the main brackish sources that discharge directly to the sea for target year 2014

Pollutants	*% decrease -2003-2014 business as usual (Kg/year)*	*% decrease according to SAP targets 2014*	*Gap in percent***
*Total organic Carbon (TOC)**	*56*	*50*	*-6*
Benzene	*50*	*50*	*0*

[5] The ''BAU'' scenario is defined as the state which is anticipated assuming all pollution reduction that are based on existing government policies, plans and programmers' are fully implemented

methanol	*50*	*50*	*0*
Toluene	*50*	*50*	*0*
Metals (Hg, Cr, Cd, etc.)	*94-97*	*50*	*-44 to -47*
Nitrates (N03)	*76*	*50*	*-26*
Suspended solids (TSS)	*99*	*50*	*-49*
Ammonia (NH4)	*94*	*50*	*-44*
BOD	*81*	*50*	*-31*
Phosphorus	*99*	*50*	*-49*
Total Nitrogen (N)	*93*	*50*	*-43*
Mineral oil	*96*	*50*	*-46*
Oils and Fats	*99*	*50*	*-49*

**not including the Shafdan site*
*** a negative gap means that the anticipated pollution reduction exceeds the SAP target*

Quantity of nutrients anticipated to be emitted in rivers in target years 2014 and 2025 under BAU scenario

Pollutants	*Polluting sector*	*Reduction technology*	*% decrease -2003-2014 business as usual*	*% decrease according to SAP targets 2014*	*Gap in percent**	*% decrease -2003-2025 business as usual***
TOC	*WTPs*	*Upgrading of WTPs*	*62*	*50*	*-12*	*86%*
	Diffuse sources	*Reduction of pollution, sources, rehabilitation of river bank vegetation and creation of buffer zone along rivers*				
	Urban runoff	*Release through constructed wetlands*				
Total Nitrogen (NH3+NH4)	*WTPs*	*Optimising nitrification & denitrification treatment*	*54*	*50*	*-4*	*79%*
	Diffuse sources	*Altering river sections, creating river floodplains, rehabilitation of river bank vegetation and creation of buffer zone along rivers*				
	Urban runoff	*Release through constructed wetlands*				
Total Phosphorus	*WTPs*	*Including biological process for phosphorus removal in WWTPs*	*72*	*50*	*-22*	*92%*
	Diffuse sources	*Altering river sections, creating river floodplains, rehabilitation of river bank vegetation and creation of buffer zone along rivers*				
	Urban runoff	*Release through constructed wetlands*				

** a negative gap means that the anticipated pollution reduction exceeds the SAP target*
*** Based on River Administration Data*

The NAP concludes that the BAU scenario will bring about significant reduction in pollution loads which, in most cases, would exceed the SAP targets for 2010 and would meet to a large extent the 2025 targets. It considers that there are no major gaps between the BAU scenario and the SAP targets that would require significant additional measures to be taken and investment needs to be covered.

However, it was not possible in the desk review to assess the actual progress of the country towards such an optimistic scenario. This will hopefully be done in the second phase, using notably the data generated by the updated National Baseline Budget assessment currently being undertaken by UNEP MEDPOL.

Part VI – Assessment

The NAP included a number of combined WWT programmes which could not be broken down to the project level due to lack of information. Also, information was not sufficient to link these programmes with specific hotspots.

From the review, one can expect that most WWT projects listed under the NAP have now been completed given the high collection and treatment rate displayed by the country. This is also reflected in the more recent H2020 project list that includes only one WWTP project for Israel (Alexander river).

Furthermore, the NAP clearly states that if the various de-pollution activities identified for each of the 4 hotspots (see summary table in Part II) are implemented as planned, the country will reach the SAP targets set for 2014 and even eliminate by that year all current hotspots. Therefore, the NAP does not expect gaps with the SAP targets.

However, implementation of important hotspot projects seems to have encountered some delays which may have hampered the full realisation of the NAP scenario. For example, the NAP had identified as priority hotspot project the full treatement and recovery by 2014 of the sludge generated by the Shafdan WWTP, one of the biggest pollution spots in the country. However, in 2012, only 15% of the sludge were treated and no end-solution was in place for the remaining 85% which were still discharged to the sea in 0.5-1.5% concentration.

The second phase of the study will provide greater clarity on the above issues, including the exact status of NAP projects and de-pollution investments needs in the country.

Part VII – Key contacts

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Country report
Italy

Part I – General background

Italy has quite a long coast from the eastern and western sides. As an EU member country, Italy has to follow stringent EU regulations. In addition, a long list of Italian legislations (laws and decrees) is available to address pollution in general and coastal pollution from LBA.

Since the years 1999-2000, several laws and ministerial decrees were issued as part of the "National programmes for environmental recovery and remediation of polluted sites" that was later on integrated by the Law n. 179, 31 July 2002, "Regulations on environmental topics". In general, the pollution is mostly caused by industrial activities.

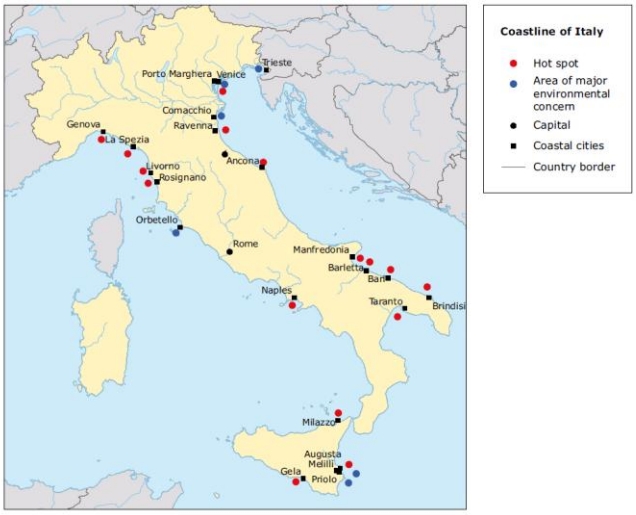
It should be noted that Italy has regional plans for water safeguard and communities with more than 10,000 inhabitants should have treatment plants (secondary or tertiary) that can remove more than 75% of nutrients load. Accordingly, those locations are reported as sensitive areas.

Part II – National pollution hotspots

The hotspots in Italy are more referred to contaminated sites with high national importance. The below list show the sites, region, reference decree and major type of pollutants.

CONTAMINATED SITEs	REGION	DECREE / LAW	MAIN POLLUTANTS
LIVORNO	Toscana	D.M. 468/01	Heavy metals Total hydrocarbons
MASSA AND CARRARA	Toscana	L. 426/98	Heavy metals Polycyclic Aromatic Hydrocarbons (PAH) Phenols Pesticides Solvents
ORBETELLO (DISMANTLED SITOCO SITE)	Toscana	L. 179/02	Heavy metals (Arsenic lead zinc cadmium copper) Polycyclic Aromatic Hydrocarbons (PAH) COD related to treatment plant
PRIOLO	Sicilia	L. 426/98	Petroleum Heavy metals Polycyclic Aromatic Hydrocarbons (PAH) Metals based on asbestos
GELA	Sicilia	L. 426/98	Heavy metals Polycyclic Aromatic Hydrocarbons (PAH) Total hydrocarbons
PORTO TORRES (INDUSTRIAL AREA)	Sardegna	L. 179/02	Nutrients (Nitrogen and phosphorus compounds) Heavy metals Polycyclic Aromatic Hydrocarbons (PAH) Heavy hydrocarbons
MANFREDONIA	Puglia	L. 426/98	Heavy metals Polycyclic Aromatic Hydrocarbons (PAH)
BRINDISI	Puglia	L. 426/98	100.000 tons of hazardous wastes related to ex- SACA plant Some covering in eternity in the port area
TARANTO	Puglia	L. 426/98	Polycyclic Aromatic Hydrocarbons (PAH) Total hydrocarbons PCBs Heavy metals (Mercury, copper, lead, cadmium, zinc) Phenols

CHIENTI RIVER BASIN	Marche	D.M. 468/01	Trichloroethane Trichloroethylene Tetrachloroethylene
FALCONARA MARITTIMA	Marche	L. 179/02	Heavy metals Polycyclic Aromatic Hydrocarbons (PAH) Total hydrocarbons Fluorides Sulphates
PITELLI (LA SPEZIA)	Liguria	L. 426/98	Heavy metals PCBs Hydrocarbons Organostannic compounds
TRIESTE	Friuli Venezia Giulia	D.M. 468/01	Total hydrocarbons Heavy metals
GRADO AND MARANO LAGOON	Friuli Venezia Giulia	D.M. 468/01	Heavy metals (copper, lead,chromium, cadmium, zinc) Mercury PCBs Polycyclic Aromatic Hydrocarbons (PAH)
NAPOLI - EAST COAST	Campania	L. 426/98	Polycyclic Aromatic Hydrocarbons (PAH) Total hydrocarbons PCBs Copper, lead, chromium, cadmium, zinc mercury, arsenic
SALINE AND SALENTO RIVERS	Campania	D.M. 468/01	Waste burden BOD COD
CROTONE - CASSANO - CERCHIARA	Calabria	D.M. 468/01	Heavy metals (copper, lead,arsenic, cadmium, zinc) Total hydrocarbons
DOMIZIO FLEGREO AND AGRO AVERSANO COASTAL ZONE	Campania	L. 426/98	Heavy metals (copper, lead, arsenic, cadmium, zinc, mercury) Polycyclic Aromatic Hydrocarbons (PAH) Total hydrocarbons PCBs Nutrients Cyanides Urban waste water pollution
NAPOLI BAGNOLI - COROGLIO	Campania	L.388/2000	Heavy metals (copper, lead, arsenic, cadmium, zinc) Total hydrocarbons Polycyclic Aromatic Hydrocarbons (PAH)
VESUVIO COASTAL ZONE	Campania	L.179/2002	-
COGOLETO - STOPPANI	Liguria	D.M. 468/01	Diffuse Chromium pollution
SULCIS – IGLESIENTE - GUSPINESE	Sardegna	D.M. 468/01	Heavy metals (copper, lead, arsenic, cadmium, zinc) Iron
PIOMBINO	Toscana	L. 426/98	Atmospheric pollutions: dust, Polycyclic Aromatic Hydrocarbons (PAH), Nitrogen oxides, Sulphur oxides Dismantled industrial and urbanwaste dumping Surficial water: Polycyclic Aromatic Hydrocarbons (PAH)
VENEZIA (PORTO MARGHERA)	Veneto	L. 426/98	Heavy metals Cyanides Polycyclic Aromatic Hydrocarbons (PAH) Dioxins PCBs Chlorophenols Chlorides Solvents Benzene and its compounds BTEX and Pesticides



EEA Report 4/2006

Part III – Projects

Italy is composed of 21 regional Governments and the below present a list of initiative and projects that should be implemented by some and/or all these Governments.

III.1 - Waste water

1. *The development of national programs for the environmentally sound management of sewage*
    a. *The connection, by 2005, of all coastal cities and urban agglomerations of more than 100.000 inhabitants to a sewer system as well as the disposal of sewage in conformity with a national regulation system.*
    b. *The location of coastal outfalls so as to obtain or maintain agreed environmental and health quality criteria.*
    c. *The promotion of primary, secondary and where appropriate and feasible tertiary treatment of municipal sewage.*
    d. *The satisfactory operation and maintenance of sewage treatment facilities*
    e. *The reuse of treated effluents for the conservation of water resources, accompanied by infrastructural measures, treatment at source and the segregation of industrial effluents, where required.*
    f. *The appropriate design of treatment plants and controls of the quality of effluent wastewaters in accordance with national regulations, for the beneficial reuses of sewage effluents and sludge.*
    g. *The environmentally sound treatment of combined domestic and compatible industrial effluents.*
    h. *The separate collection of rain water and municipal wastewater and treatment of the first rain water considered particularly polluting.*
    i. *The environmentally sound disposal and/or use (composting, landfilling etc.) of sewage sludge.*
    j. *The prohibition of sludge discharge into water in the Protocol Area.*
2. *Updating and adopting of national regulations on sewage discharges to the sea and rivers*
3. *Establishing a system of previous authorisation by competent national authorities for works which cause physical alterations of the natural state of the coastline or the degradation of coastal habitats*

III.2 – Solid waste

1. *The development of national programs for the reduction at source and environmentally sound management of urban solid waste in coastal area*
    a. *The establishment, by 2005, of environmentally sound and economically feasible systems of collection and disposal of urban solid waste in coastal cities and urban agglomerations of more than 100.000 inhabitants.*
    b. *The creation of selective garbage collection systems.*
    c. *The environmentally sound location of urban solid waste disposal sites.*

d. *The promotion of urban solid waste reduction and recycling.*
e. *The implementation of national training programs proposed to commence in 2002-2003, on effective waste reduction policies and on the environmentally sound management of urban solid waste in coastal area, including options for recycling and environmentally sound elimination.*

III.3 – Industrial emissions

1. *To develop national programs for the environmentally sound management of wastewater and solid waste from industrial installations which are sources of BOD.*
    a. *The disposal of all wastewater from industrial installations, which are sources of BOD, nutrients and suspended solids, located in areas of concern, in conformity with a national regulation system to be formulated and adopted by 2002.*
    b. *The location of coastal outfalls so as to obtain or maintain agreed environmental quality criteria.*
    c. *The promotion of primary, secondary and where appropriate and feasible tertiary treatment of BOD wastewater discharged into rivers, estuaries and the sea.*
    d. *The sound operation and proper maintenance of facilities, to be promoted through the organisation of relevant training programs.*
    e. *The implementation of measures for the reduction and beneficial use of wastewater or other measures appropriate to specific sites such as no-water and low-water solutions, to be facilitated through the organisation of relevant training programs and/or workshops.*
    f. *The environmentally sound disposal and/or use (composting, landfilling, etc.) of sludge and other wastes, to be facilitated through the organisation of relevant training programs and/or workshops.*
2. *The development of national programs to control air pollution from mobile sources.*
    a. *Measures to promote and provide incentives for public transportation.*
    b. *Measures for the promotion of improved traffic management, giving priority to the use of public transport.*
    c. *Measures for the promotion of lead-free petrol, also containing low level aromatic hydrocarbons.*
    d. *Measures for the improved inspection and maintenance of vehicles and the replacement of old-technology vehicles through economic incentives.*
    e. *Measures to promote increased regional and domestic introduction of natural gas.*
    f. *Measures to promote the introduction of gaseous fuel or other alternative forms of energy to substitute diesel fuel in public transportation, particularly buses.*
    g. *Measures to support and encourage the participation of public transport services in the above activities.*
3. *To prepare national programs for the reduction and control of pollution by the heavy metals, mercury, cadmium and lead.*
    a. *The adoption at the national level by 2005 at the latest and application of the common measures for preventing mercury pollution adopted by the Parties in 1987 (releases into the sea max. conc. 0.050 mg/l).*
    b. *The adoption at the national level by 2005 at the latest and application of the pollution prevention and control measures for cadmium and cadmium compounds adopted by the Parties in 1989 (releases into the sea max. conc. 0.2 mg/l).*
    c. *Legal framework for the adoption and application by 2005 at the latest in the industries of the alkaline chloride electrolysis sector.*
4. *To prepare national programs for the reduction and control of pollution by the following organohalogen compounds.*
    a. *To adopt at the national level and apply by 2005 at the latest, the common measures for the control of pollution by organohalogen compounds adopted by the Parties.*
    b. *To reduce the use of short-chained chlorinated paraffins in accordance with the LBS Protocol and internationally agreed provisions for the safeguarding of the environment and human health.*
    c. *To regulate, by the year 2005 at the latest, releases of organochlorines by the paper and paper pulp industries.*

d. *Limiting discharges measured as AOX (adsorbable organic halogen) to 1 kg per ton of paper pulp produced and by reducing it further in accordance with internationally agreed provisions.*
e. *Promotion of BEP and BAT and the promotion of alternative bleaching to the use of molecular chlorine.*
f. *To reduce and control the manufacture of PBDEs and PBBs in accordance with the LBS Protocol and other regionally and internationally agreed provisions.*
g. *To reduce and control the manufacture and use of certain pesticides, such as lindane, 2,4-D and 2,5-T herbicides, and tri- tetra- and penta-chlorophenols, used in the treatment of wood, in accordance with the LBS Protocol and other regionally and internationally agreed provisions for the safeguarding of the environment and human health.*

5. *Phasing out the use of the nine pesticides, except for those for which who recommendations related to the safeguarding of human life suggest otherwise.*
6. *Prohibiting the manufacture, trade and new uses of PCBs*
7. *Provision for regional management concerning storage, reuse and discharge of lube oils, batteries and chemicals substances related to battery production.*
8. *Adoption of monitoring campaign on storm water runoff related to industrial areas.*

Part IV – Potential investment needs

The NAP's have identified quite a long list of initiatives and programmes whereby each regional Government will have its own list of projects to meet those targets.

During the next phase of the study, we will attempt to identify the investment needs or projects that are still required to meet the targets set for 2025.

Part V – Assessment

The NAP of Italy has identified the hotspots as contaminated sites that require treatment with a long list of programmes that were identified based on a survey with the 21 regional Governments in Italy. In addition, the NAP identifies targets for 2005 and 2025 in the following sectors:

1. *Sewage management*
2. *Urban solid waste management*
3. *Air pollution*
4. *Toxic, persistent and liable to bio-accumulate substances*
5. *Organo-halogen compounds*
6. *Radioactive substances*
7. *Nutrients and suspended solids*
8. *Hazardous wastes*

The targets are in most cases reinforced by Italian legislations and require several action plans essential to achieve those targets not to forget that Italy has to abide as well by EU directives.

In some sectors, objectives seem to be quite vague but activities were put to achieve pollution reduction and better environmental conditions.

Part VI – Key contacts

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Country report
Lebanon

Part I – General background

Lebanon is a relatively small country and environmental problems are still mostly managed and addressed on the national level rather on administrative district areas.

Most projects on the national level are executed through ministries and/or Council for Development and Reconstruction (CDR) who is in charge of large projects on behalf of the Government specifically when funding is provided through loans.

Strategies and National plans have addressed the environmental problems through the past years; however, projects' execution is always subject to the availability of funds and other political constraints.

Protection of the seashores and the Bekaa groundwaters has been always considered as priorities on the national level; accordingly, several projects were executed or awaiting to be executed.

In Lebanon, most of the coastal zones are populated whereas wastewater is directly discharged in the Mediterranean Sea either directly on the coast or after primary treatment through sea outfalls.

Several types of industries are constructed on the coastal zone causing significant pollution without much action from the Government.

Solid Waste dumpsites are still utilised on the seaside without proper management and control of leachate; it should be noted that only around 60% of MSW generated in Lebanon is properly collected and managed although there are concerns about leachate that is simply discharged in WWTP on the coastal zone performing at a primary treatment level.

The reasons behind this situation is due to the fact that the country is emerging from 30 years of civil unrest, and being heavily loaded with consequences. There have been attempts for having a proper strategic planning that could not be implemented due to financial constraints or public/political oppositions.

Part II – National pollution hotspots

The Strategic Action Programme and National Action Plan (SAP-NAP) prepared in 2005 by UNEP-MAP has defined several sensitive areas and hotspots. In addition, it has described several projects that would help achieving pollution reduction in the Mediterranean.

The hotspots/sensitive areas listed in the SAP-NAP of 2005 are:

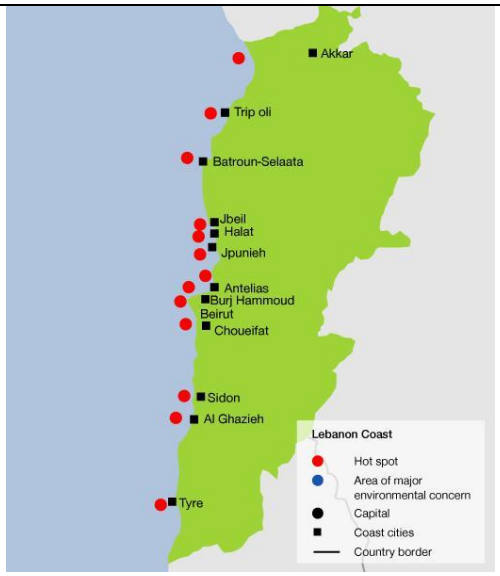
Hot Spots	Status	Rationale
3. Coastal stretch from IPC (Beddawi) to El-Mina port	C	Site of future wastewater plant. Possible site of future solid waste landfill on land reclaimed from the sea. Calls for re-classifying existing coastal tourism zone as an industrial zone
10. Jounieh and mountain	C	Characteristic landscape and quality of life degraded by uncontrolled urban growth
12. Metn-Nord	C	Beaches either lost forever or privatised. Opportunity for planned urban development of reclaimed land. High environmental impacts of supplying required aggregate and sand
13. Beirut, w/ Grotte aux Pigeons	C	Several hot spots (port, Normandy landfill) and sensitive areas
14. Airport and ELISSAR	C	Beaches either lost forever (if land reclamation options selected) or privatised. Delicate relocation of industries and people
17. Saida coastal area	C	Northern beaches threatened by urbanisation and tourism development pressures. Coastal highway project would separate old city from fishing port and Sea Castle. Environmental and socio-economic impacts of SIDON port
19. Zahrani area	C	Old refinery site and industrial area requiring rehabilitation

Sensitive Areas	Status (1)	Rationale
1. Akkar beach and dunes	B	Beach degradation and erosion
2. Akkar agricultural plain	A	Potential loss of agricultural area due to urbanisation and free trade zone
4. Ras en Natour&Enfe	B	Characteristic landscape (salinas, historic port) threatened by mass-scale tourism development
5. RasechChaquaa, w/ Chekka and Selaata industries (from Chekka to Batroun)	A	Outstanding natural beauty and biotope of rich biodiversity, threatened by industrial growth and quarries (Chekka and Selaata).De-classified stretch of coast (previously industrial) offers opportunity for sound management
6. Nahr el-Jawz valley and Msaylha fortress	A/B	Cultural, archeological, and natural landscape requiring protection. Visual impacts of illegal quarry behind Msaylha fortress.
7. Batroun marine reserve	B	Declared reserve ill-defined with no management or conservation plan
8. Amsheet-Jbail coastal area	A	Tourism development pressures could hinder public access to the beach and spoil landscape. Rocky mountain (w/ garrigues) and green area could serve as urbanisation buffer zone
9. Nahr Ibrahim valley	B	Unique ecology and legendary landscape devastated by quarrying and currently still threatened by industry and urbanisation
11. Nahr el-Kalb valley and river mouth	B	Geology, paleontology, biodiversity, and history of this unique site threatened by infrastructure (highway and power plants) and rampant urbanisation. Jeita spring source threatened by increased pollution
15. Damour plain	B	Agricultural plain/green space threatened by tourism development pressures
16. NahrHammam valley	A	Pristine valley with interesting ecological habitat needing legal protection
18. Rmeileh beach	A	Sandy coast to be protected (Oceana private beach club)
20. Litani sea shore and valley &Kasmieh plain	A	Ecological and economic importance of river needs special protection. Sandy coast and scenic valley to be protected. Agricultural plain threatened by ribbon urbanisation along new highway
21. Mhaylib coastal area	B	Publicly-owned “beach reserve,” currently partially occupied by illegal housing
22. Tyre, to Rashidieh camp south	B	Unique historic and cultural sites. Access to the sandy beach north and south beach threatened by tourism development projects
23. Rashidieh to Ras el-Ain	A	Competing interests of conservation, agriculture, and tourism need integrated planning and management approach
24. Iskandarouna beach	A	Sandy coast to be protected
25. Ras en-Naqoura	A	Distinctive landscape and ecological importance threatened by rushed development in the event of regional peace. Opportunity to reroute inland the southern stretch of coastal expressway before expropriation and building activities begin

(1) The status refers to the level of importance of the area where C is a hotspot and A or B are considered as sensitive areas.

The following sections of this report will present the list of projects of the SAP-NAP with its status. At a later stage of the study, the project list will be amended with other projects executed in the previous years and potential investment projects necessary to meet the targets of 2025.

The following map shows the main hotspots location as presented in the MED partnership.



Part III - Sectoral Overview

III.1 - Wastewater

In 2001, law 221 addressed the water and formed four main Water Establishments (WE) (Beirut and Mount Lebanon, North Lebanon, South Lebanon and Bekaa Valley) whereby wastewater became the responsibility of the water establishments that are under the mandate of the Ministry of Energy and Water (MoEW). However, several projects are implemented by the CDR since it was funded through loans to the Government. After execution, projects should be operated by the WE.

Before being the WE responsibility, the WW sector was the responsibility of the Municipality that did not have the capacity to efficiently manage this sector. Several small WWTP were constructed and handed over to the Municipality that could not afford its operational costs.

After 2001, although the WE were formed from several water authorities, the WW sector is completely a new field to them and they are still understaffed and require much training to be able to manage the WW sector properly.

Several WWTP were constructed and there are still no sewage collection networks. Other treatments plants have considered only primary treatment since there are concerns about the effect of industrial wastewater on the biological treatment if implemented. It should be noted that most of the industries discharge its WW directly in the municipal sewer lines without pre-treatment.

The CDR has set several national plans in the past with investment needs and priorities. The MoEW has recently set a national strategy (2012) for municipal wastewater treatment that includes the construction of WWTP on regional and sub-regional levels.

Legislation and Monitoring of the sector is generally the responsibility of the Ministry of Environment (MoE) and MoEW. The MoE holds in principle the monitoring and supervision role however lacks the resources to perform those tasks.

III.2 – Solid waste

Municipal Solid Waste has been always considered the responsibility of the Municipalities especially street sweeping and collection. However, since the municipalities do not have the proper resources to manage this sector, the CDR has been since 1997 managing solid waste generated from Beirut and Mount Lebanon area. In other areas, the municipalities have been trying to resolve these problems through the available means and with the support of international grants or donations.

The main challenges in the sector is the difficulty to find appropriate location for implementation of solid waste management and treatment facilities; this has always created national debates and resulted in intense

objections.

A recent study conducted by the UNDP has shown that there are 670 uncontrolled MSW and C&D dumpsites scattered in different locations in Lebanon.

Furthermore, one of the main problems of solid waste management in Lebanon is the absence of a sustainable source of funding. A Law was issued in 2012 that address several options for financing the solid waste sector. The Law still requires implementation decrees however it is considered to be a first step towards the organisation of the sector.

Solid waste policies in Lebanon have been prepared in coordination between the MoE and CDR. The latest strategies consider the waste to energy approach for treatment of solid wastes since it has been very difficult to find a landfill location that would not cause public oppositions.

III.3 – Industrial emissions

The Ministry of Industry (MoI) is the main governmental entity in charge of the sector; however, due to a recent decree issued by the Government, the MoE plays a key role in the permitting process through the review and approval of EIA and IEE studies that are mandatory before construction.

Although the private sector has a major role in the industrial sector in Lebanon, there is a lack of enforcement for abiding to Environmental standards that should be the main responsibility of the MoE. The industries have always the tendency to avoid additional expenses in order to maximise their profit without environmental considerations.

Although some industries show self-initiatives towards environmental protection, there is a need for enforcement to be undertaken at the national level.

The amount of pollution resulting from industries is significant and no discharges should be allowed in the municipal sewer network or the Environment that do not meet the set standards.

From the Environmental perspective, the MoE holds the responsibility to provide permits for construction and operation of industrial activities. Furthermore, the MoE is responsible for monitoring and inspection activities.

Policies and action plans are normally set in coordination between the MoI and MoE.

Part IV – Projects

The following table summarises the list of projects outlined in the NAPs showing its cost and status with regards to financing. The second phase of the study will provide updates on these projects with its operation impacts and its involvement towards the de-pollution targets:

IV.1 - Waste water

Nr.	Country	Location	Sector	Project Title	Construction Status	Operation Status	Value (EUR)
LEB 1	Lebanon	Various	WW	Rehabilitation of wastewater sewer networks	Completed		17,777,777.78
LEB 2	Lebanon	Ghadir	WW	Carlton-Ghadir coastal collector	On-going		7,777,777.78
LEB 3	Lebanon	Beirut	WW	WW collectors in North and South Beirut	On-going		59,259,259.26
LEB 4	Lebanon	Saida	WW	Construction of a treatment plant and wastewater collectors in Saida	Completed (Primary Only)	Yes	7,037,037.04
LEB 5	Lebanon	Chekka	WW	Chekka WWTP	Completed (Not Connected)	No	11,300,000.00
LEB 6	Lebanon	Batroun	WW	Batroun WWTP	On-hold		7,200,000.00
LEB 7	Lebanon	Jbeil	WW	Jbeil WWTP	On-hold		8,800,000.00
LEB 8	Lebanon	Chouf coastal	WW	Chouf WWTP	On-hold		13,100,000.00

		areas					
LEB 9	Lebanon	Nabatieh	WW	Nabatieh WWTP	Completed (Not Connected)	No	8,500,000.00
LEB 10	Lebanon	Tripoli	WW	Tripoli WWTP	Completed (Not Connected)	No	70,000,000.00
LEB 11	Lebanon	Keserwan	WW	Keserwan WWTP	On-hold		9,629,629.63
LEB 12	Lebanon	Dora	WW	Dora WWTP	On-hold		8,148,148.15
LEB 13	Lebanon	Ghadir	WW	Ghadir WWTP	On-hold		11,111,111.11
LEB 14	Lebanon	Beirut	WW	Rehabilitation of infrastructure in Beirut	On-going		11,300,000.00

IV.2 – Solid waste

Nr.	Country	Location	Sector	Project Title	Construction Status	Operation Status	Value (EUR)
LEB 15	Lebanon	Beirut	SW	Rehabilitation of Normandy Dumpsite	Completed	N/A	39,259,259.26
LEB 16	Lebanon	Outside Beirut	SW	Collection and landfilling projects to cover the rest of the country	On-going		370,370,370.37
LEB 17	Lebanon		SW	Rehabilitation of 4 dumpsites (Bourj Hammoud, Saida, Ras el Ain and Tripoli)	On-hold		148,148,148.15
LEB 18	Lebanon		SW	Construction of Three Landfills (Zahleh, Baalbeck and Tripoli)	On-going	Yes	18,518,518.52

IV.3 – Industrial emissions

Nr.	Country	Location	Sector	Project Title	Construction Status	Operation Status	Value (EUR)
LEB 19	Lebanon		Agri	Integrated pest management plan			370,370.37
LEB 20	Lebanon		Ind	Industrial waste management (liquid effluents, air emissions, solid waste)			148,148,148.15

Part V – Assessment

It was noted that most projects outlined in the NAPs address mostly the solid waste and wastewater sectors. Project number 20 refers to the industrial sector; however, it is not clear how it will address and what will be the coordination mechanism between the government and the private sector.

Furthermore, it was noted that some projects are not located on the coastal zone but within the watershed that may affect the Mediterranean Sea.

In the NAPs, there were no description on the air pollution sector or the electrical generation sector especially that there are many power plants, fuel refineries and cement factories operational on the coastal zone.

Finally, it was not clear in the NAPs if the projects will be enough to ensure the targets will be met by 2025.

Part VI – Investment Needs

Based on the initial desk review, it is certain that much more effort is needed and additional projects are required

to meet the 2025 targets. This section will be further developed in the next phase to identify those investment needs for all sectors.	
Part VII – Key contacts	
MEDPOL Focal points	**Mr Hassan Hoteit** Acting Head Department of Urban Environmental Protection Ministry of the Environment Lazarieh Building, 7th floor - Beirut Central District P.O. Box 11-2727 Beirut Lebanon Tel: +961 1 976 555 ext. 448
UfM Focal Points	???
Key contacts (Environment, Planning, Municipality, Industry, water	Ministry of Environment: Mr. Bassam Sabbagh, Head of Department of Urban Environmental Protection Tel: +961 1 976555 ext. 402

Country report
Libya

Part I – General background

In Libya, It has been found that the main source of pollution to the Mediterranean is municipal waste water, directly discharged to Sea, due to operation problems in pumping stations and treatment plants. Despite of extensive expenditure in infrastructure projects, during the Seventies and Eighties, including significant extension of municipal sewage networks; the construction and equipment of waste water treatment plants, at least up-to secondary treatment level.

However, failure of operating such plants to the required level, and the economic embargo imposed on Libya during the 90s, greatly contributed to complete breakdown of many pumping station, treatment plants, permanently using emergency drainage outlet, to directly discharge waste water to the Mediterranean Sea, without treatment. Moreover, lack of sewage networks in some other areas, contributed to using beaches dumps for the disposal of wastewater.

From another perspective, solid waste management was not included in the infrastructure of most developed cities. Most Coastal cities have not yet developed any Master plans for solid waste management especially with regards to solid waste disposal programs for construction & demolition (C&D) waste, comparable to same garbage volume. Absence of plans and controlled operations contributed to widespread dumpsites, covering extensive areas on the seashore. Random disposal of solid waste in some shore areas caused pollution and damage to local landscape and ecosystems, some parts of it reaching the Sea through wind and floods in the rainy season.

Hazardous waste has been a general environmental problem across Libyan regions. This is due to poor environmental awareness of the damage of such substances on human health and the Environment; in addition, inactivation of necessary legislation hazardous material, whether medical or industrial. Moreover, the absence of control on all Liquid or solid wastes has led to the spread of numerous hazardous substances, especially in garbage dumps mixed with other solid waste.

Part II – National pollution hotspots

The Strategic Action Programme and National Action Plan (SAP-NAP) prepared in 2005 by UNEP-MAP has defined several areas of major concerns and hotspots. In addition, it has described several projects that would help achieving pollution reduction in the Mediterranean.

The hotspots listed in the SAP-NAP of 2005 are:

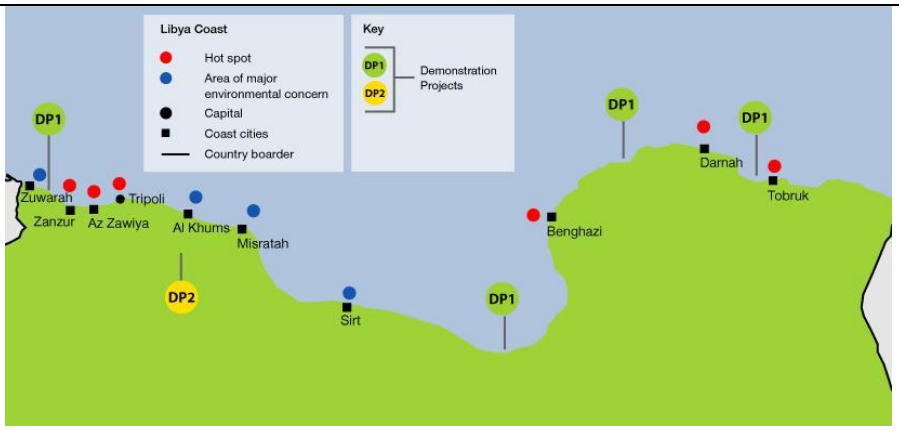
1. *Zanzur*
2. *Az Zawiya*
3. *Tripoli*
4. *Benghazi*
5. *Damah*
6. *Tobruk*

The areas of major concerns listed in the SAP-NAP of 2005 are:

1. *Zuwarah*
2. *Al Khums*
3. *Misratah*
4. *Sirt*

The following sections of this report will present the list of projects of the SAP-NAP with its status. At a later stage of the study, the project list will be amended with other projects executed in the previous years and potential investment projects necessary to meet the targets of 2025.

The following map show the main hotspots location as presented in the MED partnership.



Part III - Sectoral Overview*(Max. 1 page)*

III.1 - Wastewater

Local Administrations in Libya are represented by "Shabeyat", which are administrative formations, with land boundaries, containing a number of urban settlements, having complete authority over local area Administration, through People's Congresses, which include all inhabitants within the Congress area. Those people, in turn, elect a People's Committee (Executive Body) to manage the Shabeya; which, in certain regimes, are comparable to Provinces or States. Each Shabeya has its own budget, and have the right to utilise and manage its natural resources except for petroleum, which is considered as National Wealth.

Officials managing the Shabeya may issue the necessary decisions or instructions to manage financial, commercial administrative and environmental affairs within the Shabeya, in conformity with applicable legislations and laws at the National level. In environmental protection scope, the Shabeyat is responsible for protecting environment health with regard to solid waste and sewage management, provision of drinking water, coast protection, and private small factories.

The Strategic Action Programme aims to provide each coastal city with over 100, 000 population with a waste water treatment plant before discharge to sea shore. The National Diagnosis Analysis (NDA) report revealed that a number of wastewater treatment plants are nonfunctioning for various reasons. Several sectoral meetings have stressed priority of wastewater management for its significant influence in reducing pollution levels and in protecting Human Health and the Environment.

Law No. (15) of 2003 concerning environment has addressed the discharge of untreated waste water to the sea, considering such practice as prohibited, in accordance to Article 34 "It shall be prohibited to directly discharge contaminated water to the sea, or through drainage pipes, to/from the coast, or channels and courses, including internal flow sewerage, before undergoing treatment in accordance to applicable laws, and Executive Regulations thereof".

III.2 – Solid waste

Same as for wastewater, the Shebayat are the main entities concerned and hold the responsibility for the sector.

The Shebayat has set in the late 90s a strategy for solid waste management with its objective to limit on the production of wastes and to promote clean production, reduction at source of wastes through the development of production specifications, encouraging private sector to invest in solid waste activities, preparation of Master Plans for Urban Solid Waste Management, adopting Selective waste collection, and waste recycling, adopting material recovery system by making waste producers pay, environment awareness and education and establishment of a trust fund supports and promote private sector in Solid Waste Management.

Accordingly, it was planned to construct several sanitary landfill, materials recovery facilities and composting facilities.

In 1984, law No. (13) was issued covering public cleaning, provisions and executive regulations thereof. The Law contains (18) Article defining urban cleaning responsibilities, and violation penalty value. The executive regulation thereof has provided various sectors' organisation procedures.

III.3 – Industrial emissions

Same as for wastewater, the Shebayat are the main entities concerned and hold the responsibility for the sector. However, the Shebayat are not responsible for large scale factories (Cement or similar) and power plants.

The industries in Libya may be divided in two main classes:

1. ***Major Industries:*** *Including iron, steel, Petrochemicals, Cement Textile, etc. These industries are located away from cities, and equipped with special solid and liquid waste treatment and disposal systems. Most environmental problems associated with such industries result from problems in waste treatment systems, or its efficiency.*
2. ***Small Industries:*** *Including Food, diary, garment, metallic paints detergent, and soap and other industries. These industries are usually located inside or outside cities. Factories within the city tend to discharge their liquid waste through municipal sewer system, if any, otherwise liquid waste is collected in collection tanks, to be transported and discharged on uncontrolled areas.*

Policies and legislations are required to address the industrial sector more in details for proper control of solid and liquid waste that may be generated from industrial activities. Through such legislation, the concerned Shabeyat authorities could enforce control measures requiring factories to up-grade its waste treatment systems.

Part IV – Projects

The following table summarises the list of projects outlined in the NAPs showing its cost and status with regards to financing. The second phase of the study will provide updates on these projects with its operation impacts and its involvement towards the de-pollution targets:

Nr.	Country	Location	Sector	Project Title	Financing Secured (Yes / No)	Value (EUR)	Donor / IFI Involvement
LIB 1	Lybia	Various	WW	WWTP maintenances and constructions	No	93,311,175.00	
LIB 2	Lybia	Various	SW	Sanitary landfills	No	42,083,339.93	
LIB 3	Lybia	Various	Ind	Improvements on Cement industries (6 plants)	No	44,789,364.00	
LIB 4	Lybia		Haz	Regional site for treatment and disposal Hazard chemicals waste	No	12,441,490.00	
LIB 5	Lybia	Tripoli-Sirt-Benghazi		Central environmental Laboratories	No	12,441,490.00	

IV.1 - Waste water

The general table above as mentioned in the NAPs is actually a bundle of projects at different locations. The following list summarises the projects included as project number LIB1:

Nr.	Country	Location	Sector	Project Title
LIB 1	Libya	Various	WW	WWTP maintenances and constructions
	Libya	Zuwarah	WW	Maintenance of civil and mechanical work, connection of sewage pumping satiation in the city.
	Libya	Sabrata	WW	Complete the restoration works
	Libya	Azzawiya	WW	Maintenance of civil and mechanical work, connection of sewage pumping satiation in the city.
	Libya	Janzur	WW	Complete the restoration works complete the pumping stations in the city, expansion of sewer network.
	Libya	Tripoli	WW	Second stage (elhdbaelkadera) Maintenance of civil and mechanical works

Nr.	Country	Location	Sector	Project Title
	Libya	Tripoli	WW	Construction of aen zara WWTP
	Libya	Khums	WW	Maintenance of civil and mechanical work, connection of sewage pumping station in the city.
	Libya	Zliten	WW	Extension of WWTP
	Libya	Misratah	WW	Extension of WWTP
	Libya	Sirt	WW	Connection of Pumping Station with WWTP
	Libya	Ajdabiya	WW	Maintenance of WWTP
	Libya	Benghazi	WW	Maintenance of WWTP
	Libya	Dernah	WW	Maintenance of WWTP
	Libya	Tobruk	WW	Maintenance of WWTP

IV.2 – Solid waste

The general table above as mentioned in the NAPs is actually a bundle of projects at different locations. The following list summarises the projects included as project number LIB2:

Nr.	Country	Location	Sector	Project Title
LIB 2	Lybia	Various	SW	Sanitary landfills
	Lybia		SW	Al Nigat Al Khams
	Lybia		SW	Surman and Sabrata
	Lybia		SW	Azzawiya
	Lybia		SW	Jifarah
	Lybia		SW	Tripoli
	Lybia		SW	Tajura
	Lybia		SW	Tarhunah-Masallatah
	Lybia		SW	Al Mergib
	Lybia		SW	Misratah
	Lybia		SW	Sirt 1 and Sirt 2
	Lybia		SW	Ajdabiya
	Lybia		SW	Al-Hizam Al-Akhdar
	Lybia		SW	Benghazi
	Lybia		SW	AL-Marj
	Lybia		SW	AL-Bieda
	Lybia		SW	AL-Ghobba
	Lybia		SW	Dernah
	Lybia		SW	EL-Batnan

IV.3 – Industrial emissions

The projects related to industrial emissions are same as the one mentioned in the main table above.

Part V – Assessment

The projects mentioned in the NAP address an ambitious and long list of projects especially related to wastewater and solid waste sectors. Although various type of small and large industries were reported present on the coastal zone of Libya, not much information were provided about it, no proper legislation is put in place and no clear projects were reported in the NAPs.

Part V – Investment Needs

Based on the initial desk review and since not much information is available regarding the projects as outlined in the NAPs; therefore, this section will be further developed in the next phase to identify those investment needs for all sectors after providing updates on existing projects.

Part VI – Key contacts

MEDPOL Focal points	
UfM Focal Points	???

Key contacts (Environment, Planning, Municipality, Industry, water – to the maximum extent possible)	

Country report
Malta

Part I – General background

Malta is small island in the Mediterranean and a member of EU. Being an island and having an economy highly dependent on tourism, the protection of the Environment and the maritime zones is of high priorities. Furthermore, being a relatively recent member of the EU, it follows very stringent EU regulations with regards to the Environment.

Malta's goals under this NAP are to:

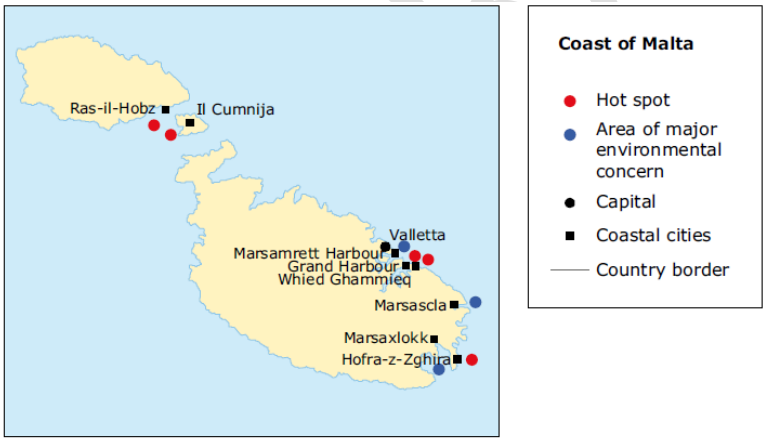
- *protect human health*
- *reduce the degradation of the marine environment*
- *remediate degraded areas*
- *promote the conservation and sustainable use of coastal and marine resources*
- *maintain the productive capacity and biodiversity of the marine environment*

Being a relatively small country, this NAP covers the whole country as a single administrative region. The action plans proposed are based on the environmental issues identified throughout the NDA and BB.

Part II – National pollution hotspots

The hotspots in Malta are presented in the below list showing the name of the hotspots and the type of pollution, this list was taken from TDA since the NAP did not clearly identify the hotspots by name:

Hot Spot	***Type of pollution***
Wied Ghammieq	*Mixed*
Cumnija	*Mixed*
Ras il-Hobz	*Mixed*



EEA Report 4/2006

Part III – Projects

The projects as identified in the NAPs and its construction status are listed below:

III.1 - Waste water

Nr.	Location	Sector	Project Title	Construction Status	Financing Secured (Yes / No)	Value (m EUR)	NAP (Yes/ No)	Donor / IFI Involvement
MAL 1		WW	Construction of UWWT	Started in 2005		33		

Nr.	Location	Sector	Project Title	Construction Status	Financing Secured (Yes / No)	Value (m EUR)	NAP (Yes/ No)	Donor / IFI Involvement
			plants					
MAL 2		WW	Separate collection of waste fractions	Started in 2005		5,5		

III.2 – Solid waste

Nr.	Location	Sector	Project Title	Construction Status	Financing Secured (Yes / No)	Value (m EUR)	NAP (Yes/ No)	Donor / IFI Involvement
MAL 3		SW	Control emissions from Landfills	Started in 2005		9		

III.3 – Industrial emissions

Nr.	Location	Sector	Project Title	Construction Status	Financing Secured (Yes / No)	Value (m EUR)	NAP (Yes/ No)	Donor / IFI Involvement
MAL 4		Air	Control of Nox emissions from power plants	Started in 2005		0.9		

Part IV – Potential investment needs

This section will be further developed in the next phase of the study based on the updates on the above listed projects and to identify the future needs to meet the 2025 investment needs since the above projects intends to meet the 2010 targets.

Part V – Assessment

The above listed hotspots are the one identified in the NAP of 2005 where the projects ensure that Malta will meet the targets set for 2010. The NAP outlines several actions already undertaken or being currently undertaken to meet the EU regulations and directives in addition to several programmes related to the management of hazardous waste, the phasing out of some types of pesticides etc.

Part VI – Key contacts

MEDPOL Focal points	Mr Alan Cordina Tel: +356 2204 2381 Fax: +356 2124 0210 alan.a.cordina@gov.mt; medpol.malta@mepa.org.mt
UfM Focal Points	
Key contacts (Environment, Planning, Municipality, Industry, water	H2020 Dr Petra Bianchi (technical) Tel: +356 2290 7300 Fax: +356 2290 2295 unep-map.malta@mepa.org.mt

Country Report
MONTENEGRO

Part I – General background

Montenegro is estimated to have a population size of about 625,000, with the majority living in the discharge basin of the Adriatic Sea and about 250,000 living in the coastal zone area. The per capita GDP is estimated at US$ 6,668. Tourism contributes about 17.2% of GDP, while sectors such as fisheries and aquaculture contributed about 0.4% to GDP in 2011. It is expected that tourism will contribute about 36% of GDP by the year 2021. Though fisheries contribution to GDP represent about 0.5%, its importance lies on the socioeconomic considerations attached to it (Ref. Adriatic Sea Environment Program, World Bank, October 2011). This is represented in the number of people employed in the sector, and as a source of protein for a large segment of the population.

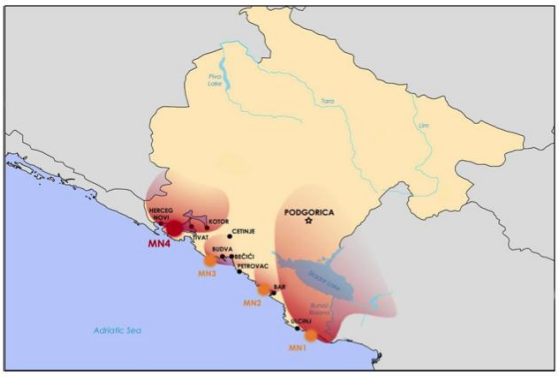
Main sources of pollution in Montenegro are solid waste and untreated wastewater. The problem is further aggravated during the summer season with the influx of tourists, which is estimated at about 2.5 million annually. Risks associated with increased generation of waste are represented in microbial pollution of bathing water. Nutrient loads from river discharges represent other pollution sources in Montenegro. Main source of nutrient loads are in the River Bojana and the Din River.

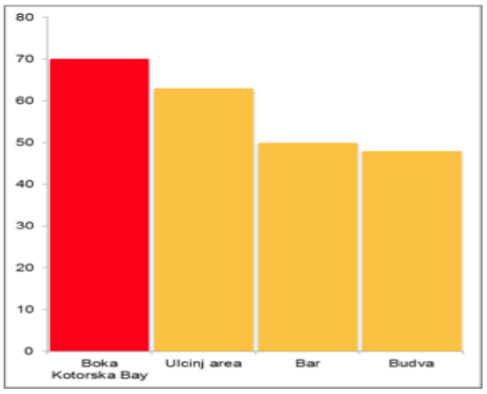
The Bay of Kotor region is one of the important regions in Montenegro. This is due to the size of its population estimated at about 71, 443 and the fact that it attracts about 20% of the total number of tourists visiting the country amounting to about 500,000 annually.

One of the main problems in the Adriatic region is the discharge of non-treated wastewater in the sea, thus representing a hazard for the local population, tourists, and the marine ecosystem (Ref. Adriatic Sea Environment Program, World Bank, October 2011). With increased population pressure and increased number of tourists, volume of waste discharged in the sea is expected to increase thus further negatively affecting the health of the population and the marine ecosystem. This is eventually liable to negatively affect the tourism sector in the country and consequently GDP and the size of the labour force involved in the sector. If the problem continues to be un-addressed it is likely that it will have a negative impact on neighbouring countries.

Hotspots are usually associated with densely populated area, size of port, large river discharge, landfills and dumpsite, industrial activity, large aquaculture area, historical pollution site, intensive agriculture activity, oil and gas drilling and mining sites (Ref. MeHSIP-PPIF, January–June 2012). The map below and figure below show the main hotspots in Montenegro.

(MN1 – Ulcinj Area, MN2 - Bar Area, MN3 - Budva Riviera, MN4 - Boka Kotorska Bay)



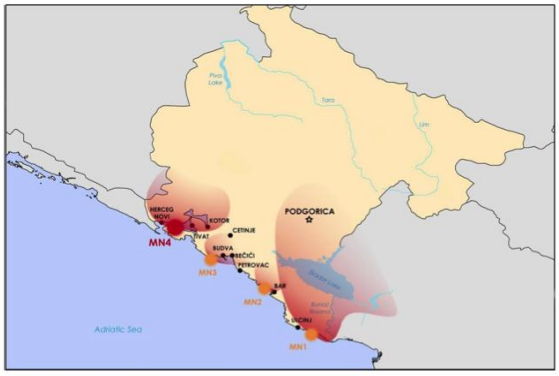


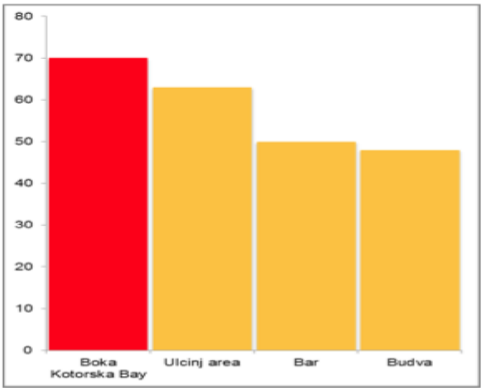
Priority pollution hotspots

Part II – National pollution hotpots

Hotspots are usually associated with densely populated area, size of port, large river discharge, landfills and dumpsite, industrial activity, large aquaculture area, historical pollution site, intensive agriculture activity, oil and gas drilling and mining sites (Ref. MeHSIP-PPIF, January–June 2012). The map below and figure below show the main hotspots in Montenegro.

(MN1 – Ulcinj Area, MN2 - Bar Area, MN3 - Budva Riviera, MN4 - Boka Kotorska Bay)





Priority pollution hotspots

Source: (Adriatic Sea Environment Program, World Bank, October 2011)

It should be noted that pollution hotspots identified in the World Bank report of 2011: Bar, Budva, Bako Kotorska bay, and Ulcinj, were not identified as hotspots by the UNEP/MAP reports of 2003, and were referred to as areas of concern in the EEA report of 2006. Ulcinj has now been removed as a pollution hotspot in Montenegro.

Wastewater in the Boka Kotorska represents a special problem. Being a tourist attraction results in increased generation of wastewater and at the same time not properly treated and disposed off is a concern as it affects the tourism industry and the marine and costal ecosystem. The region currently received about 500,000 tourists annually with an increasing trend.

Hot spots	Rational
Boka Kotorska Bay	Discharge of wastewater and industrial solid waste
Ulcinj area	Communal wastewater
Bar	Discharge of wastewater, heavy metals, oil, and organic toxicants
Budva	Wastewater discharges

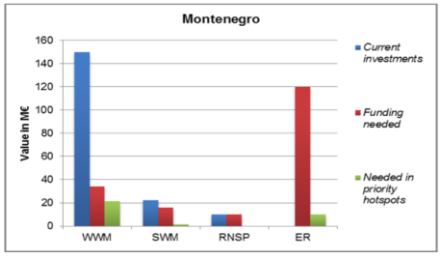
Table 1: Estimated amount of investments for all hotspots and priority sites

Sector	Current Investment M Euro	Funding needed M Euro	Funding needed in priority hotspots M Euro
Management of Wastewater	150	33.8	21.5
Solid Waste Management	22	16	1.5
Non-point source pollution reduction*	10	10	-
Environmental remediation	-	120	10
Total	182	179.8	33

- *Estimate for reducing the discharge of nitrogen by Bojana river*

Source : Adriatic Sea Environment Program, World Bank, Final Report, October 2011

Figure 2: Investments needs in Montenegro by sector



Source: Adriatic Sea Environment Program, World Bank, Final Report, October 2011.

Part III - Sectoral Overview

III.1 - Wastewater

Municipalities are the main government entity responsible for managing the sector at the local level. This includes facilitating the implementation of planned activities, provide space for construction and building facilities, provide and oversee the enactment of regulations, and undertake actions related to environmental protection.

Wastewater represents one of the main environmental problems in Montenegro. The system is old and does not function properly. Wastewater is dumped into the sea without treatment this representing a serious health hazard to humans and the marine and coastal environment. Moreover, industrial wastewater is discharged into the public sewerage system or directly into the sea without treatment. The problem of discharging of wastewater in the Boka Kotorska region further aggravated because of special nature of the region being a bay with limited water circulation and movement. All other identified hotspots face almost similar situation, with the exception of Budva municipality where households are connected to a sewerage network.

The long-term objectives (25 years) is to connect users with a sewerage network and that all disposed of wastewater should be treated before disposal.

III.2 – Solid waste

Municipal solid waste represents another major environmental problem in Montenegro. There are no sanitary landfills in the country, with waste disposed of in open dumpsite and in many instances left for long periods before collection, this representing a serious health hazard. A large percentage of municipal solid waste consists of organic matter and paper, followed by plastics. Current practices of solid waste disposal negatively impacts underground water and eventually coastal water. The discharging of solid waste in the Bar municipality represents a special problem, where in the rainy season waste get washed away into the sea. These activities have negatively impacted the coastal and marine ecosystem and caused damage to the salt marshes, and the basin area.

In 2004 the country adopted a national policy on waste management with the main objective of preventing and reducing waste generation and its negative impact on the environment and the ecosystem. In the medium term the goal is to reduce waste generation in compliance with the EU directives

III.3 – Industrial emissions

Main industrial activities relate to the ship industry, which is not of much significance though in Montenegro. The metal industry mainly located in Kotor in Grbalj field is another industrial activity in the country. The industry generates galvanised mud containing Sn,Pb, Cu, Fe and resin. While the waste is recycled in Serbia, the galvanised wastewater is released into the sewerage system, which is generally dumped into the sea without treatment. The petroleum industry located in Boka Kotorska Bay is another source of pollution in Montenegro.

Hazardous waste represents another serious problem in Montenegro, where it is disposed of in open dumpsites as well as waterway that find its way to the sea. Hazardous waste is generally disposed of in city dumpsites designated for the purpose or dumped on grounds not necessarily designated for the purpose. Disposed of used oil is burnt resulting in toxic emissions causing serious air pollution negatively affecting health and the coastal ecosystem. During the rainy season dumped waste is washed away into the sea thus polluting the marine and coastal environment.

Moreover, the sporadic and uncontrolled construction and urban development along coastal areas, particularly in the Boka Kotorska Bay results in increased waste generation due to increased population pressure, tourism, and construction activity.

The immediate short-term objective for hazardous and industrial waste is developing a controlled system for waste generation, treatment and temporary storage. The long-term objective is to adopt the EU IPPC directives, which aims at introducing cleaner technologies, and building national capacities in this area. It also aims at establishing a cleaner production center in Montenegro.

Source: NAP, Montenegro, 2004

Part IV – Projects

IV.1 – Wastewater

Nr.	Location	Sector	Project Title	Linked to hotspot	Status	Financing secured	Value Euros Million	Donor/FI Involvement
1	Berane	WW	Berane Wastewater Treatment Plant		Complete	Yes	11,2	EIB
2	Podgorica	WW	Podgorica Water and Wastewater Develoment		Complete	Yes	45,000	EIB

Nr.	Location	Sector	Project Title	Linked to hotspot	Status	Financing secured	Value Euros Million	Donor/FI Involvement
			Project					
3	Kolasin	WW	Wastewater treatment plant in Kolasin		Complete	Yes	6,550	EIB
4	Rozaje	WW	Water treatment Plant in Rozaje		Complete	Yes	9,300	EIB
5	North Montenegro	WW				Yes	23,6	EIB
6			TA for wastewater and water supply in Montenegro		project start date February, 2013 and excpected end date November 2013	Yes	23,184	EIB

IV.2 – Solid waste

Nr.	Location	Sector	Project Title	Linked to hotspot	Status	Financing secured	Value	Donor/FI Involvement
1	Plijevlja & Zabljyk	SW	Construction of regional landfills in Plijevlja and Zablijak		Project started January 2012 Now complete	Yes	27,150	EIB
2	Several	SW	Construction of regional landfills in Montenegro		Ongoing Project started May 2011	Yes	54,750	
3		SW	Montenegro Solid Waste		Feasibility study	Yes	.070 (Grant)	EIB

IV.3 – Industrial emissions

Nr.	Location	Sector	Project Title	Linked to hotspot	Status	Financing secured	Value	Donor/FI Involvement
1	Kolasin	RE	Biomass district heating system Kolasin		Ongoing Project started November 2012	Yes	2,400	KfW

Source: MeHSIP-PPIF, January–June 2012

Part V – Assessment

Wastewater represents one of the main environmental problems in Montenegro. The system is old and does not function properly. Wastewater is dumped into the sea without treatment this representing a serious health hazard to humans and the marine and coastal environment. Municipal solid waste represents another major

environmental problem in Montenegro. There are no sanitary landfills in the country, with waste disposed of in open dumpsite and in many instances left for long periods before collection, this representing a serious health hazard. Hazardous waste represents another serious problem in Montenegro, where it is disposed of in open dumpsites as well as waterway that find its way to the sea.

Part VI – Investment Needs

Based on the preliminary desk review, which needs to be updated with more recent data, a number of investment needs and projects may be identified. In order to deal with the wastewater problem in the Montenegro and halt the discharge of untreated wastewater in the sea, a sewerage network needs to be installed to connect household. Wastewater treatment facilities therefore need to be provided to treat wastewater before its discharge into the sea. A network of sewerage system is required to be connected to the current stock of households and future settlements. Based on available data there appears to be no solid waste treatment facility in Montenegro. Since municipal waste consists of a large organic component investment needs and projects in Montenegro may include the construction of waste to compost facilitie(s), and of sanitary landfills to replace and reduce open dumpsites. In addition to disposing of solid waste in an economically efficient and useful manner the production of organic waste will reduce the amount of chemical fertilizers used in agriculture thus improving health and the environment. The economic viability of constructing a solar energy facility to provide clean energy for industry and for household consumption should also be considered.

Part VII – Key contacts

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UfM Focal Points	
Key contacts (Environment, Planning, Municipality, Industry, water – to the maximum extent possible)	

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1. Adriatic Sea Environment Program, Rapid Assessment of Pollution Hotspots for the Adriatic Sea, Final Report, World Bank, October 2011).
2. 5th Progress report of MeHSIP-PPIF, Mediterranean Hot Spot Investment Programme, Project Preparation and Implementation Facility, January–June 2012).
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Country report
Morocco

Part I – General background

As in many neighboring countries, the issue of water quality and quantity is a significant challenge for Morocco. Scarce water resources are further depleted by the country's growing population (about 32.5 million-2012), urbanisation, sedimentation of reservoirs, and inefficient irrigation practices in agriculture. Rural areas suffer from inadequate access to sanitation. The Municipal solid wastes are partly collected in many urban centers and are deposited in uncontrolled dumps without sanitary measures, resulting into serious environmental and potential health problems (Ref.1). Industrial activity in the Mediterranean coastline which spans over 512 km is mostly concentrated in the urban agglomerations of Tangier, Tetouan and Nador. Very few industrial plants operate successfully their wastewater treatment plants (WWTPs), therefore industrial emissions are discharged usually untreated to the sea, either through the urban sewage network or directly in oueds (dry river beds) , lagoon and represent a serious threat for the quality of the marine coastal environment at the vicinity of urban and industrial areas. As a consequence, urban & industrial effluents & municipal solid waste are considered as a priority issue for the protection of water resources and the quality of the marine environment.

Within this framework, Morocco has implemented an environmental protection and sustainable development policy based in particular on the integration of the environmental dimension into national, sectoral and local development plans and programmes. In this context, Morocco has launched an ambitious programme for environmental upgrading and is implemented an decentralised environmental strategy that rely on three approaches: territorial, programmatic and partnership. This concept of ''local environment'' was reinforced by the establishment of regional environmental observatories to allow a better understanding of the state of the environment in different regions and cities of the kingdom, while building tools to support decision making at the local level and better assist local communities in setting their own projects (Ref. 16) .

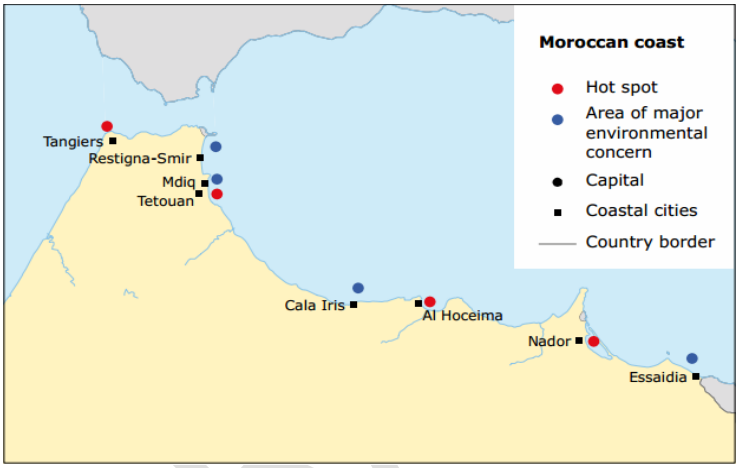
A new impetus was given to the national environment agenda through the development of a national Charter of Environment and Sustainable Development that will provide a reference framework for all public policies (Ref. 16).

Part II – National pollution hotspots

The pollution hot spots and sensitive areas of Morocco's Mediterranean coast identified in the NAP report and published by UNEP/MAP (Ref. 7, 8, 9, 10, 11) are summarised in the following table:

Hot Spots /Sensitive Areas	Status	Rationale
Tangier	Hot spot with effluents Domestic + Industrial	The city generates a daily estimate of 69,200 m3 of effluents, with an organic load of 29 tons of BOD per day. The effluents are discharged untreated, directly on the beachfront (a major outfall is located in the harbour) or through the Oueds of Lihoud and Souani, leading to contamination problems in the coastal seawater and the beaches of the Bay of Tangier.
Tetouan	Hot spot with effluents Domestic + Industrial	In this city, 75% of urban wastewater is collected, while the rest is discharged in cesspools or other autonomous systems. The collected effluents are discharged to oued Matil and then to the sea, 8 km east of the city. In the other urban centres of the Province (Martil, Fnideq and M'diq), the connection to the sewerage network varies from 41 to 81%.
Nador	Hot spot with effluents Domestic + Industrial	The collected effluents of Nador (65%) are treated in a secondary treatment plant and a treatment lagoon at Beni Ansar, but the rest of the generated effluents are directly discharged in the lagoon of Nador without any treatment, through various watercourses in the area. The lagoon of Nador is the final recipient of urban effluents generated in the city of Nador, as well as in the urban centres of Beni Ansar, Kariat Arekmane,

		Aroui, Selouane, Zeghanghane, Ihdhaden, Beni Bouyefrour, and the new neighbours of Nador, which are not connected to the sewerage network of the city. The lagoon of Nador used for aquaculture is highly polluted. Also, the WWTP of Nador, which was constructed in 1976 and extended in 1991, needs further upgrading in order to be able to treat the total of wastewater generated in the area.
Al Hoceima	Sensitive area with effluents Domestic + Industrial	The city is connected to the central sewage network. A WWTP constructed in 1996 with a capacity of 50,000 equivalent inhabitants is in operation, treating only a small part of the effluents generated in the area. Although the quality of the coastal bathing waters is still satisfactory, plans are under development for increasing the percentage of household connections to the sewerage network and to increase the treatment capacity of the WWTP of the city.



Moroccan coast with areas of major environmental concern and pollution hot spots (EEA, UNEP-MAP, 2006)

In 1997, Morocco had identified 3 pollution hot spots (Tangier, Tetouan & Nador) and in 2002 it added Al Hoceima as sensitive area despite no indication of significant load (low scoring (E)). However, the city include Al Hoceima park, with high biological value requiring special protection measures (Ref. 2).

Until 2010, the National Sanitation Plan (PNA) has contributed to the achievement 49 WWTP (against 21 in 2005) and 34 under construction. Of these 83 WWTPs, 26 of them provide tertiary treatment. The PNA has also provided a contribution to the financing of several projects of sewerage in urban areas and certain complement wastewater treatment projects (Ref. 16).

The following table shows the progress made in wastewater treatment to reduce pollution hot spots & sensitive areas

Hot Spots/Sensitive areas	WWTP completed	WWTP ongoing	Pretreatment and outfall completed	Pretreatment and outfall ongoing
Tangier			Tanger	
Tetouan		Fnideq		Tétouan
Nador	Grand Nador & Al Aaroui	Kariat Arekmane & Zaio		
Al Hoceima	Al Hoceima, Bnibouayach & Targuist	Taounate		

Source: (Ref. 16).

The Moulouya Basin, the largest Mediterranean Moroccan basin, has a population of about 2.17 million inhabitants with 9 provinces and prefectures. The pollution load discharged by these centers in 2004 is about

19,000 tons of organic matter (MO) oh which 85% (16,200 tons) are essentially rejected by the provinces of Oujda, Nador, Berkane, Taourirt and Khénifra (Only Nador is identified as hotspot for the Mediterranean, the others are not). These releases can cause a significant degradation of surface waters including wadis Echraa and Lakhmis, Oueds Za & Ksob, Oueds Isly and Bounaim (Ref. 17). The remaining organic pollution reaching the Mediterranean sea from the Moulouya is considered to be light, representing only 11% on the initial load. Despite some discharges of industrial units isolated and not connected to the sewer system, the industry is not considered a major source of pollution in the basin. But depollution efforts still need to be pursued to ensure that these units meet the standards of direct discharges (Ref. 17).

The following table shows the measures undertaken to reduce pollution in the Moulouya basin (except Nador), *(Ref. 16).*

Moulouya basin	WWTP completed	WWTP ongoing
Province of Oujda	Oujda	
Province of Berkane	Berkane &Tafoghalt	Saïdia
Province of Taourirt	Taourirt	
Province of Khénifra		Khénifra

Source: (Ref. 16).

The National Solid waste management Plan (PNDM) contributed to the completion of 12 landfills for the whole country. Those located in the Mediterranean basin are summarised in the following table *(Ref. 16):*

Hot Spots /Sensitive Areas	Landfills constructed	
Nador	Nador city	31 000 (tons/year)
El Hoceima	El Hoceima city	98 700

Source: (Ref. 16).

Moulouya basin (except Nador)	Landfills constructed	
Province of Oujda	Oujda city	100 000 (tons/year)
Province of Berkane	Berkane city	63 000
Province of Figuig	Figuig city	2 000

Source: (Ref. 16).

Part III - Sectoral Overview *(Max. 1 page)*

III.1 - Wastewater

The Ministry of Energy, Mines, Water and Environment) (MEMEE) & Ministry of Interior (MI) are in charge of the Sanitation National Plan developed in 2005

Since 2000 ONEE (merger between ONEP & ONE), who was in charge of planning water supply services, has additionally been given the responsibility for wastewater management (collection, treatment and re-use) in some small cities, as generally the management of these services falls under the responsibility of the municipal councils.

The sanitation sector in Morocco has been encountering important delays and constraints (Ref. 16). The situation has been characterised by:

- *The annual cost of sanitation has been estimated by the World Bank in 2003 to 400Mio Euros, or 1.2% of GDP*
- *immense infrastructural weaknesses in wastewater (WW) systems*
- *insufficient urban coverage (in 2005 a volume of 600 million m3 of wastewater was discharged without treatment)*
- *poorly performing/managed WW services*
- *weak levels of sewage treatment*
- *weak or out of date legal framework*
- *lack of a coastal management plan*
- *poor coordination amongst bodies responsible for maritime protection*
- *insufficient effort to protect ecosystem from human pollution, in particular in selecting and creating*

protected areas

- *WW created mainly for coastal areas around Tanger, Tétouan, Nador et Al Hoceima.*

The National Sanitation Plan (PNA) was developed in 2005, and its total cost is around 5 billion Euros by 2020. The PNA consists of rehabilitation and extension of the sewerage network, strengthening the storm sewage network and implementation of wastewater treatment plants to equip 330 towns and cities (Ref. 16). More specifically, it aims:.

- *Achieve connection targets of 80% by 2020 and 90% by 2030;*
- *increase abatement domestic pollution to 80% by 2020 and 90% by 2030;*
- *ensure treatment and reuse of 100% of collected wastewater by 2030.*

A National Sanitation Trust Fund (FALEEU) was created for this purpose. In complement to this initiative, the PNA and its related strategy is currently being assessed by the World Bank (WB) and Kreditanstalt für Wiederaufbau (KfW) with planned proposals for improvement and investment needs (Ref. 16).

Volumes of treated water will increase from 186 million cubic meters in 2010 to 1,023 million cubic meters by 2030 (Ref. 16). Production of sludge generated by the treatment of the wastewater will be around 400,000 tons of Dry Matter in this period. To raise up to this challenge, a study was conducted to develop a strategy dedicated to sludge management. This study assessed the current situation of sludge management and proposed options for the disposal, treatment and recycling of sludge with a view to develop an organisational, institutional and sludge management framework and develop a concrete action plan (Ref. 16).

III.2 – Solid waste

Solid waste management involves several ministries at the national level, i.e. Ministry of Interior (technical assistance to municipalities for planning and budgeting, private sector participation and mobilisation of funds), MEMEE (elaboration and enforcement of environmental and solid waste management legal framework, identification and control of dumping sites), Ministry of Health (technical preparation of the regulations on medical waste), Ministry of Commerce, Industry & new technologies (solid waste management in industrial enterprises, including recycling). Department of Water (quantitative and qualitative protection of public water domains & management of solid waste in vulnerable areas). Department of Equipment (undertaking and supervising studies of a technical nature & preparing authorisations for institutions). At the local level, the municipalities and city councils are fully responsible for all solid waste management activities in their areas (Ref. 14 & 15).

In recent decades, Morocco has experienced rapid urban population growth resulting in a proliferation of suburbs and increased needs in access to basic services. This has made more difficult the collection, removal and disposal of household waste, whose production in urban areas is estimated at 5 million tons / year with a ratio of 0.76 kg / capita / day (2010) (70 % of household waste by ton is organic) (Ref. 15). The majority of waste collected is disposed without treatment in landfills. Along the northern coast in the Mediterranean coastal zone, the majority of this waste is buried in dumps or in rivers, without any treatment. Growth, rapid urbanisation and recent changes in production and consumption patterns are leading to an increase in the quantities of solid waste produced in Morocco. The production of domestic waste is now growing by about 10% per year. The waste management currently costs ~ 700 MAD per ton (~ 65 €) (Ref. 15). At the moment no legislation or regulation requires municipalities to set-aside fees for environmental protection. The Department of Environment is advocating the establishment of a municipal tax exclusively dedicated to waste management (Ref. 16).

The Ministry of Energy, Mines, Water and Environment) (MEMEE) & Ministry of Interior (MI) initiated in 2008 the National plan of solid waste management (PNDM) with a total cost estimated at 4 billion € (Ref. 16) which aims to:

- *Collect at least 90% of waste by 2020*
- *Develop landfills for 350 cities and urban centers*
- *Close and rehabilitate all existing dumps*
- *Organise and develop recycling and recovery programmes with a 20% rate of recovery*
- *awareness and capacity building of all actors involved in the waste sector*

The National Plan supports the Government's environmental action policies and Moroccan environmental legislation. It applies legal principles at national level (e.g. through the use of environmental impact assessment),

but also at regional and municipal levels (e.g. when establishing municipal waste management services and supporting inter-municipal cooperation).

The potential for recycling and integrating waste management is being explored politically and there is a vision to develop and integrate management of household waste into industrial processes (recycling, energy production, etc…) and agriculture activities through composting or other methods. Potential recyclable waste is large and can account for up to 25% of the total waste collected. The potential for organic recovery is even more important and could be of 30% to 35% (Ref. 15).

Private sector participation is currently characterised by the presence of a dozen of private operators, among whom about ten are active in the collection market, and about ten in the transfer and landfilling market. The total annual turnover for collection, transfer and landfilling actitivities is 138 million EURO (Ref. 15).

The Department of Environment (DE) also conducts in partnership with the Ministry of Interior the National Programme of Collection and Disposal of Plastic Bags in the various provinces and districts of the kingdom.

III.3 – Industrial emissions

The Ministries involved in industrial wastewater management include the Ministry of Energy, Mines, Water and Environment) (MEMEE) & Ministry of Commerce, Industry & new technologies (solid waste management in industrial enterprises, including recycling).

In 2003, a national analysis was made of Morocco. The coast is the nerve center of the national economy due to high industrial concentration (80% of the heavy industries), tourism (50% of capacity) and commercial activity. (92% of external trade carried out here). On the Mediterranean coast, the cities of Tangier, Tetouan and Nador are the main industrial centres with main activities including steel, textiles & clothing production (Ref. 1).

Concerning industrial solid waste, domestic industry produces about 1.5 million tons of waste per year of which about 300,000 tons are hazardous waste (Ref. 15). The chemical and para-chemical industry is the top producer accounting for 60% of the production, followed by the agri-food industry with 25% of the production (Ref. 15).

The generation of medical and pharmaceutical waste (MPW) are estimated at around 6,000 tons/year, of which 90% belongs to Class I (infectious waste), and 10% to Class II (medicine and chemical products) (Ref. 15). There is no uniform system to treat medical and pharmaceutical waste.

The DE conducted a study for the development of the National Programme for the Prevention of Industrial Pollution (PNPPI) to serve as a reference tool and guidance for planning actions aiming at prevention of industrial pollution in all regions.

The DE, with support from the Global Environment Facility (GEF) and collaboration with the United Nations Industrial Development Organisation (UNIDO) and the United Nations Programme for Development (UNDP), implements a national programme of management and disposal of PCBs. This programme with a total budget amounted to US $ 14,763,800 in 2013, aims to eliminate 100% of PCBs stocks and equipment (transformers and capacitors) containing PCBs inventoried in Morocco (Ref. 16).

In order to financially support industrial investment for environmental protection, an Industrial De-pollution Fund (FODEP) has been created as an economic tool to help the industrials adhere to the process of eliminating pollution sources and protecting water resources (Ref. 16).

The DE initiated in collaboration with the German cooperation (KfW) which participates with a budget of 10 million Euros, a project for the establishment of a National Centre for Special Waste Elimination (CNEDS) (Ref. 16). This center will provide a great opportunity for the environmental upgrading of Moroccan industry, which needs to adjust to the environmental requirements and conditions pertaining to the various free trade agreements currently under negotiation between Morocco and other countries. This project will be conducted in accordance with the law 28-00 on waste management.

Part IV – Projects

IV.1 - Waste water

Nr	Location	Sector	Project Title	Link with Hot Spot	Status	Financing Secured (Yes / No)	Value (m EUR)	Donor / IFI Involvement	Comments
1	National	WW	National Plan for implementation a nationwide strategy on wastewater	All Hot spots	Ongoing	Yes	178.0	KfW/AfD/EIB/EC	321 m EUR in another doc
2	Al Hoceima, Chefchaouen, Taounate, Ras El Ma, Ferkhana, Ahfir et Jerrada	WW	Construction of 7 WWTPs in the Municipalities & extension of primary & secondary collectors	Al Hoceima	Ongoing (Al Hoceima completed)	Yes	40.0	EIB	According to the NAP (2005) the required cost of Al Hoceima WWTP is around 10.9 million EUR
3	Nador & 7 small touns, near or on the shore of the Marchica lagoon	WW	Sanitation of Nador city - depollution of the Marchica lagoon	Nador	Ongoing (Nador completed)	Yes	55.0	AfD	According to the NAP (2005) the required cost of Nador WWTP is around 45.8 million EUR
4	Nador	WW	Sanitation of Nador city (PNA)	Nador	Ongoing	Yes	7.0	SEE	Financial support
5	Oum Rabia	WW	Wastewater reuse project with 7 WWTPs and part is related to Phosphogypsum		Under preparation	Yes	31.0	WB/GEF	
6	National	WW	sewerage projects in urban and some projects of wastewater treatment complement	All Hot spots	Ongoing	Yes	219.0	SEE/MI	
7	Nador	WW	Cleaning and decontamination of shorelines, beaches, the water and the bottom of the lagoon	Nador	Ongoing	Yes	7.5	SEE/MI/ Oriental Agency/ Marchica Med society	
8	Agadir	WW	Financing WWTP construction and Wastewater reuse project		Ongoing	Yes	87.0	AfD	
9	Mdiq-Fnideq	WW	Wastewater treatment network and lant. This is part of a Tourism management project. It also includes Fnideq (50 to 60 thousand Population)	Tetouan	Under preparation	No	38.0	AfD	Due to the financial crisis no advancement is there but AFD is still interested. Veolia is seeking financing to complete the infrastructure including a WWTP that will serve the project area and the Fnideq
10	Tangier	WW	Implementation of WW treatment system	Tanger	Under preparation	Yes	105.4	AMENDIS	The project funding will be provided by AMENDIS in two phases: 70.4 million EUR between 2004 and 2006 and 35.0 million EUR in 2012.
11	Tetouan	WW	Implementation of WW treatment system	Tetouan	Under preparation	Yes	117.4	AMENDIS	The project funding will be provided by

Nr	Location	Sector	Project Title	Link with Hot Spot	Status	Financing Secured (Yes / No)	Value (m EUR)	Donor / IFI Involvement	Comments
									AMENDIS in two phases: 88.04 million EUR between 2005 and 2007 and 29.35 million EUR between 2007 to 2027.
12	Al Hoceima, Bnibouayach & Targuist	WW	Implementation of WW treatment system	Al Hoceima	Completed	Yes	24.2	AfD	According to the NAP (2005) the required cost of Al Hoceima WWTP is around 10.9 million EUR, BniBouayach (10.7 m EUR) & Targuist (2.6 m EUR) This project is included in project #2 cost

IV.2 – Solid waste

Nr.	Location	Sector	Project Title	Link with Hot spot	Status	Financing Secured (Yes / No)	Value (m EUR)	Donor / IFI Involvement	Comment
13	National	SW	Support for Solid waste management plan (PNDM)	All Hot Spots	Ongoing	Yes	9.0	GIZ	
14	Tangier & surrounding localities	SW	Integrated solid waste management Project	Tanger	Under preparation	No	30.0	EIB	Regarding the NAP (2005) the required cost of Tanger Landfill is around 2.55 million EUR
15	National	SW	Part of the PNDM: financing the private sector to undertake the construction of the infrastructure		Under preparation	Yes	100.0	WB/GEF	
16	National	SW	Collection and Disposal of Plastic Bags		Ongoing	Yes	4.0	SEE/MI	
17	National	SW	Completion of the first phase of the PNDM	All Hot Spots	Ongoing		154.0	WB	1st Loan
18	Nador	SW	construction and operation of a landfill of Nador city	Nador	Completed	Yes	3.2	SEE	
19	National	SW	Implementation of the PNDM	All Hot Spots	Ongoing	Yes	77.0	WB	2nd Loan
20	Nador, Berkane, Al Hoceima et Aknoul	SW	Pilot project of Implementation of waste management local plans in the four municipalities (Nador, Berkane, Al Hoceima et Aknoul)	Nador	Under preparation	No		Netherlands	Signing in 2009 of an Understanding Memorandum
21	Al Hoceima	SW	Al Hoceima landfill	Al Hoceima	Completed	Yes			According to the NAP (2005) the required cost of Al Hoceima Landfill is around 0.9 million EUR

IV.3 – Industrial emissions

Nr	Location	Sector	Project Title	Link with Hot spot	Status	Financing Secured (Yes / No)	Value (m EUR)	Donor / IFI Involvement	Comments
22	Fes	IE	Construction of WWTP, assistance in order to reduce industrial pollution and water network extension		Ongoing	No	75.0	AfD, EIB, other	
23	National	IE	National program of PCB Elimination		Ongoing	Yes	11.4	GEF/UNIDO/ UNEP	
24	National	IE	Industrial De-pollution	All Hot Spots	Ongoing	Yes	53.2	FODEP/KfW	
25	National	IE	Slaughterhouse waste treatment		Ongoing	Yes	4.0	FNE	
26	National	IE	Industrial De-pollution	All Hot Spots	Ongoing	Yes	50.0	UE	
27	Mediterranean Coast	IE	Environmental upgrade of industrial units & liquid effluents treatment	Tangier & Tetouan	Under preparation		41.3	FODEP/KfW	
28	National	IE	CNEDS implementation	All Hot Spots	Under preparation	Yes		KfW	
29	Mediterranean Coast	IE	Regional center for transfer to storage of hazardous industrial waste to CNEDS	Tangier, Tetouan, Nador & Al Hoceima	Under preparation		0.4		
30	Mediterranean Coast	IE	Medical waste elimination systems implementation	Tangier, Tetouan, Nador & Al Hoceima	Under preparation		0.8		
31	Mediterranean Coast	IE	Establishment of oils collection & recovery chain in the Mediterranean coast	Tangier, Tetouan, Nador & Al Hoceima	Under preparation		0.13		
32	Mediterranean Coast	IE	Elimination of stocks of pesticides under the African program of pesticides (PASP)	Tangier, Tetouan, Nador & Al Hoceima	Under preparation		0.07	ONUDI, FODEP	
33	Mediterranean Coast	IE	Establishment of a pilot site for dismantling of PCB appliances	Tangier, Tetouan, Nador & Al Hoceima	Under preparation		0.1	Public and private partners, bilateral Aid	
34	Fes, Marrakech	IE	Environment upgrading for potters		Ongoing	Yes	3.0	FNE	

For projects: (Ref. 3, 4, 5, 6, 16)

Concerning diffuse pollution, the intensification of agriculture has led to an increase in the use of pesticides, which can be a major threat to health and the environment. In Morocco, about 300 to 350 active substances are authorised and enter in the composition of products registered for use in agriculture (Ref. 16).

Aware of the environmental and sanitary issues related to excessive use of pesticides, the Department of the Environment has initiated the evaluation of the environmental and health impacts associated with the use of pesticides. This study will identify, in close consultation with stakeholders, appropriate measures to reduce these impacts and promote good environmental practices and alternatives not harmful to the environment and health (Ref. 16).

Part IV- Potential investment needs

Protection of the environment is the main concern of the Moroccan Mediterranean coast and priority actions for 2010 reflect environmental concerns of local stakeholders. The major problems of pollution identified in each province of the study area are wastewater, solid waste, BOD5 from industrial, heavy metals, pesticides and PCBs.

The total investment for the implementation of the National Action Plan (NAP) is approximately EUR 343 million distributed as follows (Ref. 18):

Project Title	Location	Value (m EUR)
Liquid sanitation systems implementation	Tangier	105.4
	Tetouan	117.4
	Nador	45.80

	Al Hoceima	24.20
Solid waste management	Tangier	2.55
	Tetouan	2.00
	Nador	1.65
	Al Hoceima	0.90
Industrial waste elimination	Mediterranean coast	0.40
Medical waste elimination	Mediterranean coast	0.80
FODEP (Med)	Mediterranean coast	41.30
Establishment of a pilot site for dismantling of PCB appliances	Mediterranean coast	0.10
Elimination of stocks of pesticides	Mediterranean coast	0.07
Monitoring & surveillance of POPs in the environment	Mediterranean coast	0.04
Feasibility study for recovering metal electric battery	Mediterranean coast	0.06
Establishment of oils collection & recovery chain in the Mediterranean coast	Mediterranean coast	0.13
Total		**343**

The implementation of the National Sanitation and wastewater Plan (PNA), which plans to reach 300 WWTP by 2025 will be supported by a national strategy for sludge management (sludge will be approximately 400 000 tons of Dry Matter by 2030) that will require large additional investments (Ref. 16).

The National plan of solid waste management (PNDM) focuses on (Ref. 16):

- *Ensuring the collection and cleaning of waste to achieve a collection rate of 90% by 2015 and 100% by 2020;*
- *Conducting household landfills for all urban centers (100%) by 2015;*
- *Rehabilitating or closing all existing dumps (100%) in 2015;*
- *Organising and developing recycling and recovery programmes with a 20% rate of recovery by 2015;*

The PNDM contributed to the 2010 implementation of the following projects:

- *12 landfills were completed;*
- *6 are under construction;*
- *14 landfills are planned during the year 2011;*
- *40 landfills are scheduled between 2012 and 2015.*

The National Programme for the Prevention of Industrial Pollution (PNPPI) expected to reach by 2020 a completion rate of 80%.

Part V – Assessment

Morocco has made considerable progress in improving its environmental legislation in recent years. The implementation of the National Environmental Action Plan (2002) following by the establishment of the National Sanitation and wastewater Plan (PNA), which plans to reach 300 WWTP by 2025 , The National Plan for Solid Waste management (PNDM), with goals to 15 years resulted in significant progress in terms of sanitation and solid waste management.

These programmes, especially in investment, receive support from international donors (EU, KfW, AFD, World Bank...).

Despite this favorable context for water management, the review of the current situation reveals a number of weaknesses:

- *The rural sector has a significant delay compared to urban areas (a National Rural Sanitation is being developed-PNAR);*
- *The reuse of wastewater in agriculture, clearly displayed as a necessity for the country, faces currently major shortcomings: institutional virtually absent, insufficient technical expertise;*
- *The future of sewage sludge, including its application in agriculture, is poorly framed institutionally. Agricultural use or disposal is not officially licensed and these issues remain unaddressed in either the PNA or the PNDM. The development of a National Plan for management and utilisation of sewage*

sludge is of urgent priority; • *The problem of industrial effluents arises particularly because the institutional framework is currently incomplete for some particular discharge standards;* • *The funding mechanism FODEP is planned to play a leading role in the financing of the industrial sector, but much more funding possibilities need to be developed.* • *The treatment of medical and pharmaceutical waste is carried out either in situ, in the hospitals that have the equipment (burners or shredders-sterilizers) or through subcontracting to specialised companies, which remain insufficient to cover the whole country.*	
Part VI – Key contacts	
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UfM Focal Points	
Key contacts (Environment, Planning, Municipality,Industry, water – to the maximum extent possible)	Le Ministère de l'Intérieur / la Direction Générale des Collectivités Locales (D.G.C.L.) Le Ministère de l'Energie et des Mines / le Secrétariat d'Etat à l'Eau et à l'Environnement (S.E.E.E.) L'Agence de Promotion et de Développement des provinces du Nord (A.P.D.N.) La Commune Urbaine de Tanger La Préfecture de Tanger-Assilah incluant : La Préfecture Fahs Anjra contenant : L'Agence Spéciale de Tanger-Méditerranée (T.M.S.A.) La Wilaya de Tanger *La GTZ, l'agence de coopération technique allemande /programmeme de gestion et protection de l'environnement (P.G.P.E.)*

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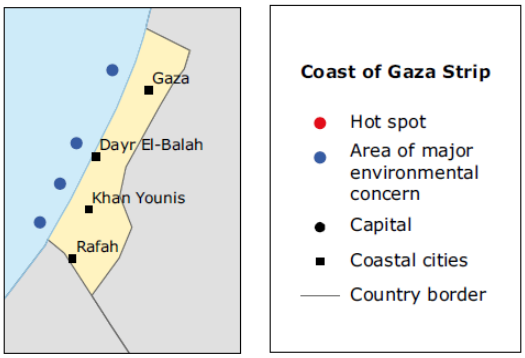
Country Report
Occupied Palestinina Territories (oPt)

Part I – General background

The country report for the Palestinian Occupied Territories (PoT) will cover the Gaza Strip, which is part of coastal zone Southwest of Palestine. The Gaza Strip is approximately 42km in length and 5.7 km from the Northern section and extending to 12 km at the Southern end. Figure 1 below depicts the location of the Gaza Strip subject of this country report. The extent of pollution along the coastal area varies according to the concentration of the population, and level and type of economic activity. More than one million people inhabit the Gaza Strip alone and is considered to be one of the most densely populated locations in the world, with and averaged of 6.5 persons/household. This level of population concentration represents an increased pressure on the ecosystem.



Source: EEA 4/2006

Pollution of the coastal seawater along the Gaza Strip is one of the most serious problems facing the Strip. It is caused by sewage, marine debris, nutrients, litter, pesticides, and toxic waste. The problem has been aggravated by the lack of attention devoted to pollution of the coastal areas and seawater quality during the years of occupation. Based on data gathered, indications are that microbial contamination of seawater is above international acceptable standards, particularly in areas close to sewage discharges. However, seawater quality has improved after the renovation of the wastewater treatment facility in Gaza city. Other environmental problems with an impact on the coastal and marine ecosystem include solid waste and pollution by small-scale industries.

Environmental matters were initially the responsibility of the Environmental Planning Directorate (EPD) established in 1994 within the Ministry of Planning and International Cooperation (MOPIC). In 1996 a Palestinian Environmental Authority was established, and in 1998 a Palestinian Ministry of Environmental Affairs was established, which was later on replaced by the Environmental Quality Authority in 2002 (SAP, September 2005). According to the Palestinian Authority the 13 natural reserves in the West Bank are managed by the Palestinian Environment Authority (Mediterranean Basin Biodiversity Hotspot, 2010).

Part II – National pollution hotspots

Given the level of population concentration, governance, institutional and economic constraints the coastal area of 42 Km extending the Mediterranean may be considered as a sensitive area. The extent and intensity of environmental degradation and pollution varying according the concentration of population and location of economic activities.

Part III - Sectoral Overview

III.1 – Wastewater

The Palestinian Environment Quality Authority (EQA) is the body responsible for approving the construction of wastewater treatment plants and for evaluating the environmental impact assessment studies conducted for these projects. It is also responsible for setting quality standards, formulating regulations, as well promoting

public awareness in the sector. It is also responsible for inspecting and setting standards with respect to wastewater reuse and discharges of industrial waste into the sewage system (European Neighbourhood and Partnership Instrument, Towards a shared Environmental System (SEIS), Palestinian National Authority Country Report, European Environment Agency).

The dumping of wastewater is the main source of pollution of the coastal area of the Gaza Strip. There are more than 20 sewage drains that discharge either in the sea or along the coastal area close to the sea. Of the total sewage, only about 40% is treated, while the rest is discharged into the sea. It is estimated that about 50,000 cubic meters per day are discharged directly into the sea without treatment. The situation in the Gaza Strip is characterised by lack of treatment facilities, substandard state of current facilities and practices. It is estimated that only 60% of the population are connected to sewage to a proper sewage network.

Table 1 below shows the pollutant loads from different location in Gaza discharged into the sea according to a MED POL 2001 report. More recent and updated figures will need to be provided.

Table1:*pollutant loads from different location in Gaza discharged into the sea*

Location	Flow to the Sea M^3/d	BOD5 (mg/l)	COD (mg/l)	Total P (mg/l)	Total N (mg/l)
Gaza WWTP Effluent	32000	33.3	98	5.4	50
Rafah WWTP Effluent	4200	269.3	652.2	4.5	93.1
Deir El-Balah and other Outfalls (Estimated No.)	3000	589	1165	5	100
Pollutants Load from Gaza WWTP (ton/y)		389.94	1,147.58	63.23	585.50
Pollutant Load From Rafah WWTP (ton/y)		414.72	1,004.39	6.93	143.37
Pollutant Load From Deir El-Balah and other Outfalls (ton/y)		644.96	1275.68	5.48	109.50
TOTAL pollutants load from wastewater (ton/y)		1449.62	3427.65	75.64	838.37

Source: MED POL, 2001

Lack of proper planning for touristic activities along the coast is also contributing negatively to the deterioration of the coastal ecosystem. Moreover, the construction of structures related to the sector such as restaurants cabins and watchtowers very close to the shores has interfered with the proper functioning of the ecosystem represented among other in the circulation and movement of seawater and waves. Other activities related to the tourism sector with detrimental impacts on the coastal ecosystem include, the necessity to increase in landfills and the handling of solid and sewage disposal activities associated with increased pressure by tourists.

Agriculture is the main activity of inhabitant of the Gaza Strip. Farmers rely heavily on the use on chemical fertilizers and pesticides. It is estimated that more than 125 varieties of pesticides and more than 28,000 tons of chemical fertilizers and 900 metric tones of pesticides used annually the Gaza Strip. Residuals of these chemicals reach the seawater through rivers and runoffs during the rainy season and through the atmosphere. Wadi Gaza is the main point source of pollution, which carries water contaminated with pollution, particularly during rainy season to the sea. The negative environmental implications include alteration in the reef structure represented in the reduction of coral reefs, damage to the see grass beds and aquatic vegetation and fish. The damage to the aquatic habitat negatively affects biodiversity and fish life, which consequently have a negative impact on the fish stock and marine life in general. A polluted and degraded environmental conditions consequently negatively affects tourism and income and employment generated from the sector.

Main industrial-related activities in the Gaza Strip include, painting, textile dyeing, car washing facilities, foaming industries, and jeans washing factories. Negative environmental practices characterize the industrial sector in the Gaza Strip. This is represented in discharge of untreated wastewater resulting from these activities into the municipal sewerage system. Moreover, solid waste is also mismanaged and is dumped in municipal landfills and open dumpsites.

Table 2: *Annual Wastewater Production of Selected Main Polluting Industries*

Type of Industry	Quantity of Wastewater (CM/year)
Textile dyeing	30,000
Jeans washing	55,000
Car washing	22,500
Photo Processing	54
Electroplating	2,500

Source: SAP, September 2005.

One of the priorities identified by EQA includes approving an action plan for the implementation of SEIS, identification of data gaps and needs the development of an environmental information system, preparing and approving a list of indicators for priority issues to be addressed, and establishing a National SEIS.

Lack of policies and adequate legislation has resulted in the mismanagement of wastewater. The Palestinian Authorities recognises the importance of developing a long-term policy for wastewater management that reduces the discharge of untreated wastewater in the sea. The main objectives of the existing Environmental strategy is to connect households to sewer connection system, construct the needed wastewater treatment plants that can deal with current and expected wastewater, and set appropriate standards for the discharging of wastewater.

III.2 – Solid waste

Institutions dealing with solid waste management are EQA, Ministry of Local Government (MoLG), Palestinian Standard Institute (PSI), Palestinian Central Bureau of Statistics (PCBS), local authorities, and Ministry of Planning. Due to the involvement of various entities in the sector, there is a great deal of duplication of work and contradictions in measures taken to deal with the sector (European Neighbourhood and Partnership Instrument, Towards a shared Environmental System (SEIS), Palestinian National Authority Country Report, European Environment Agency).

The main source of solid waste in Gaza is household, building and construction, agriculture, industrial, and medical. Volume of waste generated is estimated between 500-550 tons/day in cities and villages and between 200-220 tons/day in refugee camps. About 49% of generated waste is domestic household. More than 65% of solid waste generated is organic matter thus providing a good potential for composting.

According to the latest survey by the Ministry of Industry, industries in the Gaza strip generate more than 15,526 tons of solid waste annually. Main industries generating solid waste in the Gaza Strip are: ready mixed concrete, foaming, marble cutting, paint industry, textiles, stone washing, electroplating, food industry, fodder industry, tile industry. Due to improvements in the solid waste management sector lately, dumping of solid waste near the coastal areas has been reduced with sporadic incidence of dumping that can be spotted.

The mismanagement of solid waste in Gaza impacts negatively on its coastal areas and marine ecosystem. This is further expected to increase due to population increase and the expected increase in economic activities.

A series of measures have either been introduced or planned to be in order address the solid waste problem in Gaza. This includes monitoring programmes for the control of illegal disposal of hazardous waste along the coast, and the launching of public awareness campaigns highlighting the health and the environmental implications resulting from the mismanagement and disposal of solid waste.

III.3 – Industrial emissions

The responsibility of handling industrial emissions lies within EQA. Its duties include operating and monitoring of air pollution and instituting measures to deal pollution emissions. Standards for air quality consistent with WHO standards have been set by EQA, which is monitored and assessed by the Environmental Protection Directorate. All information systems are managed by the information system department within EQA (European Neighbourhood and Partnership Instrument, Towards a shared Environmental System (SEIS), Palestinian National Authority Country Report, European Environment Agency).

It is estimated that more than 50% of air pollution in the Gaza Strip is caused by emissions from vehicles. The other main source of pollution is created by several industries located throughout the Gaza Strip in locations such as Beit Hanoun, Gaza, Rafah, Khan Younis, and Jabalia. Due to absence of monitoring and measuring equipment there is lack of data on level and quantity of industrial emissions in the Gaza Strip. Table 3 below shows the different sources of pollution and their respective locations in the Gaza Strip.

***Table 3:** Main Air Polluting Industries in the Gaza Strip (More updated information need to be secured)*

Type of source	Location	Types of Air Contaminants
Wastewater Treatment Plant	Beit Hanoun, Gaza, Rafah	Dust, H2S, NH3, CH4
Concrete Industry	All over Gaza Strip	Dust
Gas Station	All over Gaza Strip	Hydrocarbons
Bakeries(that use oil fuel)	All over Gaza Strip	CO, CO2, SO2 , NOx
Batteries	Gaza, Khan Younis	Pb
Asphalt Mixing Industry	(Jabalia, Gaza)	Dust, CO, CO2, SiO2 , Hydrocarbons
Tiles Industry	Gaza, Khan Younis, Beit Hanoun	Dust, Hydrocarbons
Textile Industry	Beit Hanoun	Dust, CO, CO2, SO2

Paints Industry	*Gaza*	*Hydrocarbons*
Fodder Industry	*Gaza, Deir El-Balah*	*Dust, NH3, CO, CO2, SO2*

Source: SAP, September 2005.

Main ongoing and planned activities include the preparation of environmental laws and regulations, establishing a monitoring system for controlling the illegal disposal of hazardous waste along the beach, identify sites for the dumping of construction sites, and controlling and reducing the amount of toxic waste dumped along coastal areas national Action Plan for Reduction of Pollution of Mediterranean from Land Based Sources, September 2005)

Part IV – Projects

IV.1 – Wastewater

Nr.	Location	Sector	Project Title	Linked to hotspot	Status	Financing secured	Value	Donor/FI Involvement
1	Gaza City/Middle Area/Central /West Nusseirat	WW	Expansion and upgrading of wastewater services in Gaza, Middle Area Central; and West Nurreirat (Wadi Gaza)		Ongoing/Design Phase	Yes	70.8	KfW
2	North Gaza	WW	North Gaza Emergency Sewage Treatment Project including construction of a new treatment plant east of North Gaza + new treatment plant east of North Gaza + 9 infilitration basins and recovery wells		Ongoing	Yes	60	WB/GEF,AFD, EIB,Sida
3	Khan Younis West	WW	Central WWTP (Khan Younis)		Design ready	Yes	46	Kuwait
4	Rafah	WW	Emergency works to upgrade existing WWTP		Design ready	Yes	1.6	ICRC
5	Khan Younis West	WW	Construction of temporary WWTP in west of Khan Younis		Completed	Yes	1.1	Other
6*		WW	Rehabilitation of WWTP in view of the reuse of the treated wastewater for agricultural irrigation		Ongoing		66	
7*		WW	Central WWTP		Ongoing		65	
8*		WW	Emergency Sewage Treatment		Ongoing		14.45	

			project					

* Second Interim Progress Report, Final, Horizon 2020, MeHSIP-PPIF, December 2010.

Part V – Assessment

The dumping of wastewater is the main source of pollution of the coastal area of the Gaza Strip. There are more than 20 sewage drains that discharge either in the sea or along the coastal area close to the sea. Of the total sewage, only about 40% is treated, while the rest is discharged into the sea. The mismanagement of solid waste in Gaza impacts negatively on its coastal areas and marine ecosystem. The main source of solid waste in Gaza is household, building and construction, agriculture, industrial, and medical. Volume of waste generated is estimated between 500-550 tons/day in cities and villages and between 200-220 tons/day in refugee camps. This is further expected to increase due to population increase and the expected increase in economic activities.

Part V – Investment Needs

Based on the preliminary desk review, which needs to be updated with more recent data, a number of investment needs and projects may be identified. In order to deal with the wastewater problem in the Gaza Strip and halt the discharge of wastewater in the sea, sufficient wastewater treatment capacity would need to be provided with the existing capacity refurbished. Moreover, a network of sewerage system is required to be connected to the current stock of households and future settlements. Based on available data there appears to be no solid waste treatment facility. Investment needs and projects in the Gaza Strip may include the construction of waste to compost facilitie(s), and of sanitary landfills to replace and reduce open dumpsites. In addition to disposing of solid waste in an economically efficient and useful manner the production of organic waste will reduce the amount of chemical fertilizers used in agriculture thus improving health and the environment. The possibility of constructing waste to energy facility would need to be assessed based on the composition of waste generated and the economic viability of such an investment. If feasible would also represent a potential for converting waste into energy thus reducing its negative impacts and providing clean energy that reduces air pollution and CO^2 emission. The economic viability of constructing a solar energy facility to provide clean energy for industry and for household consumption should also be considered.

Part VI – Key contacts (information is yet to be secured)

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UfM Focal Points	
Key contacts (Environment, Planning, Municipality, Industry, water	Samer Kalbouneh from Environment Quality Authority (EQA)

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SLOVENIA
Country Report

Part I – General background

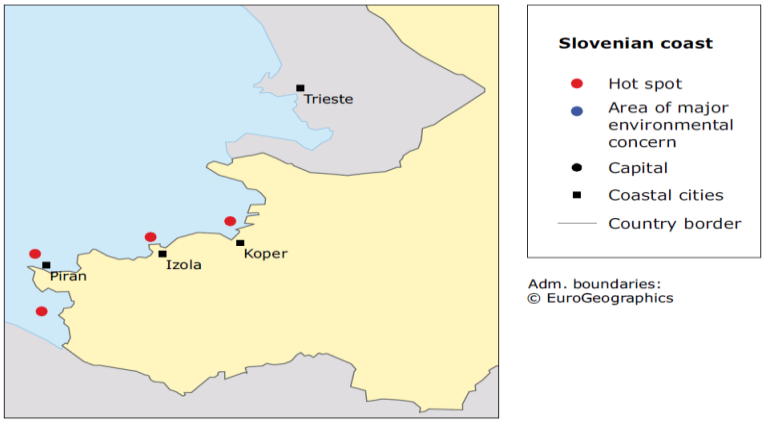
The Slovenian coastline is about 46.6 km long and hosts around 80,000 people who mainly reside on the cities of Koper, Izola and Poran. Of the 46.6 km of coast, only about 8 km are left in its natural state, the rest is mostly urbanised within 1.5km of the sea front.

As a relatively new member of the European Union, the Republic of Slovenia had to comply with most of the EU required environmental regulations. Though fisheries and aquaculture contribution to GDP represent less than 0.02%, its importance lies on the socioeconomic considerations attached to it (World Bank, 2011). This is represented in the number of people employed in the sector, and as a source of protein for a large segment of the population. As far as tourism is concerned, the sector is estimated to contribute about 12% of GDP in 2011 and expected to reach 13% by 2021.

Slovenia has well developed wastewater treatment plants but lacks in appropriate landfills for hazardous and radioactive discharge. Most, if not all, of the waste is exported. These are a result of inadequate solid waste management policies bleeding through from the industrial sector.

In the case of Slovenia, investments are mainly required for maintenance and upgrading of existing facilities, and for remediation of pollution contaminated sites. Moreover, it should be noted that special emphasis is needed for improved management of coastal areas to take into account the environmental implications and damage to the marine ecosystem as a result of increased pressure by tourists.

Part II – National pollution hotspots



Hot Spots	Rationale
Koper Bay	Receives wastewater from the town of Koper, which is heavy in nutrients and heavy metals equivalent to about 585 tons of nitrogen and 8 tons of phosphorus per year.
Izola	Construction or upgrading of wastewater treatment plants.
Piran	Bay of Piran receives treated wastewater from the city of Piran and untreated wastewater from Izola.

Source: (Adriatic Sea Environment Program, Rapid Assessment of Pollution Hotspots for the Adriatic Sea, Final Report, World Bank, October 2011).

It should be noted that pollution hotspots identified in the World Bank report of 2011: Koper bay, Izola, and Piran, were also identified as hotspots by the UNEP/MAP reports of 2003 in addition to Badasevica and Dragonia, and were identified as hotspots as well in the EEA report of 2006. Piran has now been removed as a pollution hotspot in Slovenia.

According to the Transboundary Diagnostic Analysis for the Mediterranean Sea report, River Rizana Badasevica, and Dragonja were identified as pollution hotspots. Domestic and industrial waste are the main source of

pollution for the first two locations, while with the last location the source of pollution was domestic and agriculture waste.

An increasing source of pollution with a regional dimension in the Adriatic Sea is invasive species that is being introduced through ballast water and sediments disposed off by ships. This is particularly the case for ports in Slovenia, as well Croatia and Italy where it is estimated that in 2003 about 8 million tons were disposed of in the ports of these countries with 80% in the Italian Adriatic ports alone. The balance was shared between the port of Koper in Slovenia and Croatian ports. It is estimated that 58% of ballast water comes from within the Mediterranean, 34% from within the Adriatic, and 8% from outside the Mediterranean Sea. With increased volume of international trade, it is expected that the share of ballast water from outside the region will increase. Measures should be introduced to control the discharge of ballast water in the Adriatic ports. Moreover, considerations should also be given to providing facilities for the treatment of ballast water in major Adriatic ports, including Slovenia (World Bank, 2011).

Part III - Sectoral Overview

III.1 - Wastewater

The National Environmental Action Programme, Water Framework Directive and the Environmental Protection Act all play a part in regulating managing and overseeing wastewater treatment plants and projects. The Environmental Action Act focuses on the implementation of regulations governing the discharge of wastewater.

Continued investment is needed to implement the National Environmental Action Plan (NEAP). Most wastewater vulnerable zones have been catered for and all that remains is maintenance of existing plants. Also, mitigating discharge of sewage, agricultural and industrial waste through quality checks on local pipelines can greatly ease the burden on estuaries.

Waste water by sources of pollution, Slovenia, 2011

	1000 m^3
Waste water pollution sources -Total	*151,465*
Waste water from agriculture, forestry and fishing	*449*
Waste water from industrial activities - Total	*14,551*
- Mining and quarrying	*1,072*
- Manufacturing	*12,493*
- Electricity supply	*856*
- Construction	*130*
Waste water from other activities	*9,078*
Waste water from households	*59,115*
Other waste water	*68,272*

Source: Statistics Slovenia (SURS)

Acts and laws are in place ensuring the proper and regulated means of discharge into effluents as well as proper monitoring of construction of WWTP's. The Water Act regulates management of sea, inland, water, groundwater, water bodies and coastal land by the issuing of water right, permits and insures the discharge and use of water is done according to regulations.

III.2 – Solid waste

The main actors involved in the management of solid waste are the government, the Ministry of Environment, Spatial Planning and Energy (MESPE) and the Chamber of Commerce. Preparing strategic documents and waste legislation is mostly left to the MESPE, whereas implementation is left to the local communities. The issuance of permits and certification related to solid waste management activities is the responsibility of the Environmental Agency, which is also responsible for monitoring and reporting on waste.

Problems associated with hazardous and radioactive wastes still need to be addressed. Around 124,000 tons of hazardous waste are generated annually from industrial activities. Most of the waste is exported in accordance with the Basel Convention since local technically suitable landfills are lacking. There is only one landfill for hazardous waste and none for radioactive waste. Currently, the radioactive waste generated is stored at the sites.

Policies and legislation concerning waste is in line with EU laws and regulations. General acts are issued in the official gazette, which constitute the Environmental Protection Act. These include legislations concerning different sorts of waste, waste management, and monitoring emissions.

III.3 – Industrial emissions

The Environmental protection Act of 2004 was adopted and as before acted as a means to regulate emissions according to the Integrated pollution prevention and control (IPPC) directive. It introduced mandatory individual environmental permits for all economic activities affecting the environment and designated three category permits. One of the permits is related to IPPC installations, the other two follow the Environmental Protection Act in areas of solid waste management and wastewater treatment.

Around 300 Integrated Pollution Prevention and Control (IPPC) units were installed in the industry of which 49 were related to waste management, 55 to production and processing of metals and 74 towards other activities. Following EU regulation and standards have made adopting the IPCC easier and wider spread. Main issues that remain in this sector are related to mismanagement of solid waste and lack of technically appropriate landfills for hazardous and radioactive waste. Another issue is the high level leakages into estuaries. These increase the burden on wastewater treatment plants as well as on landfills.

The Industrial Emission Directive (IED) looks at the entire EU and its industrial emissions. Upholding its standards through article 80, which stipulates that Member States shall bring into force laws, regulations and administrative provisions necessary to comply with the directive's new provisions. The Environmental Protection Act continues to provide regulations and issues constraints and requirements of industries through the Official Gazette.

Part IV – Projects

IV.1 – Wastewater

Nr	Location	Sector	Project Title	Linked to hotspot	Status	Financing secured	Value	Donor/FI Involvement
1	Ankaran	WW	Wastewater treatment plant (Connected to Koper)	Yes	Ongoing	Yes	No data	No data
2	Jagodje	WW	Wastewater treatment plant (Connected to Koper)	Yes	Ongoing	Yes	No data	No data
3	Izola city	WW	Wastewater treatment plant (Connected to Koper)	Yes	Ongoing	Yes	No data	No data
4	Koper city	WW	Wastewater treatment plant (Connected to Koper)	Yes	Ongoing	Yes	No data	No data
5	Luciia	WW	Wastewater treatment plant (Connected to Piran)	Yes	Ongoing	Yes	No data	No data
6	Piran city	WW	Wastewater treatment plant (Connected to Piran)	Yes	Ongoing	Yes	No data	No data
7	Piran city	WW	Wastewater treatment plant (Connected to Piran)	Yes	Ongoing	Yes	No data	No data

Source: Mediterranean Action Plan, Inventory of Municipal Wastewater Treatment Plants of Coastal Mediterranean Cities with More than 2,000 Inhabitants (2010), UNEP/MAP, 2010.

Part V – Assessment

Even though Slovenia is a water rich country wastewater treatment should not be neglected. The issue here is not to reuse sewage water as much as it is avoiding the discharge of wastewater in the sea. Increasing the quality of sewage pipes and agricultural disposal into estuaries can greatly affect the quality of water and conversely the quality of the wastewater after treatment. Considering these impacts on efficiency and quality will aid in further providing clean water to the population. With around 75 % of the population being given access to treated wastewater renders the quality of said water pertinent.

Increased focus on dealing with industrial waste, both solid and liquid especially hazardous and radioactive waste needs to be dealt with on a local scale. Currently insufficient landfills exist leaving the management of waste to export, opposed to adequate and clean disposal. Increased investment into technically suitable solid waste landfills

Industrial waste, both solid and liquid, are a growing concern for the nation. Increased development usually means increased industrial waste. With lacking landfills to cope with hazardous and radioactive waste leave the country little room to decide against development of local landfills.

Part VI – Potential investment needs

Based on the preliminary desk review what appears to be required is the provision on sanitary landfills, particularly for hazardous waste. Further research and information from the focal points should assist in identifying investments needs and projects based on national level priorities and requirements.

Part VII – Key contacts

MEDPOL Focal points	
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Country Report
SPAIN

Part I – General background

Main persistent organic pollutants (POPs) in Spain include aldrin, chlordane, DDT, dieldrin, endrin, hexachlorobenzene, heptachlor, mirex, toxaphene, polychlorinated biphenyls, dioxins and furans. Heavey metals in Spain include mercury, lead, and cadmium are generated from the metal industr, mining, inorganic chemistry, and the electronics industry. Other heavy metals include zinc, copper, and lead. Nutrients and suspended solids mainly phosphates and nitrates and suspended solids directly discharged without treatment affects marine and inland waters. The main source of polluting nutrients and suspended solid waste are industrial and urban wastewater from urban centres, paper industry, energy, and oil refineries, agriculture, aquaculture, and livestock. Hazardous waste is that resulting from lubricants, batteries, and chemicals.

(Reference to other pollutants, such as BOD5 coming from habitants will be reflected in the revised version of the country report).

Part II – National pollution hotspots

(The reference is not this Spanish study but the UNEP/MAP TDA of 2002 which includes 5 pollution Hot Spots (Barcelona, Tarragona, Valencia, Cartagena and Algeciras)

In March 2005, Spain prepared the report on "hot spots" and sensitive areas with impact on the Mediterranean Sea. The study was commissioned by the Ministry of Environment to the Center for Business and the Environment (CEMA). The study came up with a list of hotspots from industrial emissions and wastewater discharges with negative impact on the Mediterranean Sea. Identified hotspots in Spain included the following locations: Barcelona (FTZ), Tarragona, Castellbisbal, Martorell, Castellón de la Plana, and Flix.

Water	***Coastal***	***Air***
Agua	**Litoral**	**Aire**
Barcelona – Zona Franca	*Carboneras*	*Amurrio/Etxegoien*
Les Franqueses del Vallès	*Los Barrios*	*San Roque*
Benicarló	*Castellón de la Plana – P.I. El Serrallo*	*Castellón de la Plana – P.I. El Serrallo*
Tarragona	*Motril*	*Tarragona*
Castellbisbal	*Tarragona*	*Castellbisbal*
Martorell	*Vila-seca*	*Barcelona – Zona Franca*
Burgos	*Barcelona- Puerto*	*Martorell*
Castellón de la Plana – P.I. El Serrallo	*El Prat de Llobregat*	*Flix*
Zaragoza	*San Roque*	
Villarreal	*Valle Escombreras*	
Vitoria	*Cuevas del Almanzora - Villaricos*	
Zubillaga-Lantarón		
Vila-seca		
Flix		

Source : EEA 4/2006

There are two "hot spots", at Tarragona and Castellon de la Plana, coinciding as priorities in the three vectors analysed: water, coastal and air. In addition, four "hot spots" appear as priorities with discharges to water and emissions to air: Barcelona Zona Franca, Castellbisbal, Martorell and Flix. Hotspots resulting from water discharges are generated from industrial activities that include the chemical sector (Tarragona, Les Franqueses del Vallès, Benicarló, Barcelona-Z. Franca, Castellbisbal, Martorell, Castellón de la Plana, Zubillaga, Flix, Vila-Seca), metal industry (Martorell, Burgos, Zaragoza and Vitoria), mineral from Villarreal, and combustion plants in Castellón de la Plana.

The hotspots identified for discharges to coast have different origins: Chemical industry in Tarragona, Vila-Seca, El Prat de Llobregat, Castellón de la Plana and San Roque, combustion plant in Carboneras, Castellón de la Plana, Valle Escombreras and Cuevas de Almanzora, waste management in Barcelona-Port, and paper industry in Motril.

The hotspots identified for air emission originate from various industrial activities: The chemical industry in San Roque, Tarragona, Martorell and Flix; Combustion plants in Castellon de la Plana, San Roque and Tarragona; metal industry and Castellbisbal Amurrio, and the use of solvents in Barcelona Zona Franca.

Measures proposed within the framework of the National Action Plan (NAP) are insufficient to meet the reduction pollution targets provided by the Strategic Action Plan (SAP). Those include the following:

- *"By the year (2025), discharges and emissions to the atmosphere in the Protocol area, from point sources shall comply with the provisions of the Protocol and other relevant national or internationally agreed".*
- *"Within ten (10) years, reduce (50%) discharges, emissions and losses of toxic, persistent and bioaccumulative from industrial facilities."*
- *"Within ten (10) years, reduce (50%) discharges, emissions and losses of pollutants from industrial facilities located in" conflict areas "and areas of interest."*

Part III - Sectoral Overview

III.1 - Wastewater

(Emphasis will be laid on present situation and achievements rather than only towards a description of old regulation. The Water Framework Directive is a key achievement that must be highlighted including the River Basin areas and their 6 year management plans)

Main objective to be achieved is to ensure proper treatment of wastewater prior to its disposal in the Mediterranean Sea. This necessitates the existence of sufficient and properly maintained treatment facilities. The reuse of treated wastewater is also one of the objectives to be achieved in this sector.

Development plan for 2005 included the requirement of connecting cities and urban centres of more than 100,000 inhabitants to a sewer system, avoiding exposure to pathogens of shellfish growing areas, water intakes and bathing areas, and the exposure of vulnerable environments such as lakes and seagrass meadows, to excessive concentrations of nutrients and suspended solids, operation and maintenance facilities satisfactory treatment of wastewater, promote reuse of treated sewage effluent for the conservation of water resources, thus

encouraging infrastructure, treatment, and segregation of industrial effluents at source, proper design of treatment plants and quality control of wastewater, with a view to the beneficial reuse of industrial effluents, separate the treatment of rain water from wastewater, identify the viability and sustainability of environmentally sound use of sewage, and the prohibition of the discharge of untreated wastewater in the Mediterranean Sea.

A number of legal instruments have been introduced to govern wastewater in Spain: Legislative Royal decree 1/2001 governing wastewater discharge to inland waters, Coastal Law 22/1988 governing wastewater discharge in the Sea, Royal Decree Law 11/1995 establishing the rules for the treatment of urban wastewater, Royal Decree 849/1986 regulating of public water, and Royal Decree 258/1989 regulating the discharge of dangerous substances from land.

At the regional level, In Andalusia Law 7/1994 and 14/1996 regulated the discharge of wastewater into the Sea. In Catalonia, it is Law 6/1999, and Law 3/2000 for Murcia.

III.2 – Solid waste

The Government in 2000 adopted plans and programmes for source reduction and environmentally sound management of municipal solid waste. It established in 2005, national systems, environmentally sound and economically feasible solid waste management for cities of over 100,000 inhabitants. One of the main objectives of the solid waste management programme in Spain is to promote the reduction and recycling of municipal solid waste.

Within the time horizons provided by the SAP (2000), Spain plans source reduction and the rational management of solid waste. Regarding the current situation, the Urban Waste Plan 2000-2006, pursues the following objectives:

(The assessment of implementation of such an old plan should now be available, and be more relevant than what was planned. Same remarks for the regional decrees mentioned below)

- *Stabilise, in absolute terms, the domestic and per capita production of waste.*
- *Introduce separate collection, and promote reduce, recover, reuse and recycle of waste;*
- *Promote composting, and source separation of waste.*

Laws were introduced to govern the management of solid waste. These included Law 10/1998 of 21 April on which requires states to develop regional waste plans that monitors, inspects and sanctions activities related to waste management. Moreover, Law 11/1997 on packaging contains measures for environmentally sound management of municipal waste.

A number of decrees with regional implications include the following:

- *In Andalucia, the Master Plan for Municipal Waste Planning through Decree 218/1999 of 26 October set the guidelines for the proper management of municipal waste and has the specific purpose of promoting the reduction of waste generation, the promotion of separate collection, recovery, promote recycling and reuse, and disposal of uncontrolled disposals, ensuring proper treatment of waste.*
- *In Balearic, two large sectoral plans were developed for urban waste management one for the island of Mallorca application, and the second, in the islands of Ibiza and Formentera. Both plans provide an environmentally advanced solution to generated urban waste, and also include a solution for the treatment of a number of waste similar to urban (sewage sludge, construction and demolition waste, and animal waste).*
- *In Catalonia, a programme for municipal waste management for the period 2001-2006 includes reduction of municipal waste management, based on the principles of pollution prevention and hierarchy of waste management options (minimisation, recovery, optimisation and disposal systems).*
- *In Murcia, Order 2001 of June 26, approved the Plan for urban waste and non-hazardous waste in the Region of Murcia.*

- *In Valencia, the integrated waste management plan in the Valencian Community, approved in 1997, has been amended by Decree 32/1999, of March 2. The Plan provides a management model that meets the requirements in preventing and minimising waste production, collection, maximum recovery and disposal of waste safely and with the least environmental impact.*

III.3 – Industrial emissions

The SAP targets are intended to achieve the 2005 air quality identified in the LBS Protocol and other agreements for cities over 100,000 inhabitants and the rest of the cities for 2025. Other SAP measures related to industry include the following:

- *Adopt and implement the industrial process industries electrolysis of alkali chlorides in addition to previous standard reference, a maximum of 0.5 grams of mercury in water per ton of installed capacity, 5 grams of mercury per ton of water and if possible, 2 grams of mercury for total discharges into the Sea.*
- *Adopt and implement national common measures taken by the parties in 1987 to prevent mercury emissions to the sea (consisting of prohibiting the discharge into the sea of a concentration greater than 0.050 mg. / L).*
- *Adopt and implement pollution standards for cadmium and cadmium compounds taken by the parties in 1989 (ie, discharges into the sea of a maximum concentration of 0.2 mg / litre).*
- *Monitor organochlorine discharges by industry and manufacturers of paper pulp by limiting discharges of organohalogens to 1 kg per ton of pulp produced.*
- *Reduce short-chain chlorinated paraffins, the manufacturing and use of PDBEs and PBBs, pesticides such as Lindane, herbicides 2.4 and 2.5.T DT and use in wood treatment of Tri, Tetra and Penta Chloro Phenol.*
- *Prepare and adopt national regulations on the discharge points of wastewater from industrial sources in the Protocol area taking into account the criteria and standards adopted by the parties.*
- *Eliminate by 2025 all wastewater from industrial installations emitting BOD, nutrients and suspended solids in accordance with the provisions contained in the LBS Protocol.*
- *By 2010, reduce by 50% the amount of BOD, nutrients and suspended solids from industrial sources generating these substances.*
- *Decrease the discharges of nutrients and suspended solids rich industrial wastewater.*
- *Advocate for the proper methods of dealing with wastewater.*
- *Introduction of tertiary treatment of industrial wastewater.*
- *Efficient administration and maintenance of facilities.*
- *Sustainable management of sewage sludge in an environmentally friendly way.*

Part IV List of Projects

No list of projects was included in the NAP Report but only interventions. Attempts will be made to find a list of projects to include in this section in the 2nd phase of the project.

Part V – Assessment

- *Measures proposed within the framework of the National Action Plan (NAP) are insufficient to meet the reduction pollution targets provided by the Strategic Action Plan (SAP).*
- *Regarding the disposal of heavy metals and the reduction of mercury, cadmium, and lead the level of compliance was mediocre. So was the performance in the elimination of all wastewater from industrial facilities that are sources of BOD, nutrients and suspended solids.*
- *This is the case due the lack of a time frame in the Spanish legislation. The promotion of proper*

environmental management of wastewater with introduction of environmental audits, MPA and MTD was also mediocre. However the implementation of national common measures to prevent mercury emissions to the sea was successful. So were collecting, treatment, and disposal of obsolete chemicals, lubricants, and batteries (NAP, 2005)

Part VI – Key contacts	
MEDPOL Focal points	
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1. National Plan of Action (NAP), July 2005

Country report
Syria

Part I – General Background

From the 14 administrative districts of Syria, two districts are only on the coastal zone of the Mediterranean which are Lattakia and Tartous. Although these are independent districts, environmental policies are prepared at the centralised level and executed at the district through Environmental Directorates monitored by the Ministry of Local Administration and Environment.

The environmental problems at the coastal zone in these two districts are caused mainly by solid waste, wastewater and industrial pollution. Wastewater Treatment and safe solid waste disposal are almost absent in these in these two districts where sewage collection networks are old and do not cover the populated area..

Industrial pollution is caused by a various type of industries in Lattakia however it is mainly caused by petroleum industry in Tartous. Major industrial complexes include the Banias oil refinery, the Tartous cement plant, the phosphate loading dock at the Port of Tartous, the two oil terminals of Banias and Tartous, and the thermal power generation station in Banias. Smallscale industries include steel rolling mills, food processing, beverage, olive oil mills, cattle and sheep slaughter houses, textiles, and various agricultural related activities such as confined animal facilities and green houses.

Part II – National pollution hotspots

The Strategic Action Programme and National Action Plan (SAP-NAP) prepared in 2005 by UNEP-MAP has defined four main hotspots.

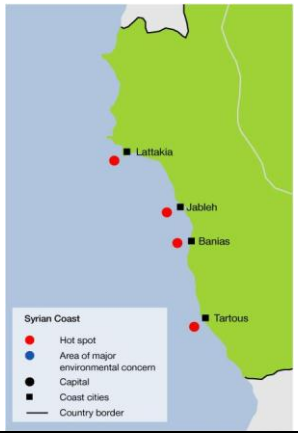
The hotspots areas listed in the SAP-NAP of 2005 are:

1. *Lattakia*
2. *Tartous*
3. *Jableh*
4. *Banias*

The four identified hotspots are four major populated cities on the Mediterranean coast having various industrial activities.

The following sections of this report will present the list of projects listed previously in the SAP-NAP with its status. At a late stage, the project list will have an update of the projects executed in the previous years with potential investment projects to meet the targets of 2025.

The following map show the main hotspots location as presented in the MED partnership.



Part III - Sectoral Overview*(Max. 1 page)*

III.1 - Wastewater

Wastewater responsibility is shared by several ministries and establishments however they all represented by the Higher Water Committee that is presided by Vice Prime Minister for services' affairs. In general following are main responsibilities:

Ministry of Housing and construction: *Construction & Rehabilitation, Setting a tariff system, incentives for the private sector to enter into joint ventures to build, own, and operate WWTP, Coordinating responsibilities and authorities in the municipal sewage sector, Capacity building for monitoring and analysis of effluent quality of wastewater, Capacity building for operators and managers of WWTP*

Ministry of Finance: *Setting a tariff system, incentives for the implementation of clean technologies, incentives for the private sector to enter into joint ventures to build, own, and operate WWTP*

Ministry of Local Authorities: *incentives for the implementation of clean technologies, Monitoring of seawater quality in effluent points and coastal rivers, Capacity building for monitoring and analysis of effluent quality of wastewater, Incorporating EIA studies in the execution of sewers' networks and wastewater treatment plants, Awareness raising among farmers for means and ways for reuse of treated wastewater (in coordination with the Ministry of Agriculture)*

- *Only 30% of wastewater generated in Syria is treated in a limited way.*
- *Some of the urban areas are connected to WWTP.*
- *In total, around 20 treatment plants are in operation, however do not always comply to international standards.*
- *Pipes are mostly old causing much leaking.*
- *Rural areas do not have any sewage treatment.*

The SAP-NAP of 2005 defines certain activities and projects to meet SAP targets for 2010 and 2025 that are subdivided to Urban Environment and Industrial Development. The plan includes the construction of WWTP and networks that should cover all areas in conformity with LBS protocol.

III.2 – Solid waste

Solid waste management is the responsibility of the Governorate for planning and implementation for setting solid waste management strategies; however, the Municipalities hold the responsibility for all day to day solid waste management activities.

The municipalities follow the Ministry of Local Administration and Environment noting there are always an intervention from the Ministry of Finance especially with relation to setting up incentives for waste segregation.

The key sector issues are:

- *Total domestic waste transported to municipal landfills estimated at around 5000 tons/day.*
- *Medical and other hazardous industrial wastes are mixed with domestic waste.*
- *The City of Damascus operates the only waste composting plant in Syria.*
- *The majority of collected waste is disposed at open dumpsite located in the outskirts of towns or on the coast (Lattakia).*
- *Open burning is quite common in Syria.*
- *Sanitary land filling is still not practiced.*
- *The majority of waste does not have any adapted treatment.*
- *There are no landfill regulations on standards that provide a basis for monitoring but national guidelines for these standards are being prepared.*

SAP-NAP of 2005 defines certain activities and projects to meet SAP targets for 2010 and 2025 that are

subdivided to Urban Environment and Industrial Development. The plan includes the proper management of solid waste generated in all areas.

III.3 – Industrial emissions

The Industrial sector involves several ministries depending on the type of activity, for instance:

- *Ministry of Petroleum & Minerals and Ministry of Local Administration & Environment are involved in the operation of oil refineries.*
- *Ministry of Electricity and Ministry of Local Administration & Environment are involved in the operation of thermal power plants*
- *Ministry of Industry and Ministry of Local Administration & Environment are involved in the operation of private sector industries*

Significant pollution from the industrial activities is affecting the Mediterranean especially the oil refinery and the scattered various type of industries. Most effluents are either directly discharged to rivers or the Sea. some industries discharge the effluent in the sewer networks without pre-treatment; however, it is discharged directly in the Sea without treatment.

In general, the Ministry of Local Authorities and Environment is the entity commonly involved in setting up policies and strategies in cooperation with the related ministry or institutions.

The SAP-NAP of 2005 defines certain activities and projects to meet SAP targets for 2010 and 2025 that are subdivided to Urban Environment and Industrial Development. The plan includes for 2025:

- *Phase out inputs of POPs*
- *Phase out input of PAH*
- *Phase out discharges and emissions*
- *Eliminate discharges of organohalogens*
- *Dispose all industrial nutrients in conformity with the LBS Protocol*
- *Reduce nutrients from agricultural activities*
- *Dispose all hazardous waste in a safe environmental manner*
- *Dispose all batteries in a safe environmental manner.*

Part IV – Projects

The following table summarises the list of projects outlined in the NAPs showing its cost and status with regards to financing. The second phase of the study will provide updates on these projects with its operation impacts and its involvement towards the de-pollution targets:

IV.1 - Waste water

Nr.	Country	Location	Sector	Project Title	Financing Secured (Yes / No)	Value (EUR)	NAP (Yes/ No)	Donor / IFI Involvement
SRY 2	Syria	Tartous	WW	Construction Tartous municipal WWTP	No	4,222,222.22	Yes	France ??
SRY 3	Syria	Lattakia	WW	Construction Lattakia Municipal WWTP	No	39,259,259.26	Yes	
SRY 5	Syria	Banias	WW	Construction Banias municipal WWTP	No	7,925,925.93	Yes	
SRY 9	Syria	Jableh	WW	Rehabilitation of the Old Jableh City sewerage network	No	740,740.74	Yes	

IV.2 – Solid waste

Nr.	Country	Location	Sector	Project Title	Financing Secured	Value	NAP	Donor / IFI Involvement
					(Yes / No)	(EUR)	(Yes/ No)	
SRY 4	Syria	Tartous	SW	Development of Municipal landfill in Tartous	No	3,111,111.11	Yes	

IV.3 – Industrial emissions

Nr.	Country	Location	Sector	Project Title	Financing Secured	Value	NAP	Donor / IFI Involvement
					(Yes / No)	(EUR)	(Yes/ No)	
SRY 1	Syria	Banias	Haz	The rehabilitation of the Banias refinery IWWTP, including the construction of a landfill for industrial hazardous waste	No	4,222,222.22	Yes	GEF (20 - 40%) ?
SRY 6	Syria	Banias	Air	Exchange of fuel with natural gas for two power generation units at the Banias thermal power plant	No	39,259,259.26	Yes	
SRY 7	Syria	Jableh	Ind	Construction of Jableh WWTP and sewerage network for the industrial area of Al Fawar Spring	No	3,111,111.11	Yes	
SRY 8	Syria	Tartous	Air	Installation of fabric filters on production line for Tartous Cement Factory	No	888,888.89	Yes	

Part V – Assessment

The NAPs of Syria address the solid waste, wastewater and industrial sectors. In addition, it addresses he air pollution sector with physical projects specifically in Banias and Tartous at the power plants and cement factories respectively.

Further Assessment will be completed in the next phase to attempt the access on information regarding those projects and the possible investment needs to meet the targets.

Part VI – Investment Needs

Based on the initial desk review and since not much information is available regarding the projects as outlined in the NAPs; therefore, this section will be further developed in the next phase to identify those investment needs for all sectors after providing updates on existing projects.

Part VII – Key contacts

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Country Report
TUNISIA

Part I – General background

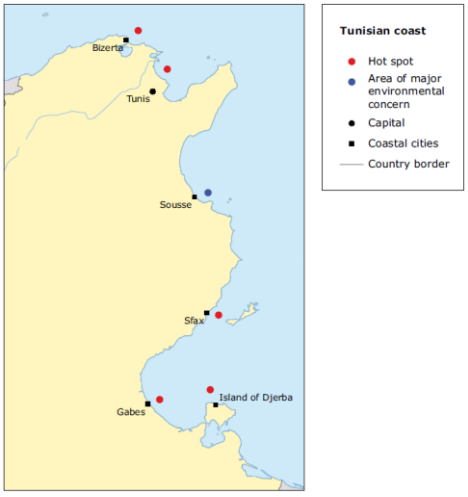
Tunisia is a relatively small country with a total area of 163,000 km2 and a population of 10.7 million people mainly concentrated on the coastal zone. The majority of the population live in urban areas with around 40% in agglomerations of more than one million inhabitants. The country has developed Strategic Action Plans to coincide with the National Action Plan to alleviate environmental burden on estuaries and the coastal line emanating from improper solid waste disposal policies, industrial pollution and wastewater related matters. Some of these objectives include, but are not limited to the reduction of waste, emissions and industrial pollution by 50% by 2015 from 2005 levels. These do not only include areas of high pollution, but hotspots and vulnerable areas as well. (SAP, 2005)

The areas of great concern are the Gabes, Tunis, Sfax and the Bizerta lagoon. Pollution in Gabes is mainly due to the discharge of phosphogypsum from the production of fertilizers. Tunis is mostly affected by urban effluents, Sfax is affected by urban and industrial effluents, and the Bizerta lagoon is a hub for industrial wastewater treatment.

Even though Tunisia is successful in managing its sanitation sector, at least relative to the region, it still requires increased capacity of wastewater treatment as well as appropriate solid waste management practices which includes collection, treatment, recycling, valorisation and proper sanitary land fillings (Murphy, Economides, 2006). Waste is often dumped in open dumpsites and not in sanitary landfills. Industrial pollution from untreated wastewater and solid waste in the coastal zones, especially Gabes and Sfax are prevalent and necessitate appropriate means of treatment. (Murphy & Economides, 2006)

Part II – National pollution hotspots

The UNEP/MAP "State of the Mediterranean Marine and Coastal Environment" of 2012 outlines several hotspots for the entire Mediterranean region. The ones for Tunisia are listed below.



Source: EEA 4/2006

Hot Spots	Rationale
Bizerta, Lake of Bizerta	Host to urban and industrial wastewater as leachates from two main solid waste dumping sites at Sabra Bay and El Fouledh.
Tunis	The coast of Tunis is a popular touristic destination threatening the wetlands and their biodiversity with impending expansion of the infrastructure.
Sousse	Sousse is a coastal city of around 185,000 and is a tourist attraction, increased influx of tourists results in increased volume of waste generated with negative effects on coastal and marine ecosystem.
Sfax costal zone	Around 12000 tons of fluoride, 57000 tons of phosphorus, 2.4 tons of cadmium and 1 ton of mercury as industrial wastewater as well as

	phosphogypsum wastes on the sea front taking up around 19 million m^3 of land in two dumping sites.
Gabes, Gulf of Gabes	Around 10,000 tons per year of phosphogypsum slurry from the production of fertilizers is discharged into the sea as well as urban wastewater.
Djerba, Islan of Djerba	As a tourist development site, building of hotels at the north-eastern side of the island and trawling in the Posidonia meadows, is increasing the environmental burden.

Part III - Sectoral Overview (Max. 1 page)

III.1 - Wastewater

The National Sanitation Utility (ONAS) is the main national institution responsible for the wastewater in the country. It was founded in 1974 and since then it has connected more than 90% of the total population with a sewerage network of 14,799 km and has constructed 109 plants. ONAS has treated around 240 million m^3 of wastewater of which 28 % are reused for irrigation purposes. (ONAS, 2010)

Despite the success and wide range of achievement of ONAS, wastewater treatment and collection still remains a challenge. Some cities are still not completely connected to the sewerage network but more are being added each year. With increased investment, around 11 wastewater treatment plants are planned to be built during the period from 2012 to 2016.

With growing investment in the sector, the commissioning of WWTP's is increasing at a steady rate. Each year around 3-4 new WWTP's are constructed adding more cities to the sewerage network each year. ONAS' commitment to providing clean water for the population is well underway. Continued investment and maintenance of the past and upcoming projects is needed to ensure access to water for all. (ONAS, 2010)

III.2 – Solid waste

In order to address the solid waste problem in the country, the government initiated a program referred to as PRONAGDES (National Waste Management Program) in 1993, The Government has also created a National Waste Management Agency in 2005. The Agency is entrusted with the development of solid waste management projects to ensure the safe disposal of solid waste.

Solid waste represents a heavy burden on the economy, local communities and the environment. Out of around 4 million tons of waste generated annually around 1.6 million tons or 40% are disposed of in controlled landfills and around 8% is recycled. Improper management of solid waste still represents a serious problem in the country, requiring more investments to handle current and future projected volumes of generated waste. Existing solid waste management facilities fall short of the required needs in the country. The Government has plans to increase its capacity to handle solid industrial waste. Investments of around US$ 47 million are under way to provide sanitary landfills and , concerning 9 landfills transfer centres. (World Bank, 2007)

The Government has introduced a set of regulations and laws to include policies that regulate the management of solid waste. The legal framework includes around 5 laws and one decree intended to govern and promote the better SWM practices (Larid, 2010).

III.3 – Industrial emissions

The National Environmental Protection Agency (ANPE) was created in 1988 and acts as the prime authority for issuing environmental permits and monitoring the environmental performance of industrial facilities. It shares responsibilities with ONAS for controlling industrial pollution in the country.

Industrial pollution represents a serious problem in Tunisia. Main areas affected by industrial emissions are Tunis, Sfax, Ariana, Bizerte,Sousse, Nabeul and Gabes (MeHSIP, 2011). The industrial sector produces phosphogypsum, which alone generates around 5 million tons of waste annually. On top of this, other wastes add up to around 250,000 tons.

A decree issued in 1994, namely Decree no 94 - 1885, sets conditions for the discharge of wastewater subject to approval by ONAS.

Part IV – Projects

IV.1 – Wastewater

Nr.	Location	Sector	Project Title	Linked to hotspot	Status	Financing secured	Value	Donor/FI Involvement
1	National	WW	Loan ONAS IV (various)		Ongoing	Yes	123	EIB, AFD,EC
2	National	WW	PISEAU II-Water Sector investment loan (various)		Ongoing	Yes	91	WB/GEF
3	National	WW	Credit Line Industrial de-pollution		Ongoing	Yes	40	AFD
4	National	WW	Programme WWTP (Complementary to programme WWTP financed by KfW:36.5m)/coverage of a tortal of 19 WWTP and pumping stations		Ongoing	Yes	127	Kf,AFD
5	Tejerouine, Dahmani/kssour,Redalyf/Molarès,hammamet Nort, El Guettar,Ben Guerdane	WW	Construction of 7 WWTP, connection to sewerage system of Ksar/Gafsar, rehabilitation primary and secondary collectors (200km), and 27,000 houses connections(Tejerouine,Dahmani/Kssour,Redaly/Moularès,Tea et feriana,El Guettar,Ben Guerdane)		Under preparation	Yes	40	KfW,EIB
9	Al-Attar	WW	Construction of WWTP Phase II (BOT project)		Ongoing	Yes	48	Other
10	Grand Tunis	WW	Construction of transfer pipes, pumping stations,distibution network for use of treatedwastewater in agriculture		Pending	Yes	500	AFD,EIB, WB
11	Sousse Nord, Sud méllane 1, Kallat El Andalous, Ben Arous (Grappée), Mselem, Lella Mériem,Zarzi ville, Zarzis Soulhel,Houmet Essouk,Jerba Aghir, Sidi Mehrez,Gabès, koba,Kéllbia,Jamme	WW	DEPOLLUMED - programme of the cleanup of the Mediterrnean sea		Project identified as a priority project on the Horizon 2020 pipeline and assigned as a Wave 2 project on the MeHSIP-PPIF pipeline. The coastal WW system project initially conceived between ONAS and MeHSIP-PPIF was until recently being discussed for co-financing with AFD. It is suggested by MeHSIP that a	No	175	EIB,AFD

Nr.	Location	Sector	Project Title	Linked to hotspot	Status	Financing secured	Value	Donor/FI Involvement
	I,Sebitla,Hammet Gabès				feasibilty study is undertaken based on the outcomes off the preparatory work funded by AFD.			
12	Clean up about 200 quarters	WW	5th Sanitation of low income neighbourhoods		Under preparation	No	30	AFD
13	Sanitation of 80 municipalities with fewer than 10,000 inhabitants	WW	Sanitation in cities of less than 10,000 inhabitants		Under preparation	No	50	KfW,AFD
14	Region North pole of Tunisia	WW	Programme of improving the capacity of wastewater treatment in North Pole of Tunisia		Under preparation	No	40	WB/GEF

IV.2 – Solid waste

Nr.	Location	Sector	Project Title	Linked to hotspot	Status	Financing secured	Value	Donor/FI Involvement
1	National	SW	Valorisation of organic waste or biomas		Under preparation	Yes	61	N/A

IV.3 – Industrial emissions

Nr.	Location	Sector	Project Title	Linked to hotspot	Status	Financing secured	Value	Donor/FI Involvement
1	Bizerte	IE	Integrated De-pollution Programme (Lake Bizerte)	Yes	Under preparation	No	61	
2		IE	Integrated intervention program for the de-pollution of the bay and river basin		Under preparation	No	41	
3		IE	Rehabilitation of the phosphorgypsum dump site of Gabes	Yes	Under Preparation	No	200	
4	Sfax and Mdilla	IE	Closure of Sfax Plant and constructing new one in Mdilla	Yes	Under preparation	No	264	
5	Thyna	IE	Rehabilitation of the Coastal Zone of Thyna	No	Under preparation	No	45	

Part V – Assessment
Tunisia has introduced a series of policies, legal frameworks and measures to address and mitigate pollution in the country in general and on the coastal and marine ecosystem, resulting from human and economic activities. A number of wastewater and solid waste projects have been constructed in the country to address waste and pollution generated by different economic and human activities. However, there is still a need for investments particularly to deal with solid waste generated from the industrial sector.
Part VI – Investment Needs
Though more than 90% of the population is connected to the sewage network, increased population pressure and physical development creates the need for investment in wastewater treatment plants and in the network. Investments are also needed to provide facilities for the treatment and recycling of solid waste generated by the industrial sector. The construction of waste to energy and waste to compost facilities need to be considered, based on the economic viability of these options.

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Country report
Turkey

Part I – General background

For the case of Turkey, water catchments basin approach is taken into account instead of Administrative Region approach since it defines better the problems in water catchments basin. State Hydraulic Works (DSI) has divided Turkey into 26 water basins in terms of drainage areas to evaluate the problems related to the water resources. The scope of sectoral plan study covers five of these basins along the Aegean Sea Coast and six of them along the Mediterranean Sea Coast. The basins on the Mediterranean are Bati Akdeniz, Antalya, Dogau Akdeniz, Ceyhan, Seyhan, and Asi.

The EU accession process is driving the political agenda and the project development priorities in the environmental sector in the Balkans and Turkey. And the Barcelona Convention is part of the EU acquis.

Turkey has 8,332 kilometers of coastlines, not including its islands, so they are putting much importance on the criteria of sensitivity. The MoE distinguishes between sensitive (liable for eutrophication and requiring tertiary treatment); 'grey' areas requiring secondary treatment, and non sensitive areas which have only primary treatment.

There seem to be some confusion on the definition of hotsposts between EC, UNEP since UNDP hot spots are widely known in Western Balkans and Turkey as old remediation sites- not related to the Barcelona Convention. Turkey has identified in the NAPs a long list of projects related to WW, SW and industrial waste sector that were prioritised into three levels high, medium and low based on the cost effectiveness of each project.

Part II – National pollution hotspots

The Strategic Action Programme and National Action Plan (SAP-NAP) prepared in 2005 by UNEP-MAP has defined several hotspots. In addition, it has described several projects that would help achieving pollution reduction in the Mediterranean.

The hotspots listed in the SAP-NAP of 2005 are:

Pollution Hot Spot	Type
Mersin	Mixed
Erdemli	Mixed
Silifke	Domestic waste
Tarsus	Domestic waste
Antalya	Domestic waste
Alanya	Domestic waste
Side	Domestic waste
Manavgat	Domestic waste
Adana	Mixed
Ceyhan	Domestic waste
Antakya	Domestic waste
Iskenderun	Domestic waste
Dortyol	Domestic waste
Kirikhan	Domestic waste
Bodrum	Domestic waste
Marmaris	Domestic waste
Datca	Domestic waste
Foca	Domestic waste
Bakhazir	Domestic waste
Bahkezir	Domestic waste
Cesme-Alacati	Domestic waste

The following sections of this report will present the list of projects of the SAP-NAP with its status. At a later stage of the study, the project list will be amended with other projects executed in the previous years and potential investment projects necessary to meet the targets of 2025.

The following map show the main hotspots location as presented in the MED partnership

Part III - Sectoral Overview*(Max. 1 page)*

III.1 - Wastewater

The institutions in water supply and sewerage sector are divided in two groups, one responsible for investment and the other for inspection. Of these agencies, the State Hydraulic Works (DSI), the Bank of Provinces (Iller Bank) and the General Directorate of Rural Services (KHGM) are the most important with respect to their investment capacity, operation and maintenance on a national scale.

Despite the large body of legislation, government agencies, and municipalities do not possess clearly defined powers of enforcement entailed by inspection. For example, existing legislation is not clear on the subject of inspecting municipalities which operate urban-scale sewage treatment works. In addition there is no 'Regulatory Body' responsible for the inspection duties of metropolitan municipality water and sewerage administrations.

However, the Ministry of Environment and Forestry and the Ministry of Health are directly responsible for the inspection of water supply and sanitation activities.

Overall planning of investment in water resources development and pollution control is carried out by the State Planning Organisation, which reports to the Prime Minister's Department. The Ministry of Environment and Forestry has also a coordinating role, between public and private institutions.

Construction of wastewater treatment plants and marine discharges were initiated in the early 80's. Construction of thirty six wastewater treatment plants, twenty nine marine discharges and one hundred and sixty three sewer networks have been completed by the Banks Association until 2005, and constructions of twenty seven wastewater treatment plants and eighteen marine discharges are in progress. The central wastewater treatment plant in Ankara has been completed in 1997. Seventeen marine discharge projects have been completed and constructions of fourteen projects are in progress.

Household wastewater treatment could score a very minor progress to date. Recently, around 62% of the population in municipalities with urban population over 300 could be connected to the sewer system and only 12% to the wastewater treatment system. 70% of the treatment is primary and the rest is secondary.

In line with the provisions of the Environmental Law no 2872, the "Regulations for Controlling Water Pollution (RCWP)" has been published in the Official Journal no 19919 dated September 4, 1998 and thereby put into effect and subsequently published in the Official Journal no 25687 dated December 31, 2004 and thereby updated.

III.2 – Solid waste

Municipalities are authorised and responsible for the collection, handling, recycling and disposal of household solid wastes in Turkey by virtue of the municipal laws no 1580 and 3030. Within the framework of the regulations, a "quota system" setting forth the principle of recollecting a particular percentage of plastic, metal, glass and laminated cardboard packages of liquid, food and cleaning products offered to the market, and the duty of collecting and processing such packages has been entrusted to the industry.

The supervision and monitoring remains the duty of the Ministry of Environment and Forestry.

Total amount of solid waste collected throughout Turkey reached 21 million tons in 1995. Average amount of solid waste per capita is principally considered as 1 kg/day. Taking into account the population data for the year 1997 (around 63 million people), daily household solid waste amount is around 63000 tons.

With this large amount of waste generated per day, there are still significant amount of waste that are still not properly treated and disposed.

The Regulations for the Control of Solid Wastes has been put into effect on 14.03.1991. The regulations establish technical and administrative procedures with respect to the collection, handling, recycling and disposal of household solid wastes under a specified system nationwide, as well as provide legal sanctions in the collection and recycling of packing wastes.

III.3 – Industrial emissions

On a national scale, companies operating in the industrial and tourism sectors are obliged to operate sewage treatment plants. Moreover, this obligation is backed by financial incentives. In the tourism sector, only projects which include a sewage treatment plant are granted incentive licenses.

All industrial projects were grouped as medium priority, because of the high cost of new technology and remediation having in mind that the criterion by which projects have been differentiated into high, medium and low, is cost effectiveness; that is, how much reduction in pollution you get for the investment put.

The bodies and agencies responsible in the process of handling water pollution are Ministry of Environment and Forestry, Ministry of Energy and Natural Resources, Ministry of Agriculture and Rural Affairs, Ministry of Culture and Tourism, Ministry of Health, General Staff Presidency, Prime Ministry Maritime Under secretariat, Turkish Standards Institute, General Directorate of State Water Works, Banks Association, Coast Guard, Coast Security and Ship Rescue Operations as well as Ship Rescue Operations and Turkish State Railways, Turkish Marine Operations, BOTAŞ and refineries.

Industrial activities threaten coastal systems in plenty of different ways. Noteworthy, threats among those are industrial wastewaters discharged to the sewer system, uncontrolled dump areas, rivers or directly to sea; emission gasses stemming from processing or combustion-related activities; solid dangerous wastes and treatment sludge.

Industrial wastewaters including grease, heavy metal, detergent, solvent, organic chemicals and hot chilling waters are the most crucial pollution carriers leading to the conveyance of said pollutants to the enclosed or semi-enclosed marine environments.

While industrial enterprises are allowed to dump their wastewaters into the local sewer systems and deep marine sections, companies may be asked to preliminarily treat their wastewaters before discharging them into the common wastewater treatment plants.

Discharge of hazardous agents into water has been prohibited. Permit procedure is applicable since 1989. Wastewater standards have been established along with the fundamental procedures to be observed for different type of industries and dischargeable substances. Quite strict rules have been introduced for discharges especially located in fish-breeding pools. Authorisation for permit to discharge is renewed on three-year basis.

Part IV – Projects

The following table summarises the list of projects outlined in the NAPs showing its cost and status with regards to financing. The second phase of the study will provide updates on these projects with its operation impacts and its involvement towards the de-pollution targets:

IV.1 - Waste water

Nr.	Country	Location	Sector	Project Title	Linked Hot Spot or Sensitive Area	Construction Status	Operation Status	Value (Dollars)
TUR 2	Turkey	Seyhan Basin	WW	Sewage and domestic wastewater treatment plant for Adana-Karataş county		Adana-Yüreğir/Çelemli: WWTP will be commenced in 01.01.2017	Adana-Seyhan: Connected to WWTP Adana-Yüreğir: Connected to WWTP	$ 5.000.000 - 7.000.000
TUR 6	Turkey	Küçük Menderes Basin	WW	Sewage and domestic wastewater treatment plant for the İzmir-Çeşme county	Yes	None	İzmir-Selçuk: Connected to WWTP İzmir-Çeşme/Merkez, Alaçatı: Physical WWTP İzmir-Konak: Connected to WWTP İzmir-Bornova: Connected to WWTP	$ 5.000.000 - 8.000.000
TUR 7	Turkey	Küçük Menderes Basin	WW	Sewage and domestic wastewater treatment plant for the İzmir-Buca, İzmir-Ödemişcounties		İzmir-Ödemiş/Ovakent (will be commenced in 30.06.2011), Konaklı, Kaymakçı, Kayaköy, Gölcük, Çaylı (will be commenced in 31.12.2010), Bozdağ, Birgi, Bademli (will be commenced in 30.06.2011): WWTP Not Exists	İzmir-Buca: Connected to WWTP İzmir-Ödemiş: WWTP exists	$ 70.000.000 - 100.000.000
TUR 9	Turkey	Gediz Basin	WW	Sewage and domestic wastewater treatment plant for the İzmir-Menemen county			Advanced WWTP	$ 25.000.000 - 35.000.000

Nr.	Country	Location	Sector	Project Title	Linked Hot Spot or Sensitive Area	Construction Status	Operation Status	Value (Dollars)
TUR 11	Turkey	Doğu Akdeniz Basin	WW	Sewage and domestic wastewater treatment plant for the İçel-Erdemli county Rehabilitation of the existing Domestic Wastewater Treatment Plants (e.g. increasing capacity, transforming physical treatment into advanced treatment etc.) for İçel-Silifke (hot spot), İçel-Tarsus (hot spot) and İçel-Mersin (hot spot) counties	Yes	İçel-Erdemli/Arpaçbahşiş, Ayaş, Çeşmeli, Esenpınar, Kocahasanlı, Kumkuyu, Limonlu and Tömük: WWTP will be commenced in 2014-2017 Yeliovacık: WWTP will be commenced in 2014-2017	İçel-Erdemli: Biological WWTP İçel-Erdemli/Kargıpınarı, Kızkalesi: Physical+Biological WWTP İçel-Silifke/Atakent, Narlıkuyu and Silifke: Physical+Biological WWTP İçel-Silifke/Akdere, Arkum, Atayurt, Taşucu, Uzuncaburç İçel-Tarsus: Physical+Biological WWTP İçel-Mersin: Advanced WWTP	$ 30.000.000 - 40.000.000
TUR 13	Turkey	Batı Akdeniz Basin	WW	Sewage and domestic wastewater treatment plant for the Muğla-Milas county			Muğla-Milas: Physical+Biological WWTP	$ 20.000.000 - 30.000.000
TUR 15	Turkey	Ceyhan Basin	WW	Sewage and domestic wastewater treatment plant for the Adana-Ceyhan county			Adana-Yumurtalık: Physical+Biological WWTP	$ 30.000.000 - 40.000.000
TUR 18	Turkey	Kuzey Ege Basin	WW	Sewage and domestic wastewater treatment plant for the Balıkesir-Ayvalık, Balıkesir-Gömeç counties	Yes	Balıkesir-Ayvalık: WWTP will be commenced in 01.01.2014	Balıkesir-Ayvalık/Altınova and Küçükköy: Biological WWTP Balıkesir-Gömeç/Merkez and Karaağaç: Physical+Biological WWTP Balıkesir-Edremit/Akçay, Kadıköy and Zeytinli: Connecte to WWTP Balıkesir-Edremit/Merkez and Altınoluk: Physical+Biological WWTP Balıkesir-Burhaniye: Physical+Biological WWTP	$ 5.000.000 - 8.000.000

Nr.	Country	Location	Sector	Project Title	Linked Hot Spot or Sensitive Area	Construction Status	Operation Status	Value (Dollars)
TUR 19	Turkey	Kuzey Ege Basin	WW	Sewage and domestic wastewater treatment plant for the İzmir-Bergama county		Izmir-Bergama sewage was constructed and WWTP is under the bidding process.		$ 8.000.000 - 12.000.000
TUR 20	Turkey	Kuzey Ege Basin	WW	Sewage and domestic wastewater treatment plant for the Hatay-Dörtyol county				$ 20.000.000 - 30.000.000
TUR 21	Turkey	Kuzey Ege Basin	WW	Sewage and domestic wastewater treatment plant for the Hatay-Samandağcount y				$ 20.000.000 - 30.000.000
TUR 26	Turkey	Antalya Basin	WW	Isparta-Yalvaç sewage and domestic wastewater treatment plant for the county		Antalya-Alanya/Demirtaş, Emişbeleni, Güzelbağ, Payallar WWTP will be commenced in 2013-2016 Antalya-Manavgat/Evrenseki, Gündoğdu, Ilıca, Kızılot, Oymapınar, Sarılar and Taşağıl: WWTP will be commenced in 2011-2017	Antalya-Merkez/Hurma: Advanced WWTP Antalya-Merkez/Lara: Advanced WWTP+SO Antalya-Merkez/Kundu: Physical+Biological WWTP Antalya-Alanya/Konaklı, Mahmutlar, Obaköy, Okurcalar, Türkler: Physical+Biological WWTP Antalya-Alanya/Avsallar: Advanced WWTP Antalya-Alanya/Cikcilli, Çıplaklı, İncekum, Kargıcak, Kestel and Tosmur: Connected to WWTP Antalya-Manavgat/Çolaklı, Merkez, Titreyengöl: Physical+Biological WWTP Antalya-Manavgat/Kumköy: Advanced WWTP	$ 15.000.000 - 25.000.000

Nr.	Country	Location	Sector	Project Title	Linked Hot Spot or Sensitive Area	Construction Status	Operation Status	Value (Dollars)
TUR 27	Turkey	Antalya Basin	WW	Basin Wastewater Treatment Plant for summer housing complexes and accommodation facilities				$ 30.000.000 - 50.000.000
TUR 29	Turkey	Büyük Menderes Basin	WW	Sewage and domestic wastewater treatment plant for Denizli-Merkez, Uşak-Merkez counties			Denizli-Merkez and Pamukkale: Physical+Biological WWTP Denizli-Merkez/Karahayıt and Bağbaşı Connected to WWTP Denizli-Merkez/Aşağoşamlı , Gözler and Irlıganlı, Pınarkent and Uzunpınar: WWTP Not Exixts Uşak-Merkez: Advanced WWTP Uşak-Merkez/Güre: Biological Natural WWTP Uşak-Merkez/Bölme and İlyaslı: WWTP Not Exixts	$ 50.000.000 - 70.000.000
TUR 30	Turkey	Büyük Menderes Basin	WW	Wastewater Treatment Plant for summer housing complexes and accommodation facilities				$ 2.000.000 - 4.000.000
TUR 35	Turkey	Gediz Basin	WW	Sewage and domestic wastewater treatment plant for Manisa-Salihli, Manisa-Turgutlu, Manisa-Akhisar counties			İzmir-Foça: Physical+Biological WWTP	$ 50.000.000 - 80.000.000
TUR 36	Turkey	Gediz Basin	WW	Wastewater Treatment Plant for summer housing complexes and accommodation facilities				$ 2.000.000 - 3.000.000
TUR 45	Turkey	Küçük Menderes Basin	WW	Wastewater Treatment Plant for summer housing complexes and accommodation facilities			biological WWTPs	$ 3.000.000 - 5.000.000

Nr.	Country	Location	Sector	Project Title	Linked Hot Spot or Sensitive Area	Construction Status	Operation Status	Value (Dollars)
TUR 47	Turkey	Kuzey Ege Basin	WW	Wastewater Treatment Plant for summer housing complexes and accommodation facilities			biological WWTPs	$ 8.000.000 - 12.000.000
TUR 53	Turkey	Doğu Akdeniz Basin	WW	Wastewater Treatment Plant for summer housing complexes and accommodation facilities				$ 15.000.000 - 25.000.000
TUR 57	Turkey	Ceyhan Basin	WW	Sewage and domestic wastewater treatment plant for K.Maraş-Merkez, K.Maraş-Elbistan, Osmaniye-Kadirli counties				$ 30.000.000-40.000.000
TUR 58	Turkey	Batı Akdeniz Basin	WW	Sewage and domestic wastewater treatment plant for Muğla-Datça county Rehabilitation of the existing Domestic Wastewater Treatment Plants (e.g. increasing capacity, transforming physical treatment into advanced treatment etc.) for Muğla-Ortaca (sensitive area), Muğla Dalaman (sensitive area) and Muğla-Bodrum (hot spot)	Yes	Turgutreis and Yalı: WWTP will be commenced in 2011-2017	Muğla-Datça: Physical+Biological WWTP Muğla-Ortaca/Sarıgerme: Physical+Biological WWTP Muğla-Ortaca/Dalyan: Advanced WWTP Muğla-Dalaman: Physical+Biological WWTP Muğla-Bodrum/Bitez, Merkez, İçmeler, Göltürkbükü, Gündoğan and Yalıkavak: Physical+Biological WWTP Muğla-Bodrum/Konacık: Biological WWTP Muğla-Bodrum/Gümüşlük, Mumcular, Ortakent Yahşi,	$ 2.000.000 - 3.000.000
TUR 62	Turkey	Batı Akdeniz Basin	WW	Wastewater Treatment Plant for summer housing complexes and accommodation facilities				$ 30.000.000 - 60.000.000

Nr.	Country	Location	Sector	Project Title	Linked Hot Spot or Sensitive Area	Construction Status	Operation Status	Value (Dollars)
TUR 69	Turkey	Asi Basin	WW	Sewage and advanced domestic wastewater treatment plant for the Hatay-Dörtyol (hot spot), Hatay-Samandağ (hot spot) and Hatay Kırıkhan (hot spot) counties.	Yes	Hatay-Dörtyol/Altınçağ, Merkez, Karakese, Kuzuculu, Yeniyurt and Yeşilköy: WWTP will be commenced in 2011-2017 Hatay-Samandağ: WWTP will be commenced in 2014-2017 Hatay-Kırıkhan: WWTP will be commenced in 31.07.2011	Hatay-Dörtyol/Payas: Physical+Biological WWTP	
TUR 70	Turkey	Asi Basin	WW	Rehabilitation of existing domestic wastewater plant up to advanced treatment for Hatay-İskenderun (hot spot) and Hatay-Antakya (hot spot) counties.	Yes	Hatay-İskenderun/Akçalı, Arsuz, Azganlık, Bekbele, Denizciler, Gökmeydan, Gözcüler, Karaağaç, Karayılan, Madenli, Nardüzü, Sarıseki and Üçgüllük: WWTP will be commenced in 2011-2017 Hatay-Antakya: Physical+Biological WWTP Hatay-Antakya/Avsuyu, Çekmece, Dursunlu, Ekinci, Gümüşgöze, Güzelburç, Harbiye, Karaali, Karlısu, Kuzeytepe, Küçükdalyan, Maşuklu, Narlıca, Odabaşı, Ovakent, Serinyol, Subaşı, Şenköy, Toygarlı, Turunçlu and Yeşilpınar: WWTP will be commenced in 2013-2017		

IV.2 – Solid waste

Nr.	Country	Location	Sector	Project Title	Linked Hot Spot or Sensitive Area	Construction Status	Operation Status	Value
								Dollars
TUR 1	Turkey	Seyhan Basin	SW	Solid Waste Storage Plants for Adana-Seyhan, Adana-Yüreğir counties				$ 10.000.000 - 20.000.000
TUR 3	Turkey	Büyük Menderes Basin	SW	Solid Waste Storage Plants for Denizli-Merkez, - Uşak-Merkez counties				$ 10.000.000 - 25.000.000
TUR 4	Turkey	Antalya Basin	SW	Solid Waste Storage Plants for Antalya-Serik, Antalya-Merkez (hot spot) Antalya-Alanya (hot spot), Antalya-Manavgat (hot spot), Isparta-Merkez Isparta-Yalvaç counties		Antalya-Alanya (under preparation)	Antalya-Serik (site allocated) Antalya-Merkez (operation since 2003) Isparta-Merkez Isparta-Yalvaç operational	$ 20.000.000 - 25.000.000
TUR 5	Turkey	Küçük Menderes Basin	SW	Solid Waste Storage Plants for the İzmir-Ödemişcounty			Ongoing	$ 6.000.000 - 10.000.000
TUR 8	Turkey	Gediz Basin	SW	Solid Waste Storage Plants for the İzmir-Menemen, Manisa-Salihli, Manisa-Turgutlu, İzmir-Bergama counties				$ 10.000.000 - 15.000.000
TUR 10	Turkey	Doğu Akdeniz Basin	SW	Solid Waste Storage Plants for the İçel-Silifke, İçel-Tarsus, İçel-Erdemli, İçel-Mersin, (capacity improvement) * counties	Yes	Icel-Erdemli, EIA in process Icel-Tarsus on National Priority List	Icel-Silifke; In operation from 2009 Icel-Mersin in operation	$ 10.000.000 - 25.000.000
TUR 12	Turkey	Batı Akdeniz Basin	SW	Solid Waste Storage Plants for the Muğla-Milas, Muğla-Fethiye, Muğla-Bodrum counties Sending solid waste to the nearest solid waste disposal area for Muğla-Datça (hot spot), Muğla-Ortaca (sensitive area) and Muğla Dalaman (sensitive area)	Yes	Mulga-Milas; area selected for landfill Bodrum; area selected for landfill	Mulga-Fethiye; in operation since 2009; Mulga-Datca; in operation since 2005 Mugla-Ortaca; in operation since 2002 Mulga-Dalaman; sends waste to Mulga ortaca	$ 6.000.000 - 10.000.000

Nr.	Country	Location	Sector	Project Title	Linked Hot Spot or Sensitive Area	Construction Status	Operation Status	Value
								Dollars
TUR 14	Turkey	Ceyhan Basin	SW	Solid Waste Storage Plants for the Adana-Ceyhan, Adana-Kozan, K.Maraş-Merkez K.Maraş-Elbistan, Osmaniye-Merkez, Osmaniye-Kadirli counties		Osmaniye-Kadirli has a sewage and It's WWTP is under the bidding process. K.Maraş-Merkez has a sewage and It's WWTP is under the project process. K. Maraş-Elbistan has a limited sewage and not a WWTP.		$ 10.000.000 - 15.000.000
TUR 16	Turkey	Asi Basin	SW	Solid Waste Storage Plants for the Hatay-Dörtyol, Hatay-İskenderun, Hatay-Samandağ, Hatay-Antakya counties	Yes	Hatay-Dörtyol, Hatay-İskenderun) under construction	Hatay-Samandağ, Hatay-Antakya, Hatay Kırıkhan under operation since 2009	$ 5.000.000 - 10.000.000
TUR 17	Turkey	Kuzey Ege Basin	SW	Solid Waste Storage Plants for the İzmir-Bergama county			İzmir-Bergama has a landfill for domestic and medical solid wastes.	$ 6.000.000 - 10.000.000

IV.3 – Industrial emissions

Nr.	Country	Location	Sector	Project Title	Linked Hot Spot or Sensitive Area	Construction Status	Operation Status	Value
								Dollars
TUR 22	Turkey	Seyhan Basin	Ind	Treatment of industrial wastewaters forTextile industry			physical+biological WWTPs	$ 35.000.000 - 55.000.000
TUR 23	Turkey	Seyhan Basin	Ind	Treatment of industrial wastewaters produced for Food Sector			physical+biological WWTPs	$ 25.000.000 - 35.000.000
TUR 24	Turkey	Seyhan Basin	Ind	Treatment of industrial wastewaters producedfor other organic chemical industries			physical+chemical+ biological WWTPs except for the organic chemical indutry	$ 20.000.000 - 30.000.000
TUR 25	Turkey	Seyhan Basin	Ind	Treatment of industrial wastewaters produced for Paper Sector			physical+chemical+ biological WWTPs	$ 10.000.000 - 20.000.000

TUR 28	Turkey	Büyük Menderes Basin	Ind	Treatment of industrial wastewaters produced for industrial organized district industry			Aydın IODI: Physical+Biological WWTP Aydın ASTIM IODI: WWTP is under construction Denizli IODI: Physical+Chemical+ Biological WWTP Uşak Leather and Textile IODI: Physical+Chemical+ Biological WWTP	$ 8.000.000 - 12.000.000
TUR 31	Turkey	Büyük Menderes Basin	Ind	Treatment of industrial wastewaters for Textile industry			Physical+Chemical+ Biological and Physical+Biological WWTPs	$ 40.000.000 - 60.000.000
TUR 32	Turkey	Büyük Menderes Basin	Ind	Treatment of industrial wastewaters produced for Tannery industry				$ 20.000.000 - 40.000.000
TUR 33	Turkey	Büyük Menderes Basin	Ind	Treatment of industrial wastewaters forPaper and Food industry			Physical+Biological and Physical+Chemical+ Biological WWTPs	$ 15.000.000 - 25.000.000
TUR 34	Turkey	Büyük Menderes Basin	Ind	Treatment of industrial wastewaters for other organic and inorganic industry			Physical+Chemical and Physical+Chemical+ Biologic WWTPs	$ 20.000.000 - 40.000.000
TUR 37	Turkey	Gediz Basin	Ind	Treatment of industrial wastewaters for Tannery industry				$ 10.000.000 - 20.000.000
TUR 38	Turkey	Asi Basin	Ind	Treatment of industrial wastewaters for Metal industry				$ 10.000.000 - 20.000.000
TUR 39	Turkey	Asi Basin	Ind	Treatment of industrial wastewaters for Food Sector				$ 8.000.000 - 12.000.000
TUR 40	Turkey	Küçük Menderes Basin	Ind	Treatment of industrial wastewaters for Textile industry			biological WWTPs	$ 5.000.000 - 10.000.000
TUR 41	Turkey	Küçük Menderes Basin	Ind	Treatment of industrial wastewaters for Metal industry				$ 2.000.000 - 4.000.000
TUR 42	Turkey	Küçük Menderes Basin	Ind	Treatment of industrial wastewaters for Food Sector			chemical+biological and biological WWTPs	$ 3.000.000 - 5.000.000

TUR 43	Turkey	Küçük Menderes Basin	Ind	Treatment of industrial wastewaters for Paper Sector			chemical+biological WWTPs	$ 5.000.000 - 10.000.000
TUR 44	Turkey	Küçük Menderes Basin	Ind	Treatment of industrial wastewaters for Other organic chemical Sector			physical+chemical and chemical+biological WWTPs	$ 5.000.000 - 10.000.000
TUR 46	Turkey	Kuzey Ege Basin	Ind	Treatment of industrial wastewaters for Tannery industry				$ 5.000.000 - 10.000.000
TUR 48	Turkey	Kuzey Ege Basin	Ind	Treatment of industrial wastewaters for Food Sector			Physical+Chemical+ Biological and Physical and Biological WWTPs	$ 10.000.000 - 20.000.000
TUR 49	Turkey	Doğu Akdeniz Basin	Ind	Treatment of industrial wastewaters for Food Sector				$ 50.000.000 - 80.000.000
TUR 50	Turkey	Doğu Akdeniz Basin	Ind	Treatment of industrial wastewaters for Petroleum Sector				$ 10.000.000 - 20.000.000
TUR 51	Turkey	Doğu Akdeniz Basin	Ind	Treatment of industrial wastewaters for Metal industry				$ 15.000.000 - 25.000.000
TUR 52	Turkey	Doğu Akdeniz Basin	Ind	Treatment of industrial wastewaters for Paper Sector				$ 5.000.000 - 15.000.000
TUR 54	Turkey	Ceyhan Basin	Ind	Treatment of industrial wastewaters for Textile industry			physical+biological WWTPs	$ 8.000.000 - 12.000.000
TUR 55	Turkey	Ceyhan Basin	Ind	Treatment of industrial wastewaters for Food Sector			physical+chemical WWTPs	$ 8.000.000 - 12.000.000
TUR 56	Turkey	Ceyhan Basin	Ind	Treatment of industrial wastewaters from Aquaculture Production				$ 5.000.000 - 7.000.000
TUR 59	Turkey	Batı Akdeniz Basin	Ind	Treatment of industrial wastewaters from Aquaculture Production				$ 1.000.000 - 2.000.000
TUR 60	Turkey	Batı Akdeniz Basin	Ind	Treatment of industrial wastewaters from mining activities				$ 1.000.000 - 2.000.000
TUR 61	Turkey	Batı Akdeniz Basin	Ind	Treatment of industrial wastewaters from Energy				$ 4.000.000 - 6.000.000

				production				
TUR 63	Turkey	Doğu Akdeniz Basin	Ind	Treatment of industrial wastewaters from mining activities				$ 10.000.000 - 20.000.000
TUR 64	Turkey	Doğu Akdeniz Basin	Ind	Treatment of industrial wastewaters from textile industry				$ 15.000.000 - 25.000.000
TUR 65	Turkey	Ceyhan Basin	Ind	Treatment of industrial wastewaters from other organic chemical industries			physical and physical+biological and physical+chemical+ biological WWTPs	$ 500.000- 1.500.000
TUR 66	Turkey	Antalya Basin	Ind	Treatment of industrial wastewaters from Aquaculture Production				$ 200.000-600.000
TUR 67	Turkey	Antalya Basin	Ind	Treatment of industrial wastewaters from Food Sector				$ 1.000.000 - 2.000.000
TUR 68	Turkey	Antalya Basin	Ind	Treatment of industrial wastewaters from mining activities				$ 200.000-600.000

Part V – Assessment

It was noted that there is quite a long list in the NAPs that here above updated based on the study entitled "Horizon 2020 Elaboration of a Hot Spot inventory for the West Balkans and Turkey as complementary to the MeHSIP" and implemented in June 2011 by the National and Kapodistrian University of Athens (NKUA), UNESCO-IHE, MIO-ECSDE, RAED, WWF MedPO, ACR+, ACWUA.

The projects outlined in the NAPs address mostly the solid waste and wastewater sectors in addition to industrial waste for privately owned industries.

The case of Turkey was quite unique with the watershed basin approach. However, hotspots were not clearly defined and outlined. Further review and research should define the location of these projects and their link to the hotspots.

The projects were identified and reported in the NAPs based on its priorities (High, Medium and Low). In this report all reports are listed based on its sector (WW, SW and Ind W) irrespective of its priority.

Part VI – Investment Needs

Based on the initial desk review, it is certain that much effort was done in Turkey with long list of projects; however, there are still more to execute to meet the 2025 targets. This section will be further developed in the next phase to identify those investment needs for all sectors.

Part VII – Key contacts

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UfM Focal Points	???
Key contacts (Environment, Planning, Municipality, Industry, water – to the maximum extent possible)	