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MEDITERRANEAN ACTION PLAN
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Meeting to review the long-term implementation of National Action Plans
to address pollution from land-based activities

Durrës, (Albania), 1-3 June 2006

IMPLEMENTATION OF THE STRATEGIC ACTION PROGRAMME TO ADDRESS POLLUTION FROM LAND-BASED ACTIVITIES

NATIONAL ACTION PLANS

Synopsis

UNEP/MAP
Athens, 2006

FORWARD

In preparing this document an attempt was made by the MED POL Secretariat to summarize the main actions that the countries have committed to take in the medium- (2010) and long-term (2025) as described in their National Action Plans (NAPS) to reduce land-based pollution. The preparation of NAPs was achieved in the framework of the implementation of the Strategic Action Programme (SAP) to address pollution from land-based activities.

The National Action Plans were prepared during the biennium 2004-2005 by national authorities and experts through a multistakeholder participatory process and were formally endorsed by the Contracting Parties at their Meeting in Portoroz in November 2006.

AVANT-PROPOS

En établissant le présent document, le Secrétariat du MED POL s'est efforcé de résumer les principales actions et mesures que les pays se sont engagés à prendre dans le moyen terme (horizon 2010) et le long terme (horizon 2025), telles qu'ils les ont consignées dans leurs Plans d'action nationaux (PAN) de réduction de la pollution d'origine terrestre. L'élaboration des PAN a été menée à bien dans le cadre de la mise en œuvre du Programme d'actions stratégiques (PAS) visant à combattre la pollution due à des activités menées à terre.

Les Plans d'action nationaux ont été établis par les autorités et experts nationaux au cours de l'exercice biennal 2004-2005 dans le cadre d'un processus participatif multiacteurs et ils ont été officiellement approuvés par les Parties contractantes lors de leur Quatorzième réunion à Portoroz en novembre 2005.

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ALBANIA

Assessment analysis of the issues included in the NAP

The situation regarding sewage is critical. Because of the economic crisis, the wastewater collection and treatment infrastructure has not been maintained and has not developed quickly enough to cope with the increasing flow of discharged pollution. In urban areas the poorer neighborhoods have no access to the sewerage system. Urban wastewaters are discharged untreated into the surface waters including the coastal waters.

Municipal solid wastes generation in the cities has increased recently because of internal migration from villages. The annual average increase in municipal waste generation during last years was between 8-10 % in the big cities. Only about 50-70 per cent of urban waste is taken to landfills; the rest is simply dumped illegally. There is no inventory of such sites. Waste is also burned in open areas. Smoke containing toxic substances (dioxins, furans) is a source of serious air contamination. There is no waste management, no control and no monitoring.

Increased air pollution is generated mainly by the urban transport sector, construction activities and the miss-management of urban solid wastes.

Albania has 9 hot spots, 5 of which need immediate intervention. The priorities related to their rehabilitation as main environmental priorities, has been identified by UNEP and the updated National Environmental Action Plan. Interventions for site remediation are planned in Porto –Romano in Durres, Chlor-Soda-PVC in Vlora and Sharra-Tirana landfill, former Fier Amonia Factory and Oil Refinery at Ballsh.

The national priority actions for 2010

No.	Action planned
1	Sewerage system for Shkodra city
2	Wastewater Treatment Plant for Shkodra city
3	Sewerage system for Koplik town
4	Sewerage system for Velipoja community
5	Wastewater Treatment Plant for Velipoja community
6	Solid waste collection facilities (containers and transport trucks) for Shkodra city
7	Solid waste collection facilities (containers and transport trucks) for the town of Koplik
8	Solid waste collection facilities (containers and transport trucks) for the community of Velipoja
9	Construction of a sanitary landfill for Shkodra city, the town of Koplik and the community of Velipoja
10	Sewerage system for Lezha city
11	Wastewater Treatment Plant for the town of Shengjin
12	Wastewater treatment plant for the a fish conservation factory (Shengjin)
13	Recycling and composting solid wastes of the city of Lezha
14	Recycling and composting solid wastes of the town of Shengjin
15	Construction of a sanitary landfill for Lezha and Shengjin
16	Sewerage system for the town of Lac
17	Construction of a sanitary landfill for the town of Lac
18	Environmental management of chemical stocks of the Chemical-Metallurgical plant of Lac
19	Disposal of chemical stocks of the Chemical-Metallurgical plant of Lac
20	Sewerage system for the town of Kruja
21	Sewerage system for the town of Fushe-Kruja

No.	Action planned
22	Reconstruction of the cement plant at Fushe-Kruja
23	Sewerage system for Durres city and beach
24	Wastewater Treatment Plant for the city of Durres
25	Industrial wastewater treatment plant (chicken industry)
26	Solid waste collection facilities (containers and transport trucks) for Durres city and beach
27	Program for waste minimization at source and composting
28	Construction of a common sanitary landfill for Durres and Tirana region
29	Porto Romano: dislocation of families from contaminated area
30	Porto Romano: removal of liquid hazardous chemicals and treatment in EU facility
31	Porto Romano: construction of a landfill for toxic metals and contaminated inert demolition materials from an old chemical plant
32	Technological up-grading and waste minimization from tanning industries in Tirana district
33	Industrial wastewater treatment plants in Tirana district
34	Construction of sewerage system of Tirana
35	Construction of sewerage system of Kavaja and Golemi beach
36	Wastewater Treatment Plant for Kavaja and Golemi beach
37	Technological upgrades for the reduction of wastes from the tanning industry (Kavaja district)
38	Construction of sewerage system of Elbasan city
39	Program for waste minimization at source and recycling at Elbasan
40	Construction of a sanitary landfill for Elbasan
41	Implementation of DCM on air emission norms at Cement Factory (Elbasan)
42	Technology up-grade on air emission at the Ferro-chromium plant (Elbasan)
43	Technology up-grade on air emission at the Steel Production plant (Elbasan)
44	Construction of sewerage system of Lushnja and Divjaka (Lushna District)
45	Wastewater Treatment Plant for Lushnja and Divjaka
46	Construction of a sanitary landfill for Lushnja, Divjaka and Fier
47	Safe management of hazardous wastes and obsolete chemicals at the Plastic factory of Lushnja
48	Construction of sewerage system for Fier
49	Wastewater Treatment Plant for Fier
50	Programs for waste minimization at source, recycling and composting organic wastes in Fier
51	Solid waste collection facilities (containers and transport trucks) for Fier
52	Construction of a sanitary landfill for Fier
53	On-site treatment and removal of arsenic solutions at the Ammonia Factory (Fier)
54	Technology up-grading and clean-up at the Patos-Marinza oilfields
55	Construction of sewerage system for Ballsh (Mallakastra District)
56	Programs for waste minimization at source, recycling and composting organic wastes in Ballsh
57	Solid waste collection facilities (containers and transport trucks) for Ballsh
58	Construction of a sanitary landfill for Ballsh
59	Technology up-grade for the TPP in Ballsh to reduce air emissions
60	Technology up-grade of the Ballsh Oil Refinery
61	Construction of sewerage system for Vlora city (Vlora District)
62	Wastewater Treatment Plant for Vlora
63	Programs for waste minimization at source, recycling and composting organic wastes in Vlora

No.	Action planned
64	Solid waste collection facilities (containers and transport trucks) for Vlora and beach
65	Construction of a sanitary landfill for Vlora
66	Technology up-grade for compliance with the DCM on air emission
67	Construction of sewerage system for Saranda city (Saranda District)
68	Wastewater Treatment Plant for Saranda
69	Solid waste collection facilities (containers and transport trucks) for Saranda
70	Construction of a sanitary landfill for Saranda

Overview of the actions scheduled for 2025

The NAP for 2010 includes many actions, which will continue to be implemented after the deadline of 2010. Some actions are already scheduled for 2010+, as presented in the following Table:

No.	Action planned
1	Wastewater Treatment Plant for Koplik town **(2012)**
2	Wastewater Treatment Plant for the municipalities of Lezha and Shengjin **(2012)**
3	Wastewater Treatment Plant for the town of Lac **(2013)**
4	Wastewater Treatment Plant for the town of Kruja **(2014)**
5	Wastewater Treatment Plant for the town of Fushe-Kruja **(2014)**
6	Wastewater Treatment Plant for the city of Elbasan **(2012)**
7	Wastewater Treatment Plant for the city of Tirana **(2013)**
8	Wastewater Treatment Plant for Ballsh **(2012)**

Compatibility of actions vis-à-vis the SAP targets (2010)

If all actions included in the NAP of Albania are implemented in time, the expected results will be in compliance with the SAP targets.

The public participation foreseen to implement the actions

The main activities foreseen in the framework of this Plan are:

1. Design of the National Public Information and Participation Strategy. The preparation and approval of this strategy is linked to the obligations resulting from being party to the Aarhus Convention. The Convention refers to both active and passive information, the right of the public to access to the decision-making process and to environmental programmes.
2. Making the National Environmental Information Centre fully operational. At present, the Centre is being created at the MoE. It needs strengthening of professional capacities and the necessary equipment for collecting, processing and disseminating environmental information throughout the country.
3. Capacity building for public participation in the environmental assessment and decision-making process. Training programmes must be organised with representatives of central and local government, stakeholders and civil society, regarding public participation in the design of policies, development plans, standards, monitoring and VNM.
4. Promotion of successful case studies of public participation in decision-making. Information campaigns must be organised through the media, posters, and leaflets, to

promote the achievements of successful environmental projects, where public participation has played a priority role.

5. Collaboration of MoE with the Ministry of Education and Science to integrate the environmental education Programmes into the curricula at all levels. Training, education and environmental awareness Programmes will be designed and implemented.
6. Allocation of funds by MoE in order to increase the activity and work of NGOs for the raising of public awareness. In this direction, the activities of the NGOs that address priority environmental problems will be encouraged.
7. Preparation of National Communication Programmes for:
   - Water management
   - Waste management
   - Bio-diversity management
   - Development of sustainable forestry
   - Training of journalists on coverage of environmental problems

   The Programs will assist the application of the policies of the Government at central and local level. The implementation of these Programs requires the preparation of a communication strategy, including national and local media, experts and scientists of respective fields, leaders of different sectors and NGOs.

As well as the need for broad public participation the success of the UNEAP depends on the active participation of many groups in the implementation of the activities anticipated by the Plan. In general, interested groups have participated in the preparation of the plan and will continue to participate during its implementation. The important direction for the increase of public awareness will be the collection, processing and publication of environmental information for all interested groups, including public at large, managers and users of natural resources, scientists and NGOs.

Activities of awareness raising, information and participation of the public will be co-coordinated by a special subgroup, which should have a broad basis and authority to involve the other members when and where they will be needed. This subgroup should consist of members of relevant NGOs and civil society and should be able to involve media and information representatives, whenever necessary.

The cost estimate for the implementation of the actions

According the Investment Portfolios presented in the NAP of Albania the cost and the funding sources of all actions in the districts are presented in the following Tables.

Acronyms:

G – Grant
L – Loan
SB – State Budget
LB – Local Budget
EI – Economic Instruments
ITA – International Technical Assistance
S1 – Sewage water collection and removal charge to be introduced
S2 - Sewage water treatment charge to be introduced
U1 – Urban waste collection and removal charge (cleaning charge)
U2 – Urban waste landfilling charge
H1 – Hazardous waste charge
DRS – Deposit refund system for hazardous waste from household sector
A – Introduce
B – Increase
n/a- Information is not available

SHKODRA DISTRICT

	No.	Measure planned	Deadline	Responsible authorities	Investment cost incurred	Source and status of funding			Annual O&M cost incurred	Source and status of funding	
						G	L	SB/LB		SB	LB
SEWAGE WATER TREATMENT											
SHKODRA	**1.**	**Works for the construction of the sewerage system for Shkodra city**	**2008**	**MoTAT, MoLGD, ITA Shkodra municipality**	**7.5 MEUR**	**German cooperation**	**n/a**	**SB/LB**	**n/a**	**Subsidy**	**A - S1**
	2.	**Works for the construction of the sewage water treatment plant for Shkodra city**	**2010**	**MoTAT, MoLGD, ITA Shkodra municipality**		**n/a**	**n/a**	**SB/LB**	**n/a**	**Subsidy**	**A - S2**
KOPLIk	**3.**	**Construction of the sewerage system for the town of Koplik**	**2010**	**MoTAT, MoLGD, ITA Koplik municipality**	**5 MEUR**	**n/a**	**n/a**	**SB/LB**	**n/a**	**Subsidy**	**A - S1**
	4.	**Works for the construction of the sewage water treatment plant for the town of Koplik**	**2012**	**MoTAT, MoLGD, ITA Koplik municipality**		**n/a**	**n/a**	**SB/LB**	**n/a**	**Subsidy**	**A - S2**
VELIPJA	**5.**	**Construction of the sewerage system for the Velipoja commune**	**2007**	**MoTAT, MoLGD, ITA, Velipoja commune**	**5 MEUR**	**n/a**	**n/a**	**SB/LB**	**n/a**	**Subsidy**	**A - S1**
	6.	**Works for the construction of the sewage water treatment plant for the Velipoja commune**	**2008**	**MoTAT, MoLGD, ITA, Velipoja commune**		**n/a**	**n/a**	**SB/LB**	**n/a**	**Subsidy**	**A - S2**

		TOTAL FOR WASTEWATER			**17.5 MEUR**						
URBAN SOLID WASTE TREATMENT											
SH	**7.**	**Provision of containers and transport tracks for urban solid waste for Shkodra city**	**2008**	**MoTAT, MoLGD, Shkodra municipality**	**1 MEUR**	**n/a**	**n/a**	**n/a**	**n/a**		
K	**8.**	**Provision of containers and transport tracks for urban solid waste for the town of Koplik**	**2008**	**MoTAT, MoLGD, Koplik municipality**	**0.5 MEUR**	**n/a**	**n/a**	**n/a**	**n/a**		
V	**9.**	**Provision of containers and transport tracks for urban solid waste for Velipoja commune**	**2008**	**MoTAT, MoLGD, MoLGD, Velipoja commune**	**0.8 MEUR**	**n/a**	**n/a**	**n/a**	**n/a**		
SH, K, V	**10.**	**Works for the construction of a common sanitary landfill for Shkodra city, Town of Koplik and Velipoja commune**	**2010**	**MoTAT, MoLGD, ITA, local governments**	**1.5 MEUR**	**n/a**	**n/a**	**n/a**	**n/a**	**Subsidy**	**A - U2**
		TOTAL FOR WASTE			**3.8 MEUR**						
		GRAND TOTAL FOR SHKODRA DISTRICT			**21.3 MEUR**						

LEZHA DISTRICT

	No.	Measure planned	Deadline	Responsible authorities	Investment cost incurred	Source and status of funding			Annual O&M cost incurred	Source and status of funding	
						G	L	SB/LB		SB	LB
SEWAGE WATER TREATMENT											
LEZHA	1.	Works for the construction of the sewerage system for Lezha city	2008	MoTAT, MoLGD, ITA Lezha municipality	3 MEUR	GEF	n/a	SB/LB	n/a	Subsidy	
SHENGJIN	2.	Works for the construction of the sewage water treatment plant for town of Shengjin	2008	MoTAT, MoLGD, ITA Shengjin municipality	2 MEUR	n/a	n/a	SB/LB	n/a	Subsidy	A - S2
SHENGJIN	3.	Works for the construction of the water treatment plant for the fish conservation factory (Shengjin)	2008	MoAF, local authorities, Business	1 MEUR	Private business			n/a		n/a
L, SH	4.	Works for the construction of the sewage water treatment plant for the Lezha and Shengjin municipalities	2012	MoTAT, MoLGD, ITA Lezha and Shengjin municipalities	3 MEUR	n/a	n/a	SB/LB	n/a	Subsidy	A – S2
		TOTAL FOR WASTEWATER			9 MEUR		n/a				
URBAN SOLID WASTE TREATMENT											
L	5.	Implementation of	2008	MoTAT,	0.5 MEUR	n/a	n/a	SB/LB	n/a		

		the program for recycling and composting for the city of Lezha		**MoLGD, ITA Lezha municipality**							
SH	**6.**	**Implementation of the program for recycling and composting for the town of Shengjin**	**2008**	**MoTAT, MoLGD, ITA Shengjin municipality**	**0.5 MEUR**	**n/a**	**n/a**	**SB/LB**	**n/a**		
L, SH	**7.**	**Works for the construction of the common sanitary landfill for urban waste for Lezha and Shengjin**	**2008**	**MoTAT, MoLGD, ITA Lezha and Shengjin municipalities**	**1.5 MEUR**	**n/a**	**n/a**	**SB/LB**	**n/a**	**Subsidy**	**B – U1 dhe A – U2**
		TOTAL FOR WASTE			**2.5 MEUR**						
		GRAND TOTAL FOR LEZHA DISTRICT			**11.5 MEUR**						

KURBINI DISTRICT

	No.	Measure planned	Deadline	Responsible authorities	Investment cost incurred	Source and status of funding			Annual O&M cost incurred	Source and status of funding	
						G	L	SB/LB		SB	LB
SEWAGE WATER TREATMENT											
LAC	1.	Works for the construction of the sewerage system for town of Lac	2008	MoTAT, MoLGD, ITA Lac municipality	3 MEUR	Italian cooperation	n/a	SB/LB	n/a	Subsidy	A – S1
	2.	Works for the construction of the sewage water treatment plant for town of Lac	2013	MoTAT, MoLGD, ITA Lac municipality	2 MEUR	n/a	n/a	SB/LB	n/a	Subsidy	A – S2
	3.	SUBTOTAL FOR WASTEWATER			5 MEUR						
URBAN SOLID WASTE TREATMENT											
LAC	4.	Works for the construction of the sanitary landfill for town of Lac	2010	MoTAT, MoLGD, ITA Lac municipality	1 MEUR	n/a	n/a	SB/LB	n/a	Subsidy	B – U1 A – U2
HAZARDOUS WASTE											
LAC	5.	Environmental management of chemicals stock at the Chemical Metallurgical Plant in Lac	2006	MoIE, MoLGD, ITA Lac municipality	3 MEUR	n/a	n/a	SB/LB	n/a		

	6.	**Implementation of the plan for safe waste disposal at the dump of the Chemical Metallurgical Plant in Lac**	**2007**	**MoIE, MoLGD, ITA Lac municipality**							
		SUBTOTAL FOR HAZARDOUS WASTE			**3 MEUR**						
		GRAND TOTAL FOR LAC DISTRICT			**9 MEUR**						

KRUJA DISTRICT

	No.	**Measure planned**	**Deadline**	**Responsible authorities**	**Investment cost incurred**	**Sources and status of funding**			**Annual O&M cost incurred**	**Sources and status of funding**	
						G	**L**	**SB/LB**		**SB**	**LB**
SEWAGE WATER TREATMENT											
KRUJA	**1.**	**Works for the construction of the sewerage system for town of Kruja**	**2010**	**MoTAT, MoLGD, ITA Kruja municipality**	**3.7 MEUR**	**n/a**	**KfW**	**SB/LB**	**n/a**	**Subsidy**	**A –S1**

	2.	**Works for the construction of the sewage water treatment plant for town of Kruja**	**2014**	**MoTAT, MoLGD, ITA Kruja municipality**					**n/a**	**Subsidy**	**A – S2**
F. KRUJA	**3.**	**Works for the construction of the sewerage system for town of Kruja**	**2010**	**MoTAT, MoLGD, ITA Fushe-Kruja municipality**	**4 MEUR**	**n/a**	**Islamic Bank**	**SB/LB**	**n/a**	**Subsidy**	**A – S1**
	4.	**Works for the construction of the sewage water treatment plant for town of Fushe-Kruja**	**2014**	**MoTAT, MoLGD, ITA Fushe-Kruja municipality**					**n/a**	**Subsidy**	**A – S2**
		TOTAL FOR WASTEWATER			**7.7 MEUR**						
HAZARDOUS WASTE											
	5.	**Reconstruction and increase of the productive capacity of the cement factory in Fushe-Kruje**	**2006**	**MoIE, Seament factory, MoTAT**	**1 MEUR**	**Private business**					
		GRAND TOTAL FOR KRUJA DISTRICT			**8.7 MEUR**						

DURRES DISTRICT

	No.	Measure planned	Deadline	Responsible authorities	Investment cost incurred	Sources and status of funding			Annual O&M cost incurred	Sources and status of funding	
						G	L	SB/LB		SB	LB
SEWAGE WATER TREATMENT											
DURRES	**1.**	**Works for the construction of the sewerage system for Durres city and beach**	**2007**	**MoTAT, MoLGD, ITA Durres municipality**	**6.5 MEUR**	**GEF**	**n/a**	**SB/LB**	**n/a**	**Subsidy**	**A – S1**
	2.	**Works for the construction of the sewage water treatment plant for Durres city**	**2009**	**MoTAT, MoLGD, ITA Durres municipality**					**n/a**	**Subsidy**	**A – S2**
		SUBTOTAL FOR WASTEWATER			**6.5 MEUR**						
URBAN SOLID WASTE TREATMENT											
DURRES	**3.**	**Treatment of waste from chicken industry**	**2006**	**Industry, MoAF, local authorities**	**1 MEUR**	**Private business**					**B – U1**
	4.	**Completion with containers and trucks for the urban solid waste for Durres city and beach**	**2007**	**MoTAT, local authorities**	**2 MEUR**	**n/a**	**n/a**	**SB/LB**			
	5.	**Implementation of programs for waste minimization at source, recycling and composting**	**2007**	**MoTAT, local authorities**	**1 MEUR**	**n/a**	**n/a**	**SB/LB**			
	6.	**Construction of the common sanitary landfill for Durres and Tirana regions**	**2009**	**MoTAT, local authorities**	**4 MEUR**	**n/a**	**n/a**	**SB/LB**		**Subsidy**	**A – U2**

		SUBTOTAL FOR URBAN WASTE			**8 MEUR**						
HAZARDOUS WASTE											
	7.	**Dislocation of the families from the contaminated area**	**2005**	**MoE, Durres municipality**	**0.1 MEUR**	**n/a**	**n/a**	**SB/LB**		**Subsidy**	
	8.	**Removal of liquid hazardous chemicals and waste from the Bishti I Palles warehouses and their treatment in a specialized treatment facility in the EU**	**2005**	**MoE, ITA**	**2 MEUR**	**Dutch cooperation**	**n/a**	**SB/LB**		**Subsidy**	
	9.	**Construction of the landfill for toxic waste and contaminated inert materials from the demolition of former chemical plant in Porto Romano**	**2006**	**MoE, MoIE, ITA, local authorities**	**3 MEUR**	**Dutch cooperation**	**n/a**	**SB/LB**		**Subsidy**	
		SUBTOTAL FOR HAZARDOUS WASTE			**5.1 MEUR**						
		GRAND TOTAL FOR DURRES DISTRICT			**19.6 MEUR**						

TIRANA DISTRICT

	No.	Measure planned	Deadline	Responsible authorities	Investment cost incurred	Sources and status of funding			Annual O&M cost incurred	Sources and status of funding	
						G	L	SB/LB		SB	LB
SEWAGE WATER TREATMENT											
	1.	Technological upgrades for the reduction of wastewater effluents from the tanning industry	2006	MoE, MoIE, local authorities	2 MEUR	Private business					
	2.	Construction of industrial wastewater treatment plants	2010	Industries, MoE, MoIE, ITA, local authorities,	5 MEUR	Private business					
	3.	Works for the construction of the sewerage system for Tirana city	2008	MoTAT, MoLGD, ITA Tirana municipality	70 MEUR	JICA	n/a	SB/LB	n/a	Subsidy	
	4.	Works for the construction of the sewage water treatment plant for Tirana city	2013	MoTAT, MoLGD, ITA Tirana municipality					n/a	Subsidy	A – S2
		GRAND TOTAL FOR TIRANA DISTRICT			77 MEUR						

KAVAJA DISTRICT

	No.	Measure planned	Deadline	Responsible authorities	Investment cost incurred	Sources and status of funding			Annual O&M cost incurred	Sources and status of funding	
						G	L	SB/LB		SB	LB
SEWAGE WATER TREATMENT											
KAVAJA	**1.**	**Works for the construction of the sewerage system for Kavaja and Golemi beach**	**2006**	**MoTAT, MoLGD, ITA Kavaja municipality**	**4 MEUR**	**n/a**	**KFW**	**SB/LB**	**n/a**	**Subsidy**	**A – S1 (Golemi)**
	2.	**Works for the construction of the sewage water treatment plant for Kavaja and Golemi beach**	**2006**	**MoTAT, MoLGD, ITA Kavaja municipality**					**n/a**	**Subsidy**	**A – S2 (Golemi and Kavaja)**
	3.	**Technological upgrades for the reduction of wastewater effluents from the tanning industry**	**2006**	**MoE, MoIE, local authorities**	**1 MEUR**	**Private business**					
		GRAND TOTAL FOR KAVAJA DISTRICT			**5 MEUR**						

ELBASAN DISTRICT

	No.	Measure planned	Deadline	Responsible authorities	Investment cost incurred	Sources and status of funding			Annual O&M cost incurred	Sources and status of funding	
						G	L	SB/LB		SB	LB
SEWAGE WATER TREATMENT											
	1.	Works for the construction of the sewerage system for Elbasan city	2008	MoTAT, MoLGD, ITA Elbasan municipality	36 MEUR	n/a	KFW	SB/LB	n/a	Subsidy	A – U1
	2.	Works for the construction of the sewage water treatment plant for Elbasan city	2012	MoTAT, MoLGD, ITA Elbasan municipality					n/a	Subsidy	A – U2
URBAN SOLID WASTE TREATMENT											
	3.	Implementation of programs for waste minimization at source and recycling of glass, metals, plastics, papers in Elbasan	2006	MoTAT, MoE, Elbasan municipality	2 MEUR	n/a	n/a	SB/LB			B – U1
	4.	Construction of the sanitary landfill for Elbasan	2007	MoTAT, Elbasan municipality	2 MEUR	n/a	n/a	SB/LB	n/a	Subsidy	A – U2

		SUBTOTAL WASTE			**4 MEUR**						
AIR POLLUTION											
	5.	**Implementation of the DCM on air emission norms at Cement Factory in Elbasan**	**2005**	**Cement factory, MoE, MoIE**	**4 MEUR**	**Private business**					
	6.	**Technology upgrade (open furnaces) for the implementation of the DCM on air emission norms at the Ferro-Chromium plant in Elbasan**	**2006**	**Ferro-Chromium plant in Elbasan, MoE, MoIE**							
	7.	**Technology upgrade (filters) for the implementation of the DCM on air emission norms at the steel production plant in Elbasan**	**2007**	**Steel production plant in Elbasan, MoE, MoIE**							
		SUBTOTAL FOR AIR POLLUTION			**4 MEUR**						
		GRAND TOTAL FOR TIRANA DISTRICT			**44 MEUR**						

LUSHNJA DISTRICT

	No.	Measure planned	Deadline	Responsible authorities	Investment cost incurred	Sources and status of funding			Annual O&M cost incurred	Sources and status of funding	
						G	L	SB/LB		SB	LB
SEWAGE WATER TREATMENT											
	1.	Works for the construction of the sewerage system for Lushnja and Divjaka	2008	MoTAT, MoLGD, ITA, Lushnja and Divjaka municipalities	6.2 MEUR	n/a	KFW	SB/LB	n/a	Subsidy	A – U1 (Divjaka)
	2.	Works for the construction of the sewage water treatment plant for Lushnja and Divjaka	2011	MoTAT, MoLGD, ITA, Lushnja and Divjaka municipalities					n/a	Subsidy	A – U2 (Divjaka & Lushnja)
		SUBTOTAL FOR WASTEWATER			6.2 MEUR						
URBAN SOLID WASTE TREATMENT											
LUSNJA	3.	Works for the construction of the sanitary landfill for Lushnja and Divjaka (and Fier)	2009	MoTAT, MoLGD, ITA, Lushnja and Divjaka municipalities	2 MEUR	n/a	n/a	SB/LB	n/a	Subsidy	B – U1 A – U2

LUSHNJA DISTRICT (continued)

		SUBTOTAL FOR URBAN WASTE			**2 MEUR**						
HAZARDOUS WASTE											
LUSNJA	**4.**	**Implementation of the safe management of hazardous wastes and outdated chemicals at the plastic factory in Lushnja**	**Starting from 2006**	**MoE, MoIE, MoLGD, ITA, Lushnja and Divjaka municipalities**	**1 MEUR**	**n/a**	**n/a**	**SB/LB**	**n/a**	**Subsidy**	
		GRAND TOTAL FOR LUSNJA DISTRICT			**9.2 MEUR**						

FIERI DISTRICT

	No.	**Measure planned**	**Deadline**	**Responsible authorities**	**Investment cost incurred**	**Sources and status of funding**			**Annual O&M cost incurred**	**Sources and status of funding**	
						G	**L**	**SB/LB**		**SB**	**LB**
SEWAGE WATER TREATMENT											
FIER	**1.**	**Works for the construction of the sewerage system for Fier**	**2008**	**MoTAT, MoLGD, ITA, Fier municipality**	**30 MEUR**	**n/a**	**n/a**	**SB/LB**	**n/a**	**Subsidy**	
	2.	**Works for the construction of the sewage water treatment plant for Fier**	**2011**	**MoTAT, MoLGD, ITA Fier municipality**					**n/a**	**Subsidy**	**A – U2**
		TOTAL FOR WASTEWATER			**30 MEUR**						

FIERI DISTRICT (continued)

URBAN SOLID WASTE TREATMENT											
FIER	**3.**	**Implementation programs for waste minimization at source, recycling and composting of the organic waste in Fier**	**Starting from 2007**	**MoTAT, MoLGD, ITA, Fier municipality**	**2 MEUR**	**n/a**	**n/a**	**SB/LB**	**n/a**		
	4.	**Completion with containers and trucks for urban solid waste in Fier**	**2007**	**MoTAT, MoLGD, ITA, Fier municipality**	**1 MEUR**	**n/a**	**n/a**	**SB/LB**	**n/a**		
	5.	**Works for the construction of the sanitary landfill for Fier, Lushnja and Divjaka**	**2008 ***	**MoTAT, MoE, MoLGD, ITA, local authorities**	**3 MEUR**	**n/a**	**n/a**	**SB/LB**	**n/a**	**Subsidy**	**B – U1 A – U2**
		TOTAL FOR URBAN WASTE			**6 MEUR**						
HAZARDOUS WASTE											
FIER	**6.**	**On-site treatment and removal of arsenic solution at the Ammonia Factory in Fier**	**2005**	**MoE, MoIE, MoLGD, ITA, Fier Municipality**	**1 MEUR**	**PHARE**			**n/a**		
FIER	**7.**	**Implementation of the program for technology upgrade and clean-up of the Patos –Marinza oilfield**	**2006**	**MoIE, Albpetrol, MoE, ITA, local authorities**	**0.5 MEUR**	**CARDS**			**n/a**	**Subsidy**	
		TOTAL FOR HAZARDOUS WASTE			**1.5 MEUR**						
		GRAND TOTAL FOR FIER DISTRICT			**37.5 MEUR**						

MALLAKASTRA DISTRICT

	No.	Measure planned	Deadline	Responsible authorities	Investment cost incurred	Sources and status of funding			Annual O&M cost incurred	Sources and status of funding	
						G	L	SB/LB		SB	LB
SEWAGE WATER TREATMENT											
BALLSH	**1.**	**Works for the construction of the sewerage system for Ballsh**	**2008**	**MoTAT, MoLGD, ITA, Ballsh municipality**	**4 MEUR**	**n/a**	**n/a**	**SB/LB**	**n/a**	**Subsidy**	**A – U1**
	2.	**Works for the construction of the sewage water treatment plant for Ballsh**	**2012**	**MoTAT, MoLGD, ITA, Ballsh municipality**		**n/a**	**n/a**	**SB/LB**	**n/a**	**Subsidy**	**A – U2**
		SUBTOTAL FOR WASTEWATER			**4 MEUR**						
	URBAN WASTE										
BALLSH	**3.**	**Implementation of programs for waste minimization at source, recycling and composting of organic waste for Ballsh**	**2008**	**MoTAT, MoLGD, ITA, Ballsh municipality**	**1 MEUR**	**n/a**	**n/a**	**SB/LB**	**n/a**		
	4.	**Completion with containers and trucks for urban solid waste in BAllsh**	**2007**	**MoTAT, MoLGD, ITA, Ballsh municipality**	**0.5 MEUR**	**n/a**	**n/a**	**SB/LB**	**n/a**		
	5.	**Works for the construction of the sanitary landfill for Ballsh**	**2010**	**MoTAT, MoLGD, ITA, Ballsh municipality**	**1 MEUR**	**n/a**	**n/a**	**SB/LB**	**n/a**	**Subsidy**	**A – U2**

u2		**SUBTOTAL FOR URBAN WASTE**			**2.5 MEUR**						
	AIR POLLUTION										
BALLSH	**8.**	**Technology upgrade for the TPP in Ballsh to reduce air emissions**	**2008**	**MoE, MoIE, MoLGD, ITA, BAllsh municipality**	**1 MEUR**	**n/a**	**n/a**	**SB/LB**	**n/a**	**Subsidy**	
	HAZARDOUS WASTE										
BALLSH	**6.**	**Technology upgrade of the Ballsh Oil Refinery**	**2005**	**MoE, MoIE, ITA, BAllsh municipality**	**2 MEUR**	**n/a**	**n/a**	**SB/LB**	**n/a**		
		GRAND TOTAL FOR MALLAKASTER DISTRICT			**9.5 MEUR**						

PLAN D'ACTION NATIONAL

ALGERIE

Issues environnementales incluses dans le PAN

L'activité industrielle a un part important dans la pollution globale du pays, notamment l'industrie pétrochimique, chimique, métallurgique et de traitement des minerais ; ses impacts s'expriment de manière intense sur la frange littorale du pays avec des implications sur l'état des milieux récepteurs et sur la santé Plus de la moitié des unités industrielles du pays sont localisées dans la zone côtière dans les agglomérations des régions Centre (Alger, Béjaia), Ouest (Oran) et Est (Annaba, Skikda). Souvent situées dans le tissu urbain ou dans son environnement immédiat, ces activités, outre les atteintes graves qu'elles portent au milieu, entravent sérieusement le fonctionnement des grandes villes. En plus, l'Algérie est confrontée à la production et au stockage d'une quantité notable de déchets spéciaux dont les déchets industriels spéciaux qui constitue une menace grave pour la santé de la population, pour la qualité des milieux et pour la préservation des ressources naturelles. L'absence ou la mauvaise gestion des déchets industriels (stockage temporaire ou dépôts sauvages) notamment les déchets spéciaux, outre les impacts directs sur les milieux, crée des sites contaminés. Les émissions des eaux usées non traitées des grandes villes côtières dans la mer ont mené à une dégradation sérieuse de la qualité de l'environnement du milieu marin littoral. Finalement une grande partie des déchets urbains sont déposés dans des dépôts sauvages créant des problèmes d'hygiène pour la population.

Actions prioritaires Nationales pour 2010

Secteur	Action
Eaux usées urbaines	Le programme général est de réaliser entre 2005 et 2013, 18 nouvelles stations d'épuration d'une capacité totale 2.665.000 habitants équivalents. Le programme 2009 inclut : • Station d'épuration à Marsat El Hadjadj • Station de lagunage dans la zone éparse de Marsat El Hadjadj • Station d'épuration à Arzew • Station d'épuration au niveau de l'agglomération de Beni Saf • Station d'épuration au niveau de l'agglomération de Bouzedjar • Station de dessalement à Sidi Djelloul • Epuration des eaux usées de Terga plage • Station d'épuration au niveau de l'agglomération de Marsa Ben Mhidi • Station de lagunage pour l'agglomération de Honaine • Station d'épuration à Gazaouet • Station de dessalement à Sidna Youchâa
Déchets solides urbains	• Elaboration du schéma directeur de gestion des déchets de la région métropolitaine algéroise • Elaboration des schémas directeurs de gestion des déchets ménagers par commune • Réalisation de 3 stations de transfert • Réalisation des Centres d'Enfouissement Technique (CET) programmés pour les chefs lieux des wilayas Blida, Alger, Boumerdes et Tipaza • La réalisation de Centres d'Enfouissement Techniques

Secteur	Action
	intercommunaux regroupant les agglomérations suivantes : wilaya d'Alger : Staoueli – Zeralda ; wilaya de Tipaza : Hatatba-Bou Ismail-Khémisti-Ain Tagourait-Bouharoun ; wilaya de Boumerdes : Corso-Tidjelabine-Thénia-Boudouaou El Bahri-Ouled Hadjadj-Rouiba-Réghaïa ; wilaya de Blida : Soumâa-Bouarfa-Ouled Iaïch-Béni Mered-Chréa-Boufarik-Guerrouaou-Bouinene. • Engager, graduellement, la réhabilitation et/ou l'éradication et la décontamination des décharges sauvages au fur et à mesure de la réalisation des CET, avec une priorité pour les 21 décharges localisées en bordure des oueds suivants: wilaya d'Alger : Staoueli ; wilaya de Blida : Bouroumi, Chiffa, Haloua, Magrounat et Djemaa ; wilaya de Tipaza : Sidi Rached, Douaouda, Khemisti, El Hachem, Imekraz, Hattatba ; wilaya de Boumerdes : Bouarous, Ghouraf, Djemaâ, Boukessoua, Isser, Ben Hamza, Hamiz, Sidi Slimane et Kharrouba). • Fermer la décharge de Oued Smar et réaliser au lieu et place un parc urbain. • Moderniser la gestion des déchets urbains dans l'agglomération. • Déterminer le mode de traitement ultime des déchets ménagers pour toute la région Centre. • Mise en place du système dénommé « ECO-JEM » pour la récupération et le recyclage au profit des micro- entreprises avec l'appui des mécanismes incitatifs de l'ANDI et de l'ANSEJ • Appliquer de façon rigoureuse la taxe sur l'enlèvement des ordures ménagères (TEOM) • Envisager d'autres modes de gestion des déchets ménagers à Alger (concession, délégation). • Lancement d'une radio pour l'éducation citoyenne.
Dépollution industrielle	• Contrats de performances des industries : Alger (Groupe GIPEC , Hôpitaux Mustapha et Kouba, papeterie Baba Ali, Bourouba), Skikda (Cimenterie Hadjar Soud, Complexe petrochimique CNPK, Gaz Naturel Liquéfié, Matieres Plastiques, Entreprise de gestion de la zone industrielle, SONATRACH), Annaba (Papier et Cellulose GIPEC, ASMIDA Engrais, Sidérurgie ISPAT), Mostagenem (Mégisserie Hadj Sahroui, papeterie Baba Ali), Tiemcen (ENCG Axe de cors gras De Maghnia, ALZINC électrolyse de Zinc, Mégisserie de Tafna)
Déchets spéciaux industriels	Programme PNAGDES, deux scenarii à choisir : Scénario 1. Elimination des déchets industriels spéciaux par les voies conventionnelles sans tenir compte des possibilités offertes par la co-incinération en cimenterie, et la valorisation de certains déchets (options: collecte et transport, regroupement, enfouissement technique, résorption des points noires AZZABA et GHAZAOUET, incinération, élimination des PCBs, élimination des déchets cyanures, traitement physico-chimique). Scénario 2. Elimination des déchets industriels spéciaux en associant la co-incinération en cimenterie, la valorisation de certains déchets (options : Collecte et transport, regroupement,

Secteur	Action
	enfouissement technique – stockage des déchets ultimes, résorption des points noires AZZABA et GHAZAOUET, incinération, élimination des PCBs, élimination des déchets cyanures, traitement physico-chimique, co-incinération, régénération des huiles usagées)
Déchets spéciaux d'activités de soin	Programme PNAGDES, deux scenarii à choisir : Scénario 1. Traitement in situ. Option 1 : Substitution des incinérateurs hors service et mise en conformité des incinérateurs existants Option 1 : Substitution de l'ensemble des incinérateurs Scénario 2. Traitement collectif Unité centrale ou inter structure

Actions programmées pour 2015 et 2020

Secteur	Action
Eaux usées urbaines	• Assainir 684.000 m^3/j d'eaux usées par an à l'horizon 2025 et assurer des eaux de baignade de qualité. Continuer le programme de construction des stations d'épuration pour les agglomérations des Wilayas côtières • Recycler environs 250 million m3 d'eaux usées par an, à l'horizon 2025 • Réhabilitation des systèmes d'épuration existants dans les villes de taille inférieure
Déchets solides urbains	• Continuation du programme PROGDEM de gestion des déchets solides urbains (collecte, création des décharges contrôlées et fermeture des dépôts sauvages, recyclage et valorisation)
Dépollution industrielle	• Continuation du programme de dépollution industrielle
Déchets spéciaux industriels	• Continuation du programme PNAGDES
Déchets spéciaux d'activités de soin	• Continuation du programme PNAGDES

Compatibilité des actions prioritaires vis-à-vis des cibles du PAS

Rubrique	Objectifs du PA Stratégique (2010)	Objectifs du PAN ALGERIE (2010)
Eaux usées	Traitement des eaux usées des agglomérations supérieures à 100000 habitants	Objectif du PAS atteint
Déchets solides	Décharge contrôlée aux agglomérations supérieures à 100000 habitants	Objectif du PAS atteint
Dépollution industrielle	Réduire de 50% les rejets, les émissions et les pertes des substances TPB Réduire de 50% le DBO5	Objectif du PAS atteint
Déchets spéciaux industriels	Eliminer 50% des déchets dangereux	Objectif du PAS atteint

Participation publique anticipée pour la réalisation des actions prioritaires

Le choix des actions prioritaires présentées dans le PAN d'Algérie a été réalisé après une consultation détaillée du public. Trois ateliers régionaux ont été organisés (Wilayas Est, Centre et Ouest) ou tous les partis prenants ont participe (Ministères, autorités locales, industries, société scientifique, ONGs). Il a été souligné que l'amorce du processus participatif à travers les discussions et simulations avec les acteurs est nécessairement un des objectifs atteints les plus significatifs. Cette voie constitue le meilleur garant de l'appropriation de la démarche par les acteurs locaux et par la même occasion permet d'envisager des relations futures plus équilibrées en matière de gestion des risques environnementaux liés à la pollution industrielle en zone côtière.

Estimation du coût de réalisation des actions prioritaires

Secteur	Action	Coût (millions de Dinars Algériens)	Finance-ment
Eaux usées urbaines	Le programme général est de réaliser entre 2005 et 2013, 18 nouvelles stations d'épuration d'une capacité totale 2.665.000 habitants équivalents (Oran, Arzew, Ain, Termouchent, Beni Saf, Mostagenem, Ghazaouet, Tenes, Akbou, El Kseur, Tazmelt, Sidi Aich, Bordj Menael, Azazga, Tipaza, Skikda, Collo, Jijel, Annaba) Dans le programme 2009 sont proposées les actions suivantes : • Station d'épuration à Marsat El Hadjadj • Station de lagunage dans la zone	26.650 (total) • 515 • 40	Publique

Secteur	**Action**	**Coût** (millions de Dinars Algériens)	**Finance-ment**
	éparse de Marsat El Hadjadj • Station d'épuration à Arzew • Station d'épuration au niveau de l'agglomération de Beni Saf • Station d'épuration au niveau de l'agglomération de Bouzedjar • Station de dessalement à Sidi Djelloul • Epuration des eaux usées de Terga plage • Station d'épuration au niveau de l'agglomération de Marsa Ben Mhidi • Station de lagunage pour l'agglomération de Honaine • Station d'épuration à Gazaouet • Station de dessalement à Sidna Youchâa	• 515 • • • 8 • • • • •	
Déchets solides urbains	• Elaboration du schéma directeur de gestion des déchets de la région métropolitaine algéroise • Elaboration des schémas directeurs de gestion des déchets ménagers par commune • Réalisation de 3 stations de transfert • Réalisation des Centres d'Enfouissement Technique (CET) programmés pour les chefs lieux des wilayas Blida, Alger, Boumerdes et Tipaza • La réalisation de Centres d'Enfouissement Techniques intercommunaux regroupant les agglomérations suivantes : wilaya d'Alger : Staoueli – Zeralda ; wilaya de Tipaza : Hatatba-Bou Ismail-Khémisti-Ain Tagourait-Bouharoun ; wilaya de Boumerdes : Corso-Tidjelabine-Thénia-Boudouaou El Bahri-Ouled Hadjadj-Rouiba-Réghaïa ; wilaya de Blida : Soumâa-Bouarfa-Ouled Iaïch-Béni Mered-Chréa-Boufarik-Guerrouaou-Bouinene. • Engager, graduellement, la	Coût annuel de gestion 4.000 Dinars/tonne	Publique/ taxes locales

Secteur	**Action**	**Coût** (millions de Dinars Algériens)	**Finance-ment**
	réhabilitation et/ou l'éradication et la décontamination des décharges sauvages au fur et à mesure de la réalisation des CET, avec une priorité pour les 21 décharges localisées en bordure des oueds suivants : wilaya d'Alger : Staoueli ; wilaya de Blida : Bouroumi, Chiffa, Haloua, Magrounat et Djemaa ; wilaya de Tipaza : Sidi Rached, Douaouda, Khemisti, El Hachem, Imekraz, Hattatba ; wilaya de Boumerdes : Bouarous, Ghouraf, Djemaâ, Boukessoua, Isser, Ben Hamza, Hamiz, Sidi Slimane et Kharrouba). • Fermer la décharge de Oued Smar et réaliser au lieu et place un parc urbain. • Moderniser la gestion des déchets urbains dans l'agglomération. • Déterminer le mode de traitement ultime des déchets ménagers pour toute la région Centre. • Mise en place du système dénommé « ECO-JEM » pour la récupération et le recyclage au profit des micro- entreprises avec l'appui des mécanismes incitatifs de l'ANDI et de l'ANSEJ • Appliquer de façon rigoureuse la taxe sur l'enlèvement des ordures ménagères (TEOM) • Envisager d'autres modes de gestion des déchets ménagers à Alger (concession, délégation). • Lancement d'une radio pour l'éducation citoyenne.		
Dépollution industrielle	• Contrats de performances des industries : Alger (Groupe GIPEC , Hopitals Mustapha et Kouba, papeterie Baba Ali, Bourouba), Skikda (Cimenterie Hadjar Soud, Complexe		Privé

Secteur	**Action**	**Coût** (millions de Dinars Algériens)	**Finance-ment**
	petrochimique CNPK, Gaz Naturel Liquéfié, Matieres Plastiques, Entreprise de gestion de la zone industrielle, SONATRACH), Annaba (Papier et Cellulose GIPEC, ASMIDA Engrais, Sidérurgie ISPAT), Mostagenem (Mégisserie Hadj Sahroui, papeterie Baba Ali), Tiemcen (ENCG Axe de cors gras De Maghnia, ALZINC électrolyse de Zinc, Mégisserie de Tafna)		
Déchets spéciaux	• Collecte et transport • Regroupement • Stockage des dechets ultimes • Résorption des points noirs Azzaba • Résorption des points noirs Azzaba ALZINC Ghazaouat • Incinération (deux unités) - Installation pilote • Traitement physicochimique • Gestion des déchets a base de PCB • Gestion des déchets cyanures • Co-incinération en cimenteries • Valorisation des huiles usagées • Installation d'incinération	• 80 • 104 • 2.320 • 264 • 224-700 • 5.056 - 856 • 160 • 1.700 • 40-50 • 340-580 • 1.300 • 1.800	Publique
Déchets spéciaux d'activités de soin	• Incinérateur sans épuration des fumées (100 Kg/h) • Dispositif de traitement des fumées • Incinérateur avec épuration des fumées (100 Kg/h) • Stérilisation des déchets (110-320 t/an • Installation de stérilisation mobile (50-100 Kg/h	• 17 • 68 • 104 • 12,5 • 41	Publique

NATIONAL ACTION PLAN

BOSNIA & HERZEGOVINA

Assessment analysis of the issues included in the NAP

The coastal area of Bosnia and Herzegovina is very narrow (25 Km of coast in the Neum municipality) but the NAP also cover the drainage basins of the rivers Neretva, Trebisnjica and Cetina, which may also influence the quality of seawater in the coastal zone. 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.

The National priority actions for 2010

River basin	Location	Action
Urban sewage		
Coastal area	Neum	Sewage network construction and WWTP for Klek-Neum
Neretva river basin	Mostar	Construction of main sewerage collectors and WWTP for Mostar (150,000 ES)
Neretva river basin	Citluk and Medjugorje	Construction of separate collectors and separate WWTPs (2 X 6,000 ES)
Neretva river basin	Konjic	Construction of primary channels and secondary network and WWTP (10,000 ES)
Trebisnjica river basin	Nevesinje	Construction of collectors and WWTP
Trebisnjica river basin	Bileca	Sanitation of existing sewerage system, construction of collectors and WWTP
Neretva river basin	Caplijna	Project elaboration and documentation for construction of main collectors and WWTP
Cetina river basin	Livno	Construction of primary channels and parts of the secondary sewerage network, rehabilitation and reconstruction of the existing sewerage system. Project elaboration and construction of collectors and WWTP (20,000 ES)
Solid waste		
Neretva river basin	Mostar	Regional sanitary landfill
Industrial wastewater (BOD_5)		
Neretva river basin	Mostar	Pretreatment/cleaner production of wastewater from industrial plants (textile, slaughterhouses, wineries)
Neretva river basin	Citluk and Medugorje	Pretreatment/cleaner production of wastewater from industrial plants (textile, slaughterhouses, wineries, milk products)
Neretva river basin	Siroki Brijeg	Pretreatment/cleaner production of wastewater from industrial plants (meat industries)
Cetina river basin	Livno	Pretreatment/cleaner production of wastewater from industrial plants (textile)
Cetina river basin	Glamok	Pretreatment/cleaner production of wastewater from industrial plants (textile)
Metal industry		
Trebisnjica river basin	Trebinje-tool industry	Pretreatment/cleaner production of wastewater from industrial plants (metal industries - galvanization)
Neretva river basin	Konjic UNIS GAL	Pretreatment/cleaner production of wastewater from industrial plants (metal industries - galvanization)

Thermo power plant GACKO		
Trebisnjica river basin	Gacko	• Monitoring of the smoke gas and other air emissions • System for transport and disposal of ashes and cinder – creation of a landfill site • Treatment of wastewater

Overview of the actions scheduled for 2025

The plan for 2025 is to collect and treat all urban sewage effluents generated in all urban centers of Bosnia & Herzegovina), according to the SAP targets (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. For solid wastes, sanitary landfills are planned to be created for the agglomerations of Trebinje (25,000) and Livno (42,000). For industrial effluents, the efforts for the introduction of pre-treatment and cleaner production in all major industries will be continued during the period 2010 – 2025.

Compatibility of actions vis-à-vis the SAP targets (2010)

SAP targets for 2010	Actions included in the NAP of Bosnia & Herzegovina
Urban Sewage: Wastewater treatment plants built for all cities with population in excess of 100,000 people	WWTP for Mostar (150,000). In accordance with the SAP.
Solid wastes: SW's proper management and landfills constructed for all cities with population in excess of 100,000 people	Creation of a sanitary landfill site for Mostar. In accordance with the SAP.
Industrial BOD5: 50% reduction	Pre-treatment and cleaner production for major industries. Expected reduction 50%
Heavy metals: 50% emissions' reduction Respect maximum permissible level for sea discharge	Pre-treatment and cleaner production for major industries. Expected reduction 50%
Air Pollution: Control emissions	
Organohalogen compounds: Formulation of programs for reduction and control of these substances	
Hazardous wastes: Good management and reduce releases from industrial installations. Prohibiting the use, collect and dispose PCBs	Establishment of adequate legislation to reduce hazardous wastes in industry (cleaner production Elaborate national strategy for the safe management of hazardous wastes Safe disposal of the remaining pharmaceutical wastes from the war Overall, 20% reduction until 2010, 50% reduction by 2020

The public participation foreseen to implement the actions

The NAP of Bosnia & Herzegovina was prepared with active participation of a multitude of stakeholders (National and local authorities, academia, NGOs industry) during several

meetings. The same approach is expected to be used during the implementation phase of these actions, although no specific mention is made in the NAP.

The cost estimate for the implementation of the actions

6 PRIORITY LIST FOR 2010

River basin	Location	Pollutant	Activity / Expected reduction %	Stakeholders	Time period	Reduction Monitoring Method	Possible economic instruments
COMMUNAL WASTEWATERS							
Coastal area	Neum	Communal waste waters (BOD,N,P)	Continuation of sewage construction for Klek-Neum-part in BiH, elaboration of I. phase construction of the secondary sewage system / Waste water drainage-expected pollution reduction 80%	JP for water areas of the Adriatic Sea, "Marecco"-Neum	2010	Monitoring	Subsidies for constructing plants (grants, loans, tax relief, taxes); Sewage system use compensation; waste water release compensation; waste water treatment compensation
Neretva river basin	Mostar	Communal waste waters (BOD,N,P)	Urgently need to begin elaborating project documentation, as well as constructing the main collectors (left-bank and right-bank sewerage system collectors) for the Mostar basin and construction of the I phase of WWTP (150000 ES); / Secondary treatment –expected pollution reduction - 90%	JP for water areas of the Adriatic Sea, Communal companies of Mostar	2010	monitoring	Subsidies for constructing plants (grants, loans, tax relief, taxes); Sewage system use compensation; waste water release compensation; waste water treatment compensation
Neretva river basin	Citluk and Medjugorje	Communal waste waters (BOD,N,P)	Construction of separate collectors and separate of I.phase of WWTP, i.e. 2 x 6 000 ES. Construction under preparation. / Secondary treatment –expected pollution reduction - 90%	JP for water areas of the Adriatic Sea,, Communal company "Brotnjo»	2010	monitoring	Subsidies for constructing plants (grants, loans, tax relief, taxes); Sewage system use compensation; waste water release compensation; waste water treatment compensation
Neretva river basin	Konjic	Communal waste waters (BOD,N,P)	Project elaboration and construction of primary channels with parts of the secondary network and construction of the I phase WWTP (10000 ES) / Secondary treatment –expected pollution reduction - 90%	JP for water areas of the Adriatic Sea, Communal company of Konjic	2010	monitoring	Subsidies for constructing plants (grants, loans, tax relief, taxes); Sewage system use compensation; waste water release compensation; waste water treatment compensation
Trebisnjica river basin	Nevesinje	Communal waste waters (BOD,N,P)	Project elaboration and construction of collectors and the I phase of WWTP; / Secondary treatment –expected pollution reduction - 90%	Management for waters, agriculture and fishery, communal companies of mentioned municipalities.	2010	monitoring	Subsidies for constructing plants (grants, loans, tax relief, taxes); Sewage system use compensation; waste water release compensation; waste water treatment compensation

River basin	Location	Pollutant	Activity / Expected reduction %	Stakeholders	Time period	Reduction Monitoring Method	Possible economic instruments
Trebisnjica river basin	Bileca	Communal waste waters (BOD,N,P)	Sanitation of existing sewerage system, project elaboration and construction of collectors and the I phase of WWTP; / Secondary treatment –expected pollution reduction - 90%	Management for waters, agriculture and fishery, communal companies of mentioned municipalities.	2010	Monitoring	Subsidies for constructing plants (grants, loans, tax relief, taxes); Sewage system use compensation; waste water release compensation; waste water treatment compensation
Neretva river basin	Capljina	Communal waste waters (BOD,N,P)	Project elaboration of project documentation for construction of the main collectors and I phase of WWTP for 20000 ES. / Secondary treatment –expected pollution reduction - 90%	JP for water areas of the Adriatic Sea, Communal company of Čapljina	2010	monitoring	Subsidies for constructing plants (grants, loans, tax relief, taxes); Sewage system use compensation; waste water release compensation; waste water treatment compensation
Cetina river basin	Livno	Communal waste waters (BOD,N,P)	Construction of primary channel and parts of the secondary sewerage network, rehabilitation and reconstruction of the existing sewerage system, and project elaboration and construction of collectors and the I phase of WWTP (20000 ES); / Secondary treatment –expected pollution reduction - 90%	JP for water areas of the Adriatic Sea, Communal company of Livno	2010	monitoring	Subsidies for constructing plants (grants, loans, tax relief, taxes); Sewage system use compensation; waste water release compensation; waste water treatment compensation
SOLID WASTE							
Neretva river basin	Mostar region	Solid waste	Regional sanitary landfill / Expected reduction 100%	Communal enterprise, municipality	2007-2012	monitoring	User charges for municipal waste collection and disposal; Subsidies for recycling
INDUSTRIAL WASTEWATERS (BOD5)							
Neretva river basin	Mostar	Industrial wastewaters (BOD5) (textile, slaughter-houses, wine)	Pre-treatment / Expected reduction. 30% Cleaner production / Expected reduction 20-30%	Owner / Stockholder; Public enterprise for watershed of Adriatic sea catchment area	2010 2008	monitoring	Subsidies for WWTP construction (grants, soft loans, reduced taxes); Charges for wastewater discharge into the sewage;

River basin	Location	Pollutant	Activity / Expected reduction %	Stakeholders	Time period	Reduction Monitoring Method	Possible economic instruments
Neretva river basin	Citluk and Medugorje	Industrial wastewaters (BOD5) (textile, slaughter-house, wine, milk products)	Pre-treatment / Expected reduction. 30% Cleaner production / Expected reduction 20-30%	Owner / Stockholder; Public enterprise for watershed of Adriatic sea catchment area	2010 2008	monitoring	Subsidies for WWTP construction (grants, soft loans, reduced taxes); Charges for wastewater discharge into the sewage;
Neretva river basin	Siroki Brijeg	Industrial wastewaters (BOD5) (meat indistry)	Pre-treatment / Expected reduction. 30% Cleaner production / Expected reduction 20-30%	Owner / Stockholder; Public enterprise for watershed of Adriatic sea catchment area	2010 2008	monitoring	Subsidies for WWTP construction (grants, soft loans, reduced taxes); Charges for wastewater discharge into the sewage;
Cetina river basin	Livno	Industrial wastewaters (BOD5) (textile)	Pre-treatment / Expected reduction. 30% Cleaner production / Expected reduction 20-30%	Owner / Stockholder; Public enterprise for watershed of Adriatic sea catchment area	2010 2008	monitoring	Subsidies for WWTP construction (grants, soft loans, reduced taxes); Charges for wastewater discharge into the sewage;
Cetina river basin	Glamoc	Industrial wastewaters (BOD5) (textile)	Pre-treatment / Expected reduction. 30% Cleaner production / Expected reduction 20-30%	Owner / Stockholder; Public enterprise for watershed of Adriatic sea catchment area	2010 2008	monitoring	Subsidies for WWTP construction (grants, soft loans, reduced taxes); Charges for wastewater discharge into the sewage;
METAL INDUSTRY							
Trebisnjica river basin	Trebinje – "Tool industry"	Metal industrial wastewaters (Mineral oils, Cd, trichlorides, waste salts, galvanization)	Pre-treatment / Expected reduction. 20-30% Cleaner production / Expected reduction 20-30%	Stockholders; Water directorate;	2006-2010	Inspection Monitoring	Subsidies for WWTP construction (grants, soft loans, reduced taxes); Charges for wastewater discharge into the sewage;
Neretva river basin	Konjic UNIS GAL	Metal industrial wastewaters (Mineral oils, Cd, trichlorides, waste salts, galvanization)	Pre-treatment / Expected reduction. 20-30% Cleaner production / Expected reduction 20-30%	Owner / Stockholder; Public enterprise for watershed of Adriatic sea catchment area	2006-2010	Inspection Monitoring	Subsidies for WWTP construction (grants, soft loans, reduced taxes); Charges for wastewater discharge into the sewage;

River basin	Location	Pollutant	Activity / Expected reduction %	Stakeholders	Time period	Reduction Monitoring Method	Possible economic instruments
THERMO POWER PLANT GACKO							
Trebisnjica river basin	Gacko	Thermo Power Plant Gacko (Emission of particles and gases - sulphur dioxide, nitrogen oxide, wastewaters)	a) Smoke gas system - establishment of monitoring of solid particles in smoke gas and emissions of CO, NOx, SO2 from smoke gases b) System for transport and disposal of ashes and cinder - construction of adequate landfill and system of hydraulic transport of ashes and cinder c) Wastewaters - elaboration of a study of wastewaters - elaboration of final project, as well as introduction of necessary works	Owner / Stockholder; Water directorate	a) 2005 b) 2005 c) 2005 c) 2007	Inspection Monitoring	Subsidies for WWTP construction (grants, soft loans, reduced taxes); Charges for wastewater discharge into the sewage;

Table 5. Results of cleaner production in 9 industries

Industry / Location	Water savings (m3/god)	Energy savings (kW/giod)	Fuel savings	Raw material savings	Recycled waste (t/ god)	Total savings (KM/god)	Investments (KM)	Return period (months)
Živinoprodukt - Srbac poultry,	25.543,1	0				62.911,0	37.165,0	6
Long transmission line factory -Sarajevo, metal final finishing	20.925,0	5.850,0		85%		703.800,0	21.000,0	1
Sinalco -Sarajevo, production of non-alcohol beverages,	0	11.100,0			12	5.907,4	471,0	1
Krajina Klas-Banja Luka, baker industry	0	7.5680,		0	1,8	7.075,0	1.379,0	2,5
Brewery - Sarajevo	64.000,0	119.454,0			470	114.620,0	26.290,0	3
Fana – Srebrenik, fruit and vegetable processing	3.836,0	0			30	11.359,0	53.200,0	52
Žica - Sarajevo, metal final finishing	13.647,0		18649 Sm3 gas	49%	0	51.481,0	1.000,0	0
Meboš -Šamac, metal final finishing	0	400,0	400 l oil	2%		12.000,0	36.000,0	36
Vegafruit - Mala Brijesnica, fruit and vegetable processing	0	0			585	20.000,0	19.487,0	12
Total	**127.951,1**	**144.372,0**			**1098,8**	**989.153,4**	**195.992**	

Water savings and reduction of wastewaters varies between 24 to 81%, with average of 60%. Total annual energy savings are 144372 KW, while waste is reduced for 1098,8 t/year. Production costs are reduced for 989.153,4 KM/year (505.746,1 EURO/year). Most of the implemented measures of cleaner production (78%) have return period of 12 months.

NATIONAL ACTION PLAN

CROATIA

Assessment analysis of the issues included in the NAP

Urban sewage from the cities of Split, Rijeka, Pula, Zadar, Sibenik and Dubrovnik are discharged into the sea without any treatment, affecting thus the quality of coastal waters. Solid waste management is not environmentally sound (partial collection and disposal in unorganized dumping sites), while no sanitary landfill is in operation in the country. Industrial effluents are also 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. Only a limited number of actions are included in the priorities for 2010 (7 high priority actions plus additional 4 priority actions).

The National priority actions for 2010

Priority Actions
1. City of Split urban sewage collection and WWTP
2. City of Rijeka urban sewage collection and WWTP
3. Greater City of Split solid waste management ans disposal
4. Greater City of Rijeka solid waste management and disposal
5. MIRNA fish processing, Rovinj - Industrial WWTP
6. ADRIA fish processing, Zadar - Industrial WWTP
7. JADRANSKA PIVOVARA Brewery, Split – Industrial WWTP
8. City of Pula urban sewage collection and WWTP
9. City of Zadar urban sewage collection and WWTP
10. City of Sibenik urban sewage collection and WWTP
11. City of Dubrovnik urban sewage collection and WWTP

No specific projects are included for the control of pollutants such as heavy metals, POPs, lub oil, batteries and PCBs. However, in the NAP it is mentioned a pollutants' reduction in compliance with the SAP targets.

According to the NAP of Croatia, all projects are planned for phased construction, and it is intended to achieve the best possible results within a comparatively short period of time (by 2010). Such result would mean that the basic SAP objectives are fulfilled. However, the implementation of priorities 8 through 11 calls for significant investment funds, and the construction timeframe is also questionable. Only very optimistic assessments could schedule the deadline for the construction of such facilities for 2010. Therefore, it should not be expected that the most important environmental projects for the Croatian coastal area will be 100% completed by the year 2010. The aim of the actions described in the NAP is to fulfil the set objectives to the maximum possible extent, and to create conditions for completing of the planned activities in the future.

Overview of the actions scheduled for 2025

It is expected that the priority actions, which are scheduled for 2010, will continue to be implemented after that date. Especially, priority actions 8 – 11 (Sewerage network wastewater treatment plants for the cities Pula, Zadar, Sibenik and Dubrovnik) will most probably be implemented after 2010. 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-harmonized national legislation (cleaner production, wastewater treatment, effluent discharge limits, etc.).

Compatibility of actions vis-à-vis the SAP targets (2010)

Sector	Total pollutant emission in coastal area	Measures	Expected pollution reduction (%)	SAP objectives 2010
Urban wastewaters	BOD_5: 31,000 t/y	Construction of sewers network and WWTPs for the 6 larger coastal cities	> 50%	Urban wastewater collection and treatment for cities with population > 100,000
Solid waste	394,410	Construction of waste management centers (Split and Rijeka) and setting up system for treatment, recycling and disposal	> 50% of generated solid wastes to be treated according to legislation	Solid waste management and disposal for cities with population > 100,000
Industrial wastewater	BOD_5: 1,600 t/y	WWTP construction in 3 large units, monitoring and implementation of administrative measures	> 50%	Pollution reduction by 50%
POPs	NA	Implementation of Stockholm Convention, monitoring, BAT, BEP		Pollution reduction by 50%
Heavy metals	Hg: 26 Kg Cd: 36 Kg Pb: 617 Kg	Lead-free gasoline, Cleaner Production, BAT, BEP for industry	50%	Pollution reduction by 50%
Waste lub oil	NA	Creating new collecting points, recycling, setting up separate waste oil collecting system	Collecting 50% of generated waste oil	Collecting 50% of oil, recycling
Batteries	519	Collecting and recycling, ban of Hg Cd batteries, setting up used batteries (ncluding car batteries) management system	20% reduction in generation, 50% collecting and disposal on landfills	20% reduction in generation, 50% collecting and disposal on landfills
PCBs	201 t car + 47 transformers	Removal and demolition of PCB- containing equipment, ban of import of PCBs, legislation improvement	100%	Collect and dispose all PCBs

The public participation foreseen to implement the actions

Public support for the environmental programs to be implemented in the coastal area will be achieved through education and informing of the population, and presentation of projects conceived to resolve the existing issues. The following measures have been proposed in the NAP:

- The project preparation should include development of informational publications that will offer the essential data on the environmental projects planned for the coastal area.
- The local population and media should be involved in preparation and monitoring of the work progress, and informed on all details regarding the undertaken environmental protection measures.

- The environmental projects should be presented to the general public through public inquiries and hearings.

- Regular reports on project monitoring, and effectiveness of actions taken shall also be available to the general public.

- The environmental project presentations shall highlight direct and indirect benefits from implementation of the planned activities for the local community and the entire coastal area, which belong among the most valuable economic and natural assets of Croatia.

The active involvement of general public in resolving environmental protection priorities in the coastal area is consid**ered as an imperative step for the good performance of planned activities.**

The cost estimate for the implementation of the actions

Priority Action	Plant capacity (PE)*	WWTP investment estimate (million Euros)	Sewerage connection percentage (%)	Sewerage investment estimate (million Euros)
1. City of Split urban sewage collection and WWTP	579,000	106.0	66	58.3
2. City of Rijeka urban sewage collection and WWTP	540,000	78.9	57	108.0
5. MIRNA fish processing, Rovinj - Industrial WWTP	11,000	2.6	-	-
6. ADRIA fish processing, Zadar - Industrial WWTP	25,000	6.2	-	-
7. JADRANSKA PIVOVARA Brewery, Split – Industrial WWTP	18,000	4.4	-	-
8. City of Pula urban sewage collection and WWTP	140,000	28.2	70	17
9. City of Zadar urban sewage collection and WWTP	160,000	33.3	67	35
10. City of Sibenik urban sewage collection and WWTP	120,000	27.0	53	15
11. City of Dubrovnik urban sewage collection and WWTP	125,000	23.6	78	7.5
	Population (2001)	**Collection population coverage**	**Sanitary landfill investment estimations (Million Euros)**	**Collection Waste Management estimate (Million Euros)**
3. Greater City of Split solid waste management and disposal	464,000	89%	16.2	60.0
4. Greater City of Rijeka solid waste management and disposal	306,000	94%	31.5	62.0

* PE = People Equivalent

NATIONAL ACTION PLAN

CYPRUS

Assessment analysis of the issues included in the NAP

All coastal municipalities already have their own central wastewater treatment plants, but further actions are planned for the next period in order to upgrade the service. Solid waste management needs improvement in order to close all non-controlled dumping sites, as well as to increase separation at source and recycling. Air pollution from vehicles is a serious problem in cities and actions are planned for its control. Pollution from industrial sources is not important in Cyprus because of the lack of large chemical or metallurgical plants. Metal sources include the effluents of Cyprus Petroleum Refinery and Limassol storm water. Industrial BOD is mainly generated from 4 wineries and one brewery plant.

The National priority actions for 2010

Proposed Actions	
Urban Sewage	• Famagusta WTP-upgrade (2007) • Limassol WTP-Extension (2007)
Solid Waste	• Larnaca/Famagusta sanitary landfill (2008) • Limassol sanitary landfill (2010)
Industrial effluents	• Refinery complete closure (2010) • KEO Brewery treatment plant
Hazardous wastes	• Hazardous wastes treatment centre (2010)
Obsolete Chemicals	• Collection, treatment and disposal
Lub Oil	• Recycling, collection, treatment and disposal
Batteries	• Recycling, collection, treatment and disposal

Overview of the actions scheduled for 2025

1	WTPs for communities with population greater than 2000	2012
2	Paphos WTP-Phase 2	2020
3	Larnaca WTP- Phase 2	2020

Actions initiated for the 2010 SAP target will continue to be implemented during the next period (i.e. Air pollution control, enforcement of industry's emission limits, management of lub oil, batteries and obsolete chemicals, etc.)

Compatibility of actions vis-à-vis the SAP targets (2010)

SAP targets for 2010	Actions included in the NAP of CYPRUS
Urban Sewage: Wastewater treatment plants built for all cities with population in excess of 100,000 people	Secondary and tertiary treatment of all urban effluents. Reuse of treated sewage. **SAP targets will be met.**
Solid wastes: SW's proper management and landfills constructed for all cities with population in excess of 100,000 people	Reduction and recycling. New landfills for Larnaca, Famagusta and Limassol. **SAP targets will be met.**

SAP targets for 2010	Actions included in the NAP of CYPRUS
Industrial BOD5: 50% reduction	**SAP targets will be met**.
Heavy metals: 50% emissions' reduction Respect maximum permissible level for sea discharge	Apply BAT, BEP and Environmental Management in industry. **SAP targets will be met**.

SAP targets for 2010	Actions included in the NAP of CYPRUS
Air Pollution: Control emissions	Improve traffic management. Promotion of lead-free gasoline, improve inspection of vehicles, use of natural gas.
Organohalogen compounds: Formulation of programs for reduction and control of these substances	Apply BAT, BEP and Environmental Management in industry. **SAP targets will be met**.
Hazardous wastes: Good management and reduce releases from industrial installations. Prohibiting the use, collect and dispose PCBs	National strategy for management of hazardous wastes. Construction of a Hazardous waste treatment centre. **SAP targets will be met**.

The public participation foreseen to implement the actions

In the context of the preparation of the NAPs a stakeholders meeting including government services from the relevant ministries and NGOs took place on the third of September 2004. Follow up meetings with various national authorities and stakeholders were held to clarify issues and pinpoint priority actions in order to finalize the adopted NAPs. Public participation and stakeholders during the implementation of the proposed projects are covered by the relevant national legislation in force relating to planning permissions. The participation of the public and stakeholders is achieved through the implementation of the EIA process. Furthermore, a number of national authorities give frequent presentations, prepare leaflets and produce documents in relation to the state of the environment and the planned activities of the government. Finally, information campaigns on specific issues i.e proper disposal of waste oils etc. are launched by government authorities and NGOs.

However, more actions are needed to enhance the role of the civil society in the planning and implementation of environmental projects. Such actions could include:

- Capacity building exercises to identify the potential roles of NGOs in the implementation of the SAP and to make such institutions more accustomed to participation in decision-making. These exercises should include workshops and seminars for al stakeholders and target groups.
- Enhancement and better coordination of information campaigns to increase public awareness on the SAP.
- Continue and expand publication and distribution of brochures, leaflets, posters, reports and other information material as well as the use of the media in all its forms.

The cost estimate for the implementation of the actions

No cost information is provided on the expected cost of actions in the NAP of Cyprus. However it is mentioned that the cost will be covered by the Cyprus Government.

NATIONAL ACTION PLAN

EGYPT

Assessment analysis of the issues included in the NAP

According to the Inter-ministerial National Committee of Integrated Coastal Zone Management of Egypt, three out of 8 coastal Governorates were considered for the preparation of the NAP, because they concentrate the major part of land based pollution sources: the Governorates of Alexandria, Behira and Port Said. In Alexandria Governorate (4 million permanent population and 1.5 million tourists) 75% of the population is served by primary treatment plants. However, domestic effluents, along with municipal solid wastes, air pollution and industrial effluents are the major environmental priority issues. The lake Maryut, the El Mex Bay and the Abu Qir Bay are the recipients of generated pollutants and show signs of severe environmental degradation. Behira Governorate has a population of 4.8 million with many large cities, which lack efficient treatment for their domestic effluents. Industrial activity is mainly in the textile sector at Kafr El Dawar area. Port Said Governorate is less densely populated and host smaller industrial activity. However the effluent-receiving lake Manzala is seriously degraded.

The National priority actions for 2010

Alexandria Governorate	
Sector	Action
Domestic sewage	• Construction of El Mex – El Agamy (1.6 million, 300,000 m^3) secondary Wastewater Treatment Plant (WWTP). Construction of 13 pumping stations and one sea outfall. • Construction of El-Amria (1.3 million, 300,000 m^3) secondary WWTP. Construction of 5 pumping stations. Organise reuse of treated effluent.
Solid wastes	• Organize a sanitary landfill in the desert west of Alexandria. • Transfer 2 plants of organic fertilizer production (operating at Abis andl Al Mountazah) outside the city limits
Industrial effluents	• Application of cleaner technologies and wastewater treatment plants in the companies: Ratka Paper, National Paper, Misr Dairy Siclam, Eastern Linnen, Abu Qir Fertilizer, Edfina Canning, Arab United Textile, Siouf Spinning, Alexandria Pharmaceuticals
	• Air filters for the companies El Amria Cement, Carbon Black, Wood industries, Portland Cement Alex, Petrogas
Obsolete chemicals	• Built a hazardous wastes treatment facility with a capacity of 3000 tons/year at 12 km from Burg Al Arab

Behira Governorate	
Sector	Action
Domestic sewage	• Construction of sewer network and WWTPs for the cities: Kafr El-Zayat (50,000), Shubrakit (100,000), Damietta (Enanva) (400,000), Mahmoudia (100,000), Samanoua (100,000), Kafr El Dawer (300,000), Abu El Matatameer (100,000), El Mohmoudia (100,000), Zarka (100,000), Edku (100,000), Hosh Eisa (100,000), Abo Hommos (100,000)
Solid wastes	• Construction of recycling and organic fertilizer plant near Edku
Industrial effluents	• Application of cleaner technologies and wastewater treatment plants for the companies: Ismadye, Misr Rayon, El-Beida Dye

Port Said Governorate	
Sector	Action
Domestic sewage	• Construction of sewer network (12 Km) and a WWTPs for El'Garabaa-El'Manasra area (167,000) west of the city. • Construction of a WWTPs for Port Fouad district (69,000) east of Suez Canal
Solid wastes	• Construction of a sanitary landfill for the Governorate
Industrial effluents	• Application of cleaner technologies and construction of a WWTP in the industrial zone south of Port Said

Overview of the actions scheduled for 2025

No specific actions are planned for the period 2010 - 2025. However the framework for wastewater sector policies includes five phased goals to be implemented until 2017. Therefore actions planned but not completed until 2010 will be scheduled for 2015 and 2025. The final goal in the wastewater sector is to reduce in the shortest time frame the level of pollution discharged from cities and villages into the river Nile, canals, drains, lakes and the sea.

Compatibility of actions vis-à-vis the SAP targets (2010)

For all three Governorates (Alexandria, Behira and Port Said)

Sector	**Action**	**Expected result**
Domestic sewage	Construction of Wastewater Treatment Plants	Reduction by 50% of BOD, N and metals
Solid wastes	Organization of sanitary landfills in all Governorates	Sanitary landfills for larger cities
Industrial effluents	Major industries (Alexandria and Behira) industrial area (Port Said)	Compliance of industrial effluents with national legislation
Obsolete chemicals	Organization of a center for treatment of hazardous chemicals at Burg Al Arab	Collection and treatment of obsolete chemicals

The public participation foreseen to implement the actions

No specific plans for public participation are foreseen in the NAP of Egypt. However, local authorities will participate in the implementation and financing of the operation of the wastewater treatment plants, as well as the collection and sanitary disposal of solid wastes. Also NGOs' participation is foreseen in the implementation phase of the priority actions.

The cost estimate for the implementation of the actions

Alexandria Governorate

Sector	**Actions**	**Cost Million Egyptian Pounds**	**Funding source**
Domestic sewage	• Construction of WWTP, pumping stations and sea outfall at El Mex – El Agamy	250	Public

Sector	Actions	Cost Million Egyptian Pounds	Funding source
	• Construction of WWTP, pumping stations El-Amria and reuse of treated effluent.	400	Public
Solid wastes	• Organize a sanitary landfill in the desert west of Alexandria. • Transfer 2 plants of organic fertilizer production (operating at Abis andl El Mountazah) outside the city limits	Not available Not available	Public Public
Industrial effluents	Introduction of cleaner processes and construction of pollution control equipment (wastewater treatment plants or air filters) • Abu Qir Industrial area • El Mex industrial area	 101.2 61.5	Private
Obsolete chemicals	• Built a hazardous wastes treatment facility with a capacity of 3,000 tons/year at 12 km from Burg El Arab	Not available	Public

Behira Governorate

Sector	Action	Cost	Funding source
Domestic sewage	• Construction of sewer networks and WWTPs for the cities: Kafr El-Zayat, Shubrakit, Damietta (Enanva), Mahmoudia, Samanoua, Kafr El Dawer, Abu El Matatameer, El Mohmoudia, Zarka, Edku, Hosh Eisa, Abo Hommos	Not available	Public
Solid wastes	• Construction of recycling and organic fertilizer plant near Edku	Not available	Public
Industrial effluents	Application of cleaner technologies and wastewater treatment plants in companies	Not available	Private

Port Said Governorate

Sector	Action	Cost	Funding source
Domestic sewage	• Construction of sewer network (12 Km) and a WWTPs for El'Garabaa-El'Manasra area west of the city. • Construction of a WWTPs for Port Fouad district east of Suez Canal	57+ 150	Public
Solid wastes	• Construction of a sanitary landfill for the Governorate	Not available	Public
Industrial effluents	• Application of cleaner technologies and construction of a WWTP in the industrial zone south of Port Said	Not available	Private

PLAN D'ACTION NATIONAL

FRANCE

Issues environnementales incluses dans le PAN

En France, le contexte de l'élaboration du PAN est spécifique puisque l'ensemble des secteurs couverts par le PAS est soumis à de nombreuses réglementations. La lutte contre la pollution d'origine tellurique se traduit donc par l'application des normes internationales, communautaires et nationales. Afin de faciliter la mise en œuvre de cette réglementation, qui s'applique sur tout le territoire national, des programmes de mesures, d'actions et d'investissement sont élaborés au plan national, en général par le Ministère de l'Ecologie et du Développement Durable (MEDD) et au niveau local, pour s'adapter au contexte spécifique du bassin (celui du Rhône et de ses affluents), de la région et du département. Par ailleurs, les objectifs de réduction des rejets/émissions de polluants fixés par le PAS d'ici à 2010 concernent les entreprises ne se conformant pas aux normes nationales et internationales. Pour l'essentiel, les collectivités et les entreprises françaises se conforment à la réglementation. C'est pourquoi le Plan d'Action National français présente les principales politiques mises en œuvre pour lutter contre la pollution tellurique en Méditerranée au cours de la période 2005-2010.

Trois types de zones sont particulièrement concernés par ces pollutions : l'estuaire des fleuves, les étangs et le rivage urbanisé. Les pressions de pollution ont pour origine principale l'activité domestique. Le bord de mer est fortement urbanisé avec de grandes agglomérations telles que Montpellier, Marseille, Toulon, Nice. L'activité touristique est largement prédominante et elle est principalement concentrée sur les mois de Juillet et Août. L'activité industrielle est fortement concentrée autour de l'Etang de Berre et au niveau des agglomérations de Toulon et Marseille. Quant à la pollution d'origine agricole, elle épargne la partie Est de la Côte d'Azur mais existe de manière diffuse sur le reste du littoral.

Actions prioritaires Nationales pour 2010

Eaux usées urbaines	• Action: Complexe de traitement des eaux usées de Marseille • Action: Station d'épuration des eaux usées de Montpellier
Déchets solides urbains	• Action: Ports propres en Langedoc-Roussillon • Action: Création d'équipements en Languedoc-Roussillon • Action: Eviter une pénurie d'exutoire (favoriser la création de nouvelles unités de traitement) • Action: Prévention et réduction du flux de déchets
Pollution atmosphérique	• Action: Plans de déplacements urbains • Action: Plans de déplacements d'entreprise • Action: Réalisation d'un agenda 21
Eaux usées industriels	• Programme national de prévention et de réduction de la pollution des eaux par certaines substances dangereuses déversées dans le milieu aquatique • Mesures de réduction de la pollution des installations classées • Mesures relatives à mise des substances sur le marché • Autres mesures spécifiques (engagements volontaires des entreprises, Meilleurs Techniques Disponibles, etc.) • Action: Identification de la présence de substances dangereuses dans les milieux aquatique (état des lieux des milieux) • Action: Identification des principaux émetteurs de substances dangereuses (état des lieux des émetteurs)

	• Action: Surveillance des émissions polluantes des installations classées (registre des émissions) • Action: Identification des substances dangereuses pertinentes pour les milieux aquatiques dans le contexte français • Action: Mise en place de dispositifs spécifiques de maîtrise de la pollution des milieux aquatiques (objectifs de qualité, autorisation des rejets, etc.)
Déchets industriels	• Action: Objectif déchets -10% • Action : Démarche de management environnement (gestion interne de l'entreprise) • Action : Démarche d'eco-conception

Actions programmées pour 2015 et 2020

Le PAN de la France ne propose pas des actions spécifiques pour 2015 et 2025. Les politiques nationales et européennes sur la protection du milieu aquatique et marin vont continuer dans le cadre de la Directive Cadre sur l'Eau (DCE) et il est estimé que tous les buts du PAS pour 2025 seront atteints.

Compatibilité des actions prioritaires vis-à-vis des buts de PAS

	Objectif de PAS (2010)	PAN de la France (2010)
Eaux usées urbaines	Stations d'épuration pour toutes les villes côtières de plus de 100000 habitants	Les buts de PAS sont atteints
Déchets solides urbains	Système de gestions de déchets solides dans les villes de plus de 100000 habitants	Les buts de PAS sont atteints
Pollution atmosphérique	Une qualité de l'air ambiant conforme aux normes pour les villes de plus de 100000 habitants	
Contrôle des émissions des métaux lourds	Réduire de 50% les rejets de mercure, de cadmium et de plomb	Les buts de PAS sont atteints
Eaux usées et déchets solides industriels	Réduction de 50% des substances toxiques persistantes et susceptibles de bio accumulation	Les buts de PAS sont atteints
Déchets dangereux	• Réduire de 50% des POPs et composes organohalogenes • Collecte et élimination de 50% des huiles lubrifiantes usées • Réduire les apports de 20% et éliminer 50% de manière écologique, piles et accumulateurs	Les buts de PAS sont atteints

Participation publique anticipée pour la réalisation des actions prioritaires

Le PAN de la France ne présente pas des détailles sur la participation publique pour la réalisation des actions prioritaires. Néanmoins, le cadre institutionnel décentralisé actuel (au niveau régional, départemental et par bassin hydrographique) aussi bien que l'implication

publique pourvue dans la Directive Cadre sur l'Eau, assurent la participation de la société civile à la réalisation des actions prioritaires du PAN.

Estimation du coût de réalisation des actions prioritaires

Secteur	Action	Coût (millions Euros)	Financement
Eaux usées urbaines	• Complexe de traitement des eaux usées de Marseille • Station d'épuration des eaux usées de Montpellier	• • 375	•
Déchets solides urbains	• Ports propres en Languedoc-Roussillon • Création d'équipements en Languedoc- Roussillon • Eviter une pénurie d'exutoire (favoriser la création de nouvelles unités de traitement) • Prévention et réduction du flux de déchets	• 8 • 00-550	Contrat de financement liant la Région Languedoc-Roussillon, l'Agence de l'Eau Rhône-Méditerranée-Corse (AERMC) et l'ADEME. • Taxe Générale sur les Activités Polluantes • TGAP • TGAP
Pollution atmosphérique	• Plans de déplacements urbains • Plans de déplacements d'entreprise • Réalisation d'un agenda 21	•	•
Control des émissions des métaux lourds	•	•	
Eaux usées industriels	Identification de la présence de substances dangereuses dans les milieux aquatique (état des lieux des milieux) • Identification des principaux émetteurs de substances dangereuses (état des lieux des émetteurs) • Surveillance des émissions polluantes des installations classées (registre des émissions) • Identification des substances dangereuses pertinentes pour les milieux aquatiques dans le contexte français	•	• Agence de l'eau et l'Etat • 50% agence de l'eau, 50% industriels

Secteur	Action	Coût (millions Euros)	Financement
	• Mise en place de dispositifs spécifiques de maîtrise de la pollution des milieux aquatiques (objectifs de qualité, autorisation des rejets, etc.)		
Déchets solides industriels	• Action: Objectif déchets -10% • Action: Démarche de management environnement (gestion interne de l'entreprise) • Action: Démarche d'eco-conception	•	•

NATIONAL ACTION PLAN

GREECE

Assessment analysis of the issues included in the NAP

According to the NDA of Greece, urban sewage treatment is considered as satisfactory because WWTPs serve 75% of the population. On the solid waste sector, 60% of the population is served by sanitary landfills, but uncontrolled dumping sites still remain as a serious environmental problem. In general, no problems have been identified in relation to POPs and heavy metal emissions, although the latter group of pollutants is found in significantly enhanced concentrations in specific marine coastal environments (Gulf of Elefsis, inner Saronikos Gulf, Thermaikos Gulf, harbour sediments). Although organohalogen compounds have been detected in many Greek aquatic environments and were related to the use of herbicides and pesticides, the concentrations found are not particularly high. On the other hand, nutrient pollution (eutrophication) has been identified in many inland and marine coastal waters and was related to the intensive use of fertilisers in agriculture. Hazardous wastes produced in the industrial sector (metallurgy, oil refinery, fertilizers and chemical products) are collected by the concerned industries and treated accordingly. Used lub oil is recovered to a significant extend leading to a substantial decrease of uncontrolled dumping. Lead batteries are also recovered and recycled to a substantial extend (85%) while the rest is disposed off in solid waste dumping sites.

The National priority actions for 2010

Proposed Projects
• WWTP of Elefsina (Thriasio Pedio)
• Municipal Waste Sanitary Landfill of Attica
• Completion of Composting Unit in Attica
• Completion of sewage network at Thessaloniki Touristic Areas
• WWTP of East Attica (N. Makri)
• WWTP of East Attica (Artemida, Rafina, Koropi etc)
• Sanitary Landfill of Argos-Nafplio-Tolo
• Sanitary Landfill of Igoumenitsa
• Sanitary Landfill of Arta
• Sanitary Landfill of Litochoro
• Sanitary Landfill of Thasos
• WWTP of N. Kydonia
• WWTP of Mallia
• WWTP of Kalymnos
Proposed Program support elements
• Development of a program for the control of operation and maintenance of WWTPs
• Development of a program for the internal control of the operation and safety of sanitary landfills
• Programs of measures including management and evaluation of air pollution, regional plans, monitoring, etc.
• Enforcement to control discharges from industrial installations, environmental permits
• Implementation of national plans for lub oil, obsolete chemical stockpiles and PCBs management
• Measures to enable public participation in the process of the environmental authorization system (Solid waste management and the polluter pays principle
• Monitoring coastal environment and microbial pollution
• Development of support tools for the identification and control of pollution from point sources • Provision of equipment for the effective protection of the environment

Overview of the actions scheduled for 2025

No specific actions in relation to 2025 are described in the NAP.

Compatibility of actions vis-à-vis the SAP targets (2010)

The NAP for Greece is based on current national programs for each sector and the obligations that derive from the European and national legal framework. The need for compliance to this legal framework addresses most if not all the projects required under SAP and thus the establishment of the NAP did not require deviation from the already programmed actions, national planning and hierarchy of projects which are based on specific obligations and timetables set by the EU Directives. Furthermore, within the Water Framework Directive (2000/60/EC), programs of measures for each river basin district must be established by 2009, covering, *inter alia*, all potential sectors of pollution. This particular requirement to implement the WFD is very demanding in terms of obligations, and the completion of that task coincides to the SAP targets.

The legal framework in Greece is well developed and covers all aspects of pollution sources (Urban Wastewater, Industrial Wastewater, Solid wastes etc.) in terms of the required necessary infrastructure (e.g. wastewater treatment plants, solid wastes sanitary landfills), emission limit values (organics, heavy metals, etc) and water quality issues (specific water quality objectives). This framework coincides to the obligations that derive by the European Union Legislation and which practically meet most, if not all, of the key issues as raised by the SAP.

Next Table presents the sectors referred to the NAP and the targets as identified by the national and European Union legislation.

Sector	SAP targets	European Union obligations and current national programs
1. Sewage management BOD, SS, TN	90% reduction by 2005 Connection of all coastal cities with population more than 100,000 by 2005 to sewerage networks and WWTP.	All cities with population greater than 15.000 served by sewerage networks and WWTP by 2000 (for sensitive areas the deadline was 1998). For agglomerations with population between 2,000 and 15,000 the deadline is the end of 2005.
2. Urban solid wastes	Collection and disposal systems by 2005 for all agglomerations with population greater than 100,000 Promotion of reduction and recycling	50% recover/usage from which 25% is related to recycling of the package wastes by 2005 Closure of uncontrolled dumping sites and restoration by 2008
3. Air pollution	Measure for the promotion of activities that will result to the control of air pollution	Requirement for review of Environmental permits
4. Pollution caused by Hg, Cd and Pb	50% reduction - 2010 ELV to be met by 2005 0.05 mg/l Hg 0.20 mg/l Cd	ELV to be met by 2003 0.05 mg/l Hg 0.20 mg/l Cd Elimination of Hg, Cd by 2020
5. Organohalogens	Reduction and control of	WQO and ELV specified by

Sector	SAP targets	European Union obligations and current national programs
	emissions by 2005	national legislation. ELV into force since 2003
6. Wastewater and solid waste from industrial installations BOD, TSS, N	50% reduction by 2005	Requirement for review of Environmental permits
7. Lubricating oil, hazardous chemicals and obsolete chemicals stockpiles	20% reduction of generation 50% safely disposed	National programme for the control of hazardous wastes is under preparation.
8. Updating and adopting of national regulations on sewage discharges to the sea and rivers	Legal framework has been established for the protection of the aquatic environment.	
9. Establishment of authorisation systems	Legal framework has been established for the procedures that have to be followed.	
10. Phasing out of the use of the nine pesticides	50% reduction – 2005 elimination - 2010	Implementation of relevant Directives resulted ban of these substances
11. Prohibition of the manufacture, trade and new uses of PCBs	50% reduction – 2005 elimination - 2010	Implementation of relevant Directives resulted ban of these substances

The public participation foreseen to implement the actions

Issues related to public participation and stakeholders during the implementation of the proposed projects are covered by the relevant legislation in force. For each category of projects a specific process has to be followed, as described in Law 3010/2002, which for large projects is lead by the Hellenic Ministry of Environment, Physical Planning and Public Works. The process involves the submission of the Environmental Impact Assessment (EIA) study to the competent authorities. The study is then forwarded to stakeholders (e.g. Prefecture, local authorities), who in their turn are responsible for the publication of the projected works to the local press, allowing for everyone who wishes to get more information from the EIA study. The approval of the study is directly related to the determination of environmental permits, which have to be followed during the construction and operation of a project. The Ministry of Environment, Physical Planning and Public Works periodically organises workshops in order to present to the public and the stakeholders its priorities and the projected works.

The cost estimate for the implementation of the actions

The Investment Portfolio is based on the national programming and the estimated budgets of the selected for each sector projects. It should be noted that most of the projects referred to are co-financed by the European Commission 3rd and 4th Structural Funds and the Greek government. The final short-list of the proposed projects is presented in the following table

Proposed Projects	Estimated Budget Euros
• WWTP of Elefsina (Thriasio Pedio)	NA
• Municipal Waste Sanitary Landfill of Attica	NA
• Completion of Composting Unit in Attica	NA
• Completion of sewage network at Thessaloniki Touristic Areas	NA
• WWTP of East Attica (N. Makri)	NA
• WWTP of East Attica (Artemida, Rafina, Koropi etc)	NA
• Sanitary Landfill of Argos-Nafplio-Tolo	NA
• Sanitary Landfill of Igoumenitsa	NA
• Sanitary Landfill of Arta	NA
• Sanitary Landfill of Litochoro	NA
• Sanitary Landfill of Thasos	NA
• WWTP of N. Kydonia	NA
• WWTP of Mallia	NA
• WWTP of Kalymnos	NA

NA: No Available

Proposed Program support elements	Estimated Budget Euros
• Development of a program for the control of operation and maintenance of WWTPs	70,800
• Development of a program for the internal control of the operation and safety of sanitary landfills	76,700
• Programs of measures including management and evaluation of air pollution, regional plans, monitoring, etc.	28,600,000
• Enforcement to control discharges from industrial installations, environmental permits	NA
• Implementation of national plans for lub oil, obsolete chemical stockpiles and PCBs management	NA
• Measures to enable public participation in the process of the environmental authorization system: - Solid waste management - Polluter pays principle	 140,000 300,000
• Monitoring coastal environment + microbial pollution	590,000 + 1,260,000
• Development of support tools for the identification and control of pollution from point sources • Provision of equipment for the effective protection of the environment	1,100,000 1,750,000

NATIONAL ACTION PLAN

ISRAEL

Assessment analysis of the issues included in the NAP

About 70% of Israel's population resides within 15 Km of the Mediterranean coastline and the country's major economic and commercial activities are concentrated there. Major areas of pollution sources are located in Haifa Bay (metals [including Hg], organochlorides TBT), Kishon and Hadera Rivers (metals [including Hg]), the harbours of Ashod and Kishon (metals [including Cd and Cr], organochlorides, TBT), the marinas of Jaffa and Tel-Aviv (organochloride pesticides), the Shafdan marine outfall (industrial sludge) and Dan Region Wastewater Treatment Plant (metals, nutrients). Industrial and urban effluents are usually treated together in wastewater treatment plants but some industries discharge directly their effluents to rivers and the sea. All streams flowing to the Mediterranean carry relatively large amount of nutrients (N and P) and particularly the estuaries of Yarkon and Taninim Rivers as well as the Shafdan and Herzelia outfalls, because of industrial discharges and runoff. Air pollution from industry, oil refineries, power plants and transportation is also an important environmental issue for the country. Finally, solid waste management needs upgrading.

The National priority actions for 2010+

Liquid wastewater (urban and industrial) – discharge to the sea

- Establishing and upgrading of WWTPs drained to the sea through rivers (compliance with the Inbar Committee standard for agricultural use/discharge to the rivers). Directing effluents to agricultural irrigation (utilization of the full potential of effluents as a water source for agriculture). Reducing the concentration of boron in cleaning materials
- Completion of treatment and recovery systems in Hot Spots and in coastal cities directly discharging effluents to the sea (Acre, Hof Hacarmel, Herzliya, Ashdod)
- Land treatment of Shafdan sludge (actually disposed off into the sea through a marine outfall)
- Adoption of advanced treatment of industrial effluents at source to reduce pollutants in the brines and industrial effluents discharged directly into the sea through marine outfalls and vessels. Establishment of more stringent standards for brines and effluents. Establishment of proper conditions in business licenses and enforcement in industrial plants.
- Connection of all coastal cities with population above 100,000 to municipal sewage systems (already implemented)

Liquid wastewater (urban and industrial) – discharge to rivers

- Implementation of the national action plan for the water sector by 2010. Establishing and upgrading of WWTPs in compliance with the Inbar Committee standards for agricultural use/discharge to the rivers for nutrient reduction. Building of WWTPs along the Kishon and Hadera rivers. Utilization of the full effluents potential as a water source for agricultural consumption and discharge to the rivers (Completion of WWTPs /comliance with Inbar Committee standards at Acre (Na'aman river); Haifa (Kishon river); Hadera, Iron and Jat (Hadera river); Lev-Hashaon-Tnuvot (Alexander river); Ra'anana (Poleg river), Nir Eliyahu, Kfar and Ramat Hasharon (Yakon river); Jerusalem, Beit Shemesh and Ayalon (Sorwq river); Kiryat Gat (Laschish river); Beersheba and Hebron (Besor river).
- 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
- Development of a pilot project to assess the most efficient treatment method for water emissions from fishponds. Establishment of priorities for treating the fishpond waters discharged to the coastal rivers within five years after the implementation of the pilot project
- Diverting the flow of urban runoff to constructed wetlands (follow up of the pilot

project in the Yarkon river)
- Completion of master plans for the rehabilitation of all coastal rivers by 2010
- Formulating of a statutory outline scheme as a basis for the master plan, protecting coastal open spaces and designated areas for control development
- Allocating water quantities for discharge to rivers
- Determining water quality for discharge to rivers according to specific requirements for survival of each river's population
- Changing the structure of the river channel
- Biodiversity rehabilitation

Solid wastes
- Shutting down dumps and switching to sanitary landfills (implemented)
- Rehabilitating old dumps which were shut down and have high real estate potential (Hiriya, Netanya, North Herzliya, Rishon LeZion, Retamin, Ashkelon, Bat Yam, Haifa)
- Construction and demolition waste. Waste recycling – separating the problematic components from urban waste as part of the waste's pretreatment (until 2025)
- Construction and demolition waste. Establishment of 20 regulated sites for the disposal of construction waste in quarries in which mining work is completed

Air Pollution
- Equipping gasoline-powered vehicles with catalytic converters (90% of vehicles by 2014)
- 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)
- 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)
- 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)
- Update of the National baseline Budget

Heavy Metals
- Control the reduction rate of the metals Hg, Cd and Pb (in air and liquid emissions) in comparison to the NBB. If necessary (reduction below 50%) taking enforcement measures including adoption of BAT NEC in order to reach required reduction level by 2010

Hot Spots
- Na'aman River outfall: Directing the wastewater of Kfar Marsik and Ein Hamifratz to the Acre WWTP; pretreatment in Miluban; compliance with Inbar Committee standards for discharge to rivers; high priority to establishing a dedicated WWTP for fishponds
- Haifa Bay: 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: Cessation of sludge discharge to sea by 2008
- Ashdod: 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

Coastal sector
- Preparation of a new statutory document to express a comprehensive vision of coastal area worthy of conservative and to provide statutory protection to marine

and coastal habitats
- Preparation of a national policy to protect the Mediterranean Sea coastline
- Preparation of a procedure to assimilate the NAP in environmental assessment process of statutory plans for the conservation of marine and coastal habitats
- Defining a procedure to assimilate the NAP goals and targets in the Ministry of the Environment's requirements within the Business Licensing Law
- Operation of a long-term national monitoring plan for the coastline and coastal cliff to prevent alterations to the natural coastline

Overview of the actions scheduled for 2025

The planned actions will continue to be implemented after the year 2010 (some actions are already planned for 2014 as mentioned). The plan is to fulfill the county's obligations to the SAP by the year 2025.

Compatibility of actions vis-à-vis the SAP targets (2010)

SAP targets for 2010	Actions included in the NAP of Israel
Urban Sewage: Wastewater treatment plants built for all cities with population in excess of 100,000 people	No discharge of wastewater and effluent to the sea (50 million m^3 of high quality treated effluent will be released annually to rivers to preserve flow). All urban sewage will be treated.
Solid wastes: SW's proper management and landfills constructed for all cities with population in excess of 100,000 people	Developing of a solid waste treatment system, closure of dumps, organization of sanitary landfills, recycling and compost generation.
Air Pollution: Control emissions	All industries will comply with national emission standards Renewal of the vehicle fleet (engines with lower emissions)
Industrial BOD5: 50% reduction	Specialized treatment, of industrial wastewater. BOD5 target to be achieved
Heavy metals: 50% emissions' reduction Respect maximum permissible level for sea discharge	More than 50% reduction because of the cessation of Shafdan sludge dumping into the sea and adoption of advanced treatment for brines and industrial effluents before discharge to the sea.
Organohalogen compounds: Formulation of programs for reduction and control of these substances	
Hazardous wastes: Good management and reduce releases from industrial installations. Prohibiting the use, collect and dispose PCBs	

The public participation foreseen to implement the actions

Third sector participation – NGOs, the scientific community, industry, commercial bodies and the general public – is reflected in the participation of a public representative in the inter-ministerial committee. Meetings open to the general public have already been organized

during the preparation of the NAP, for the purpose of receiving feedback from the people concerned.

The cost estimate for the implementation of the actions

Action	Cost (in million USD)
Liquid wastewater (urban and industrial) – discharge to the sea	
• Establishing and upgrading of WWTPs drained to the sea through rivers (compliance with the Inbar Committee standard for agricultural use/discharge to the rivers). Directing effluents to agricultural irrigation (utilization of the full potential of effluents as a water source for agriculture). Reducing the concentration of boron in cleaning materials	• 1,260 (including all relative actions for establishing and upgrading of WWTPs discharging to the sea or to rivers)
• Completion of treatment and recovery systems in Hot Spots and in coastal cities directly discharging effluents to the sea (Acre, Hof Hacarmel, Herzliya, Ashdod)	•
• Land treatment of Shafdan sludge (actually disposed off into the sea through a marine outfall)	• 150
• Adoption of advanced treatment of industrial effluents at source to reduce pollutants in the brines and industrial effluents discharged directly into the sea through marine outfalls and vessels. Establishment of more stringent standards for brines and effluents. Establishment of proper conditions in business licenses and enforcement in industrial plants.	•
• Connection of all coastal cities with population above 100,000 to municipal sewage systems (already implemented)	•
Liquid wastewater (urban and industrial) – discharge to rivers	
• Implementation of the national action plan for the water sector by 2010. Establishing and upgrading of WWTPs in compliance with the Inbar Committee standards for agricultural use/discharge to the rivers for nutrient reduction. Building of WWTPs along the Kishon and Hadera rivers. Utilization of the full effluents potential as a water source for agricultural consumption and discharge to the rivers	• 1,260 (including all relative actions for establishing and upgrading of WWTPs discharging to the sea or to rivers)
• 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	• 889
• Development of a pilot project to assess the most efficient treatment method for water emissions from fishponds. Establishment of priorities for treating the fishpond waters	• 33

discharged to the coastal rivers within five years after the implementation of the pilot project • Diverting the flow of urban runoff to constructed wetlands (follow up of the pilot project in the Yarkon river) • Completion of master plans for the rehabilitation of all coastal rivers by 2010 • Formulating of a statutory outline scheme as a basis for the master plan, protecting coastal open spaces and designated areas for control development • Allocating water quantities for discharge to rivers • Determining water quality for discharge to rivers according to specific requirements for survival of each river's population • Changing the structure of the river channel • Biodiversity rehabilitation	• 11.8
Solid wastes • Shutting down dumps and switching to sanitary landfills (implemented) • Rehabilitating old dumps which were shut down and have high real estate potential (Netanya, Rishon, LeZion, Bat Yam and Hiriya by 2014) • Construction and demolition waste. Waste recycling – separating the problematic components from urban waste as part of the waste's pretreatment (until 2025) • Construction and demolition waste. Establishment of 20 regulated sites for the disposal of construction waste in quarries in which mining work is completed	• 35.6 • 434 • 4
Air Pollution • Equipping gasoline-powered vehicles with catalytic converters (90% of vehicles by 2014) • 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) • 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) • 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) • Update of the National baseline Budget	
Heavy Metals • Control the reduction rate of the metals Hg, Cd and Pb (in air and liquid emissions) in comparison to the NBB. If necessary (reduction	

below 50%) taking enforcement measures including adoption of BAT NEC in order to reach required reduction level by 2010	
Hot Spots • Na'aman River outfall: Directing the wastewater of Kfar Marsik and Ein Hamifratz to the Acre WWTP; pretreatment in Miluban; compliance with Inbar Committee standards for discharge to rivers; high priority to establishing a dedicated WWTP for fishponds • Haifa Bay: Pretreatment and compliance with the Inbar Committee standards for discharge to rivers; plants wich 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: Cessation of sludge discharge to sea by 2008 • Ashdod: 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	
Coastal sector • Preparation of a new statutory document to express a comprehensive vision of coastal area worthy of conservative and to provide statutory protection to marine and coastal habitats • Preparation of a national policy to protect the Mediterranean Sea coastline • Preparation of a procedure to assimilate the NAP in environmental assessment process of statutory plans for the conservation of marine and coastal habitats • Defining a procedure to assimilate the NAP goals and targets in the Ministry of the Environment's requirements within the Business Licensing Law • Operation of a long-term national monitoring plan for the coastline and coastal cliff to prevent alterations to the natural coastline	

NATIONAL ACTION PLAN

ITALY

Assessment analysis of the issues included in the NAP

In Italy a total of about 50 contaminated sites of national interest have been identified, 24 of which are sited on coastal areas: Toscana (Livorno, Massa and Carrara, Ortobello [Sitoco site], Piombino), Sicilia (Priolo, Gela), Sardegna (Porto Torres industrial area, Sulcis – Iglesiente - Guspinese), Puglia (Manfredonia, Brindisi, Taranto), Marche (Chienti River Basin, Falconara Maritima), Liguria (Pitelli [La Specia], Cogoleto - Stoppani), Friuli – Venezia – Giulia (Trieste, Grado and Marano Lafoon), Campania (Napoli –East Cost, Saline and Salerno Rivers, Domizio Flegreo and Agro Aversano coastal zone, Napoli Bagnoli – Coroglio, Vesuvio coastal zone), Calabria (Crotone Cassano – Cerchiara), Veneto (Venezia [Potro Marghera]). Legislative measures have been taken for the remediation of all contaminated sites. One third of the sites are already in full recovery and remediation plans/actions are in place for most cases. Also legislative measures have been taken for sensitive areas, including the introduction of tertiary treatment of urban sewage, where needed (ex. the drainage basin of River Po). No specific actions are include in the NAP in relation to the SAP, but the implementation of the already in progress National Environmental Projects is expected to lead to the fulfilment of the SAP targets.

The National priority actions for 2010

The following actions are mentioned in the Sectoral Plans presented in the NAP of Italy:

Urban Sewage
• Sewerage networks and WWTPs are been under construction/completion in all Italian Regions. • Tertiary treatment is established in Regions related to sensitive areas.
Solid Wastes
• Increase separate collection (50% by 2010) • Recycling • Promotion of environmental education
Air pollution
• Enforcing the Kyoto Protocol for Italy (reductions in urban centers: CO_2 21.5%, energy consumption 12.6%) • Complete the implementation of regional plans to control air pollution, especially in southern regions; • Improve the network of air quality monitoring and reach a geographical uniformity in order to have a general supervision of air quality on the national territory; • Undertake measures related to transport in urban centers in order to reduce ambient levels of particulate matter and ozone, CO_2; • Increase the allocation of funds for the improvement of urban infrastructures and the substitution of obsolete vehicles with low emission combustibles supplied or with electricity supplied ones; • Promote further actions to develop the use of low emission combustibles as eco-diesel and methane; • Improve the network of methane stations in proximity of urban centers in order to encourage the purchase of methane-supplied vehicles, especially for commercial activities.
Industrial effluents (TPB substances)
• Monitoring of all TPB substances • Reduce and phase out inputs • Introduce Environmental Quality Standards (water) and Effluent Emission Limits

Nutrients and suspended solids
• Implementation of the IPPC Directive • Promotion of tertiary treatment for industrial wastewater • Improve industrial WWTP's efficiency • Application of BAT in industry
Hazardous wastes
• Collection and recycling of used lub oil • Collection and recycling of used lead batteries

Overview of the actions scheduled for 2025

No specific actions are scheduled for 2025. However, planned actions will continue to be implemented in the frame of EU Directives and the SAP.

Compatibility of actions vis-à-vis the SAP targets (2010)

Issue	SAP Targets 2010	Actions planned in the NAP of Italy
URBAN ENVİRONMENT		
1.1 Municipal Sewage	**dispose sewage from cities >100,000 in conformity with LBS**	**Legal framework is in line with the SAP targets. Implementation is satisfactory**
1.2 Urban solid waste	**solid waste management system in cities >100,000**	**All EU Directives have been adopted. Increase of separate collection (50% by 2010) and recycling.**
1.3 Air pollution	**cities >100000 ambient air quality conform to standards**	**Application of the Kyoto Protocol. Traffic control in cities, use of natural gas,**
INDUSTRIAL POLLUTION		
2. Industrial pollution	50% reduction of industrial emissions and discharges	
2.1 TPB		
- Twelve priority POPs	50% reduction of inputs	EU Directives. Introduction of Environmental
- Other POPs	25% reduction of inputs of PAHs	

- Heavy metals	50% reduction of discharges, emissions and losses of heavy metals (mercury, cadmium and lead)	Quality Standards for surface and marine waters and effluent emission limits for all relevant pollutants
- Organometallic compounds	50% reduction of discharges, emissions and losses of organomercury compounds	
2.2. Other heavy metals		
-Zinc, copper, chrome	reduction of discharges of zinc, copper and chrome	
2.3. Organohalogen compounds: -Halogenated aliphatic hydrocarbons -Halogeneted aromatic hydrocarbons -Chlorinated phenolic compounds -Organohalogenated pesticides	reduction of discharges of organohalogen compounds	
2.4 Radioactive substances	Eliminate to the possible fullest possible extent inputs of radioactive substances	Not an issue for Italy
2.5 Nutrients and suspended solids		
-Industrial wastewater	50% reduction of BOD, nutrients and suspended solids from industrial installations	Tertiary treatment, application of BAT, enforcement of EU Water Frame Directive
-Agriculture		
2.6 Hazardous wastes	To reduce as far as possible by 20% the generation of hazardous waste from industrial installations To dispose 50% of the hazardous waste generated, in a safe and environmentally sound manner and in conformity with the provisions of the LBS protocol and other internationally agreed provisions	Recycling used lub oil and lead batteries (almost complete recycling – in compliance)

-Obsolete chemicals	To collect and dispose all obsolete chemicals in a safe and environmentally sound manner	
-Used lubricating oil	To collect and dispose 50% of used lubricating oil in a safe and environmentally sound manner	
-Batteries	To reduce by 20% the generation of used batteries, To dispose 50% of used batteries in a safe and environmentally sound manner	

The public participation foreseen to implement the actions

In Italy, environmental plans are implemented at regional level and public participation is an integral component of them. NGOs are already playing a key role in the implementation of environmental actions and are expected to continue to be an active player in the future. However, no specific relative information is included in the NAP of Italy.

The cost estimate for the implementation of the actions

The cost of the actions will be covered by the central Italian Government or/and the Regional Governments. No specific information is provided for the priority actions' cost.

NATIONAL ACTION PLAN

LEBANON

Assessment analysis of the issues included in the NAP

Sewage management is inefficient and the bulk of sewage generated from residential and industrial areas in discharged, without prior treatment in most cases, in streams or directly into the sea through a great number of short outfalls. Therefore, urban effluent control is a priority issue for Lebanon. Solid waste management has also been inefficient in past years resulting to the creation of uncontrolled seafront dumping sites. These uncontrolled dumps are sources of heavy metals and other priority pollutants, as well as litter, for the coastal marine ecosystem. The dumping sites of Normandy (Beirut) and Bourj Hammoud (Mount Lebanon) have been closed and are in remediation process, but similar actions are needed for other seafront dumps. Air pollution problems are mostly located in the larger cities and are caused by traffic and industrial plants located at their neighbourhoods (Beirut, Tripoli, Chekka, Zouk). Industrial pollution is also a serious problem, mostly in North, Mount Lebanon and South regions.

The National priority actions for 2010

Action
Administrative Region A (North)
1. Closure of Domestic Raw Sewage Sea Outfalls
2. Reduce Effluent Concentrations & Quantities from Fertilizer Company
3. Complete containment of Tripoli seafront dumpsite
Administrative Region B (Beirut)
4. Closure of Domestic Raw Sewage Sea Outfalls
5. Treatment of Beirut Slaughterhouse Waste (Karantina)
Administrative Region C (Mount Lebanon)
6. Closure of Domestic Raw Sewage Sea Outfalls
7. Upgrade Select Industrial Zones in Mount Lebanon
8. Reduce Leachate from Borj Hammoud Dumpsite
Administrative Region D (South)
9. Construct Secondary Wastewater Treatment Plants in Sour & Saida
10. Rehabilitation of Sour Coastal Dumpsite
11. Rehabilitate Saida Seafront Dumpsite
12. Promote Cleaner Production & Chromium Recycling in Ghazieh Tanneries
National Actions (A, B, C and D)
13. Implement a National System for the Collection and Treatment of Waste Oil
14. Reduce Air Pollution from Mobile Sources in Major Coastal Cities
15. Control Littering from Seafront Walkways

Overview of the actions scheduled for 2025

No specific targets are scheduled for 2025. However, the full implementation of some of the actions planned for 2010 could be extended in time.

Compatibility of actions vis-à-vis the SAP targets

Sectors	SAP Targets (2010)	NAP of Lebanon (2010)
Urban Sewage	Agglomerations larger than 100,000 have to operate a WWTP	> 50% of outfalls to be closed and wastewater to be treated in WWTPs (all regions)
Municipal Solid Wastes	Agglomerations larger than 100,000 have to operate a sanitary landfill	Sanitary landfills for Tripoli, Sour, Saida
Industrial waste	BOD reduction by 50%	• 50 % reduction of solid waste's BOD (Beirut slaughterhouse) • 50% reduction of BOD from Mount Lebanon industrial area • 30-50% reduction of BOD from Gazieh and Dora tanneries
Heavy Metals	Reduction of releases by 50%	• Reduction of phosphogypsum slurry dumping (Cd?) • >50% Reduction of metal emissions from dumpsites (Tripoli, Bourj Hammoud, Sour, Saida) • 50% reduction of metals and hazardous wastes from Mount Lebanon industrial area • 30-50% reduction of chromium from Gazieh and Dora tanneries
Hazardous wastes	Collection and disposal 50% of waste oil	• > 50% reduction of waste oil dumping
Air pollution	Improve air quality in cities	• > 20% reduction of PM, NOx and SO2 in Beirut from traffic

The public participation foreseen to implement the actions

Public participation is a key element for the success the NAP implementation. The Association of Lebanese Industrialists, which groups about 600 industries in Lebanon, is expected to contribute significantly to the promotion of cleaner production and to the industrial effluent control. Local authorities, environmental NGOs, the scientific community, are expected to play an important role in the implementation of the NAP.

The cost estimate for the implementation of the actions

Action	Cost (Million USD)	Sources of Funding
Administrative Region A (North)		
1. Closure of Domestic Raw Sewage Sea Outfalls		
• El Abde (WWTP, sewage networks)	25	NA
• Tripoli (WWTP)	76	EIB
• Chekka (WWTP, sewage networks)	10.1 + 2.9	French Protocol, AFD
• Batroun (WWTP, sewage networks)	7.6 + 4.4	French Protocol, AFD
2. Reduce Effluent Concentrations & Quantities from Fertilizer Company (feasibility study and pilot demonstration)	0.1	Lebanon Chemical Company
3. Complete containment of Tripoli seafront dumpsite		
• Design study	0.9	Government of Lebanon
• Expansion, O & M	12	
Administrative Region B (Beirut)		
4. Closure of Domestic Raw Sewage Sea Outfalls		
• Dora WWTP construction	NA	NA
• Ghadir WWTP extension	50	KFW (15 m), IDB, EIB, OPEC
5. Treatment of Beirut Slaughterhouse Waste (Karantina)		
• Construction	NA	Cedar Environmental
• Operation	NA	Municipality of Beirut
Administrative Region C (Mount Lebanon)		
6. Closure of Domestic Raw Sewage Sea Outfalls – Construction of 4 WWTPs and expansion of one existing WWTP		
• Jbeil WWTP	9.5	French
• Kesrouan WWTP	NA	Protocol
• Dora WWTP	NA	Design-Built-Operate
• Ghadir WWTP	50	KFW, IDB,
• Chouf (Nabi Younis) WWTP	14.4	EIB, OPEC French Protocol
7. Upgrade Select Industrial Zones in Mount Lebanon		
• Equip a dozen priority industrial zones with solid waste and wastewater management facilities	NA	GEF, Private
• Introduce cleaner production	NA	ALIND, Lebanese Centre of Cleaner Production
8. Reduce Leachate from Borj Hammoud Dumpsite		
• Sampling and analysis	0.05	NA

Action	Cost (Million USD)	Sources of Funding
• Containment measures • Remediation measures	NA 8-12 $ /m^3	NA Carbon Trade Fund, BOT
Administrative Region D (South)		
9. Construct Secondary Wastewater Treatment Plants in Sour & Saida • Sour WWTP design + Construction • Saida WWTP design + Construction	 1.2 + 45 4.4 + 20	 EIB? JBIC
10. Rehabilitation of Sour Coastal Dumpsite • EIA for dump rehabilitation • Remediation works	 0.075 8-12 $ /m^3	
11. Rehabilitate Saida Seafront Dumpsite • Emergency containment plan • Feasibility study for rehabilitation + Rehabilitation	 NA 5	 Walid Bin Talal Foundation
12. Promote Cleaner Production & Chromium Recycling in Ghazieh Tanneries • Pre-treatment on site • Cleaner Production Training • Chromium Recovery facility	 NA NA NA	
National Actions (A, B, C and D)		
13. Implement a National System for the Collection and Treatment of Waste Oil • Waste oil decree • Waste oil collection system • Waste oil analysis • Waste oil incineration	 0.02 0.69 + 0.172 per year 0.035 + 0.065 per y	 MoE Cement plants
14. Reduce Air Pollution from Mobile Sources in Major Coastal Cities		Vehicle owners, GoL, MOEW
15. Control Littering from Seafront Walkways	0.05 +	Local Municipalities, Private (TV)

NATIONAL ACTION PLAN

LIBYA

Assessment analysis of the issues included in the NAP

All 18 coastal local administrations (Shabeyats) from the Tunisian to the Egyptian border were considered for the NAP.

1. Domestic sewage effluents: Lack of adequate treatment plants in the major coastal cities (Azzawiya, Janzur, Zuwarah, Sabrata, Tripoli, Khums, Zilten, Misratah, Sirt, Ajdabiya, Benghazi, Dernah, Tobruk)

2. Solid wastes: Un-efficient collection and lack of properly operating sanitary landfills in the major coastal cities (Al Nigat Al Khams, Surman and Sabrata, Azzawiya, Jifarah, Tripoli, Tajura, Tarhunah – Masallatah, Al Megrib, Misratah, Sirt, Ajdabiya, Al Hizam Al Akhdar, Benghazi, Al Marj, Al Bieda, Al Ghobba, Dernah, El Batnam). Also need for solid waste recycling and compost plants.

3. Air pollution from industrial sources including cement (6 plants) and electrical power stations.

4. Air pollution from traffic in the cities.

5. No control of the industrial liquid effluents and lack of appropriate emission standards in the legislation. Special problem: Hg in the Abou Kamash Chemical industries chloralcali plant

6. Lack of monitoring data on metal pollution from industry

7. Lack of reliable data on active and obsolete pesticide stocks

8. Existence of PCBs stocks in the General Electric Company

9. Lack of public environmental awareness

The National priority actions for 2010

1.	Sewage treatment for the coastal cities: Azzawia, Janzur, Tripoli, Misratah, Sirt, Benhazi, Dernah and Tobruk
2.	Sanitary landfills for the solid wastes of the cities: Azzawia, Janzur, Tripoli, Misratah, Sirt, Benhazi, Dernah and Tobruk. Improvement of solid waste collection in the cities
3.	Regional site for treatment and disposal of hazardous chemical waste
4.	Control of air emissions from the cement industry (electrostatic precipitators in 3 of the 6 existing plants)
5.	Introduction of standard specifications for industrial waste emissions
6.	Establishment of one central environmental laboratory
7.	Capacity building program
8.	Environmental education and awareness
9.	Economic instruments program

Overview of the actions scheduled for 2015 and 2020

1. Sewage treatment for the coastal cities: Zuwarah, Sabrata, Khums, Zilten, Ajdabiya
2. Sanitary landfills for the solid wastes of the cities: Al Nigat Al Khams, Surman and Sabrata, Jifarah, Tajura, Tarhunah – Masallatah, Al Mergib, Ajdabiya, Al Hizam Al Akhdar, Al Marj, Al Bieda, Al Ghobba, Al Batnam. Improvement of solid waste collection in the cities
3. Construction of solid waste recycling and compost plants at Al Nigat Al Khams, Azzawiya, Al Megrib, Sirt, Ras Lanuf – Brega, Ajdabiya, Al Marj, Tobruk
4. Control of air emissions from the remaining 3 plants of the cement industry (electrostatic precipitators)
5. Use of natural gas instead of heavy fuel in all electric power plants
6. Use of standard specifications to control industrial waste emissions
7. Establishment of regional environmental laboratories
8. Capacity building program
9. Environmental education and awareness

Compatibility of actions vis-à-vis the SAP targets

With the successful implementation of the 2010 planned actions, most (but not all) of the Libyan cities with a population above 100,000 will have a treatment plant for their domestic effluents and a sanitary landfill to dispose off their solid wastes, according to the SAP targets.

The anticipated reduction in the pollution load disposed to the sea, as presented in the Libya's NAP, is presented in the following Table.

	Estimated wastewater quantity 1000 m3/day	**Pollutant Ton/year**				
		BOD5	**TSS**	**Total N**	**Total P**	**Pb**
Total	574.4	48,509.1	64,288	10,971	1,164.8	1,164.8
Reduction	43.2	33,799	50,697	8,463	940	940
% of reduction	80.5	69.7	78.9	77.1	80.7	80.7

The public participation foreseen to implement the actions

The Environmental General Authority will take a leading role in environmental education and awareness programs, through providing such programs with environmental information, publications, and videotapes. Local radio services will help in this regard by interviewing people reporting their views and comments and incite them to participation in environmental work in general. Environmental education may concentrate on:

- Cleaning swimming beaches all year round
- Banning shore fill-in with building material's waste and refuge
- Avoiding throwing solid waste like scrap metal, household equipment, etc, in water courses
- Educating people about the importance of seawater and shores as rich natural resources
- Enhancement of environmental culture and behavior may be secured through mass media, summer youth camps, etc. Participation of influential personalities (like religious men, intellectuals and dignitaries) in local communities.

The cost estimate for the implementation of the actions

Project name	Cost in million Libyan Dinars	Funding source	Commencement datee
1. **Sewage treatment plants maintenance and construction**: - Azzawia - Janzur - Tripoli - Misratah - Sirt - Benhazi - Dernah - Tobruk	(Total 109) - 6 - 10 - 30 - 15 - 5 - 30 - 5 - 8	The National Program of water and wastewater	2004
2. Sanitary landfills for the solid wastes of the cities: Azzawia, Janzur, Tripoli, Misratah, Sirt, Benhazi, Dernah and Tobruk. Improvement of solid waste collection in the cities	Total 42.75	Shabeyats local budget	2007
3. Regional site for treatment and disposal of hazardous chemical waste (1 site)	7	Government budget	2007
4. Control of air emissions from the cement industry (electrostatic precipitators in 3 of the 6 existing plants)	36	Different sources (public + industries)	2006
5. Introduction of standard specifications for industrial waste emissions	1.5	Government budget	2006
6. Establishment of one central environmental laboratory	20	Government budget	2006
7. Capacity building program	0.75	Government budget	2006
8. Environmental education and awareness	0.75	Government budget	2006
9. Economic instruments program	0.5	Government budget	2007

The total cost is estimated to be 218,150,000 LD (or 135,700,000 Euros).

NATIONAL ACTION PLAN

MALTA

Assessment analysis of the issues included in the NAP

Fourteen environmental issues were considered in a detailed multi-criteria analysis. The issues were ranked in a priority order, according to the total computed risk they represent:

1. Sewage (including BOD from industrial discharges)
2. Shoreline construction (coastal works)
3. Nutrients and SS including agricultural runoff
4. saltmarsh/sand dunes/wetland alteration
5. Hazardous wastes: spent lub oils
6. Marine waters and coastal watershed alteration
7. Erosion
8. Hazardous wastes: Obsolete chemicals (PCBs etc)
9. Urban Solid Waste
10. Biological alteration
11. Mineral extraction (quarries/sand)
12. POPs (including components of listed pesticides, PCB, dioxins and furans)
13. Heavy Metals and Organometallic compounds (Hg,Cd,Pb,)
14. Hazardous wastes: Batteries and associated chemicals
15. Air pollution
16. Organolhalogens (including pesticides)
17. Radioactive Substances

The discharge of untreated sewage has been identified as the top priority environmental issue for the country.

The National priority actions for 2010

Action
Sewage Management (domestic and industrial) • WWTP of Weid Ghammieq (Malta) • WWTP of Cumnija (Malta North) • WWTP of Ras il-Hobz (Gozo island) • Extend sewage network to serve all premises • Improve reliability of coastal pumping stations • Enforce removal of illegal rainwater connection to the sewer • Elimination of oil discharges from shore installations
Solid Waste Management • Find disposal solution for WWTP's sludge • Reduce amount of biodegradable waste dumped in the landfill (Recycling) • Increase and improve composting process and biogas recovery in Sant' Antnin Facility • Create a new sanitary landfill at Ghalis (Malta) and a transfer station at Gozo island • Introducing waste separation at source • Educational campaign
Air Pollution Control • National Programs to control emissions from mobile sources • Introduction of natural gas • Control emissions from landfills • Control emissions from power plants

Pollution by Hg, Cd and Pb • Introduce environmental quality standards for Hg, Cd and Pb for industrial and non-industrial areas (water and sediments) • Ensure the compliance of all discharges to Emission Limit Values
Organohalogen compounds • Reduce by 50% such releases from industrial installations • Introduce Environmental Quality Standards for non-industrial areas • Ensure the compliance of all discharges to Emission Limit Values
Hazardous wastes • Enhance collection of used batteries • Develop data collection on obsolete pesticides • Set in place a formal system for collection of waste oil • Assistance to shipyards to treat oil / water residues

Overview of the actions scheduled for 2025

No specific actions scheduled for 2025 are described in the NAP of Malta.

Compatibility of actions vis-à-vis the SAP targets (2010)

SAP targets for 2010	Actions included in the NAP of Malta
Urban Sewage: Wastewater treatment plants built for all cities with population in excess of 100,000 people	Secondary treatment of all urban and industrial effluents (combined). Three WWTPs are planned to be constructed. Expected pollution reduction: BOD5 94-98%, SS 92-96%, N-NH3 96-97%. **SAP targets will be met.**
Solid wastes: SW's proper management and landfills constructed for all cities with population in excess of 100,000 people	Recycling (25% of waste). New landfill at Ghallis (Malta) and waste transfer station at Gozo island. **SAP targets will be met.**
Industrial BOD5: 50% reduction	Secondary treatment of all urban and industrial effluents (combined).). Three WWTPs are planned to be constructed. Expected pollution reduction: BOD5 94-98%, SS 92-96%, N-NH3 96-97%. Incineration plant for slaughterhouse solid wastes. **SAP targets will be met**.
Heavy metals: 50% emissions' reduction Respect maximum permissible level for sea discharge	Introduction of environmental quality standards for these metals and Emission Limit Values for marine discharges. **SAP targets will be met**.
Air Pollution: Control emissions	Improve traffic management. Promotion of lead-free gasoline, improve inspection of vehicles, use of natural gas.
Organohalogen compounds: Formulation of programs for reduction and control of these substances	Introduction of environmental quality standards for these compounds and Emission Limit Values for marine discharges. **SAP targets will be met**.
Hazardous wastes: Good management and reduce releases from industrial installations. Prohibiting the use, collect and dispose PCBs	Hazardous solid wastes deposited at Sant Antnin Plant according to instructions. Closure of local landfills for these wastes.

	Introduction of environmental quality standards for oil and Emission Limit Values for marine discharges. PCB target already met.
Phasing out of 9 pesticides	Phasing out is completed.

The public participation foreseen to implement the actions

The preparation of ranked priorities was done by a team of experts and of stakeholders. The members of the team were chosen to represent various fields of expertise and relevant sectors of the population including:

- Environmental engineering;
- Private industry and the commercial sector;
- Individual industries such as ship building;
- Representative from the competent authority to deal with solid waste management;
- Representative from the competent authority to deal with liquid waste management;
- Representative from the competent authority to control marine discharges;
- Representative from the competent authority to assess and control coastal
- development projects;
- Representative from the competent authority to control use of pesticides and agrochemicals;
- Academia;
- Voluntary organisations.

Public participation was an important component during the preparation of the NAP and will continue to play a key role for the successful implementation of priority actions. Many of the institutions involved in the implementation of the reduction plans, or in their verification, already have their respective publicity and educational campaigns. The lead agency will enhance its comprehensive website to disseminate information n the protocol as well as to inform on the reductions in emission of pollutants to the Mediterranean. Although not explicitly mentioned in the NAP, the Maltese NGOs are expected to participate actively in the implementation of the NAP actions.

The cost estimate for the implementation of the actions

No Investment Portfolios providing information on the cost of planned actions have been included in the NAP of Malta. Available information is presented in the following Table.

Action	**Cost Million of Maltese Liras**
Sewage Management (domestic and industrial) • WWTP of Weid Ghammieq (Malta South) • WWTP of Cumnija (Malta North) • WWTP of Ras il-Hobz (Gozo island) • Extend sewage network to serve all premises • Improve reliability of coastal pumping stations • Enforce removal of illegal rainwater connection to the sewer • Elimination of oil discharges from shore installations	• **33** (for the construction of all 3 WWTPs)

Solid Waste Management • Find disposal solution for WWTP's sludge • Reduce amount of biodegradable waste dumped in the landfill (Recycling) • Increase and improve composting process and biogas recovery in Sant' Antnin Facility • Create a new sanitary landfill at Ghalis (Malta) and a transfer station at Gozo island • Introducing waste separation at source • Educational campaign	• **5.5** • **0.025**
Air Pollution Control • National Programs to control emissions from mobile sources • Introduction of natural gas • Control emissions from landfills • Control emissions from power plants	• **9** • **0.9**
Pollution by Hg, Cd and Pb • Introduce environmental quality standards for Hg, Cd and Pb for industrial and non-industrial areas (water and sediments) • Ensure the compliance of all discharges to Emission Limit Values	
Organohalogen compounds • Reduce by 50% such releases from industrial installations • Introduce Environmental Quality Standards • Ensure the compliance of all discharges to Emission Limit Values	
Hazardous wastes • Enhance collection of used batteries • Develop data collection on obsolete pesticides • Set in place a formal system for collection of waste oil • Assistance to shipyards to treat oil / water residues	

PLAN D'ACTION NATIONAL

MAROC

Issues environnementales incluses dans le PAN

Les problèmes majeurs de pollution à la cote Méditerranéenne du Maroc sont : manque des stations d'épuration pour les eaux usées domestiques de Tanger (640000 habitants), Tetouan (454000 habitants), Nador (215000) et Al Hoceima (139000) ; gestion insuffisante de déchets solides (collecte partiale, manque de décharges contrôlées), rejet des effluents industriels sans traitement suffisant, gestion insuffisante des pesticides et des PCBs. Le PAN du Maroc propose des actions pour toutes les issues prioritaires.

Actions prioritaires Nationales pour 2010

Eaux usées	• Réalisation d'un système de traitement des eaux usées de l'agglomération de Tanger (première phase) • Réalisation d'un système de traitement des eaux usées de la province de Tétouan • Réhabilitation et extension du système d'assainissement liquide de la province de Nador • Réhabilitation et extension du système d'assainissement liquide de la province d'Al Hoceima
Déchets solides	• Mise à niveau des services d'assainissement solides des provinces du littoral méditerranéen • Mise en place d'un centre de transfert pour l'élimination des déchets industriels dangereux des provinces du littoral méditerranéen • Mise en place d'un système d'élimination des déchets médicaux
DBO_5 d'origine industrielle et Métaux lourds	• Mise à niveau environnemental des unités industrielles et traitement des effluents liquides
Pesticides/PCB	• Mise en place d'un site pilote de démantèlement des appareils à PCB • Élimination des stocks de pesticides périmés dans le cadre du programme africain relatif aux stocks de pesticides périmés (PASP) • Suivi et surveillance des POP dans l'environnement
Huiles usées et piles	• Etude de faisabilité de récupération des métaux des piles électriques • Mise en place d'une filière de collecte et de valorisation des huiles usées dans les provinces du littoral méditerranéen

Actions programmées pour 2025

Eaux usées	• Réalisation d'un système de traitement des eaux usées de l'agglomération de Tanger (deuxième phase) • Réalisation d'un système de traitement des eaux usées de la province de Tétouan (deuxième phase) • Réhabilitation et extension du système d'assainissement liquide de la province de Nador (deuxième phase)
Déchets solides	• Mise à niveau des services d'assainissement solides des provinces du littoral méditerranéen (deuxième phase)
DBO_5 d'origine industrielle et Métaux lourds	• Mise à niveau environnemental des unités industrielles et traitement des effluents liquides (continuation du programme)

Compatibilité des actions prioritaires vis-à-vis des buts de PAS

Rubrique	Objectifs du PAN (2010)	Objectifs du PA Stratégique (2010)	Observations
Eaux usées	30%	50%	Les projets de traitement des eaux usées des régions Tanger et Tétouan prévoient une seconde phase (2017) pour atteindre une réduction globale de 45%. Ces projets sont financés par les fonds propres aux sociétés délégataires.
Déchets solides	95%	50%	
Déchets solides industriels	100%	50%	
Déchets médicaux	100%	50%	
DBO5 industrielle	98%	50%	
Métaux lourds	80%	50%	
Pesticides périmés	100%	50%	
PCB	100%	50%	
Huiles usées	100%	50%	
Piles électriques	100%	50%	

Participation publique anticipée pour la réalisation des actions prioritaires

L'identification des parties prenantes, aussi bien des secteurs publics, semi-public et privé de la société civile (ONG), est une étape capitale du processus d'élaboration du PAN. Elle permet, d'une part, de cibler les acteurs potentiels à contribuer efficacement à la réalisation des objectifs du PAN, et d'autre part, de sensibiliser ces acteurs aux problèmes de dégradations de l'environnement, de susciter leur intérêt à une préservation effective de l'environnement et de solliciter leur engagement à une participation active dans la réalisation et dans le financement des actions du PAN.

La liste non exhaustive des parties prenantes ainsi identifiées se présente comme suit :

Pour le secteur public et semi-public :

- ✓ Département de l'Environnement
- ✓ Ministère de l'Industrie et du Commerce
- ✓ Direction Générale des Collectivités Locales (DGCL)
- ✓ Office National de l'Eau Potable (ONEP);
- ✓ Office de Développement et d'Exploitation des Ports (ODEP)
- ✓ Agence de Bassins Hydrauliques de Moulouya
- ✓ Agence de Développement du Nord
- ✓ Agences Urbaines
- ✓ Directions et Délégations Provinciales
- ✓ Directions et Inspections Régionales
- ✓ Provinces, Municipalités et Communes
- ✓ Institut National de la Recherche Halieutique (INRH)
- ✓ Institut National de la Recherche Agronomique (INRA)
- ✓ Radio Télévision Marocaine (RTM)

Pour le secteur privé :

- ✓ AMENDIS
- ✓ CESPA-NADAFA
- ✓ Régie Autonome de Distribution d'Electricité, d'Eau de Nador (RADEEN)
- ✓ Industriels des provinces de Tanger, Tétouan, El Hoceima et Nador

Pour la société civile :

Concernant la société civile, plusieurs ONG sont actives dans le domaine de l'environnement en général, et du littoral Méditerranéen en particulier.

Les partie prenantes ainsi identifiées sont associées à l'élaboration du PAN et à la mise en œuvre de ses actions dans le cadre d'une démarche participative, d'information et de sensibilisation, à toutes les étapes du processus depuis l'identification des principaux problèmes environnementaux jusqu'à la réalisation des actions préconisées. Ce processus de concertation et de participation est indispensable à la mobilisation et à la sensibilisation de l'ensemble des acteurs concernés sur les problèmes environnementaux identifiés et sur la nécessité de participer activement à la mise en œuvre des actions du PAN.

<u>Estimation du coût de réalisation des actions prioritaires</u>

L'investissement global pour la mise en œuvre du PAN est de l'ordre de 500 millions de Dh. Il est réparti en fonction des actions du PAN comme suit.

Action	Coût (Millions de Dirhams)	Financement
Réalisation d'un système de traitement des eaux usées de l'agglomération de Tanger (interception des eaux usées, station d'épuration primaire, émissaire en mer (2200, extension du réseau d'assainissement)	704 (2004-2006) [en plus 350 millions de Dirhams sont prévus pour des actions additionnelles après 2012]	Fonds de la société AMENDIS
Réalisation d'un système de traitement des eaux usées de la province de Tétouan (interception des eaux usées, stations d'épuration primaire a Azla, Oued Negro et Saint Torres, 2 émissaires en mer, extension du réseau d'assainissement	880,4 (2005-2007) [en plus 293,5 millions de Dirhams sont prévus pour des actions additionnelles entre 2007 et 2027]	Fonds de la société AMENDIS
Réhabilitation et extension du système d'assainissement liquide de la province de Nador (interception de l'ensemble des rejets liquides deverses dans la lagune de Nador et des eaux usées de El Aaroui et Zaio, station d'épuration primaire	272,4 [2005-2010] [en plus 185,6 millions de Dirhams sont prévus pour des actions additionnelles après 2010]	Office National de l'Eau Potable (ONEP) et LA société RADDEEN (Régie Autonome de Distribution d'Electricité, d'Eau de Nador)
Réhabilitation et extension du système d'assainissement liquide de la province d'Al Hoceima (stations d'épuration primaire)	242	Aide Française de Développement (AFD)
Mise à niveau des services d'assainissement solide des	71	Publique

Action	Coût (Millions de Dirhams)	Financement
provinces du littoral méditerranéen (Tanger, Tetouan, Nador, Al Hoceima)		
Mise en place d'un centre de transfert pour l'élimination des déchets industriels dangereux des provinces du littoral méditerranéen (études et aménagement de base du centre)	4	Publique
Mise en place d'un système d'élimination des déchets médicaux (4 installations)	8	Publique
Mise à niveau environnemental des unités industrielles et traitement des effluents liquides	413 (322 Région de Tanger, 91 Région de Tetouan)	Fonds de Dépollution Industrielle (FODEP), Agence Allemande de Coopération Financière (KFD), Industries Privées
Mise en place d'un site pilote de démantèlement des appareils à PCB	1	Partenaires publics et prives, aide bilaterale
Elimination des stocks de pesticides périmés dans le cadre du programme africain relatif aux stocks de pesticides périmés (PASP)	0,7	ONUDI, FODEP
Suivi et surveillance des POPs dans l'environnement	0,4	USAID, ONUDI, Fonds Publiques
Mise en place d'une filière de collecte et de valorisation des huiles usées dans les provinces du littoral méditerranéen	1,3	Compagnies privées, autorités locales et ONGs locales
Etude de faisabilité de récupération des métaux des piles électriques	0,6	Fonds Publiques

PLAN D'ACTION NATIONAL

MONACO

Issues environnementales incluses dans le PAN

La Principauté de Monaco est une agglomération urbaine moins de 100.000 habitants (32.020 en 2000), mais elle possède déjà un réseau d'assainissement des eaux usées et pluviales qui débouche dans une station de traitement des eaux usées. Les déchets urbains sont incinérés respectant les normes européennes de la qualité des rejets gazeux. En plus l'incinérateur sera vraisemblablement fermé à l'horizon 2020. Toutes les industries locales font récupérer les déchets industriels spéciaux par des sociétés spécialisées afin de réaliser leur destruction en France. Les eaux usées industrielles sont traitées avec les eaux usées domestiques a la station d'épuration. Généralement, les problèmes environnementaux son sous control.

Actions prioritaires Nationales pour 2010

Secteur	Action
Eaux usées urbaines	• Récupération des premières eaux de pluie sur les délaissés SNCF via des bassins de rétention
Déchets solides urbains	• Améliorer les collectes sélectives
Pollution atmosphérique	• Attribuer une priorité aux transports en commun • Utilisation des véhicules électriques
Métaux lourds	• Mesure du Cd et du Hg en sortie de la station d'épuration et introduire des valeurs limites dans la législation
Organohalogenes	• Enquête sur l'utilisation des pesticides et herbicides a la Principauté

Actions programmées pour 2015 et 2020

Le PAN de Monaco ne comprends pas des actions programmées pour 2025, mais tous les objectifs du PAS pour cette date limite seront respectés.

Compatibilité des actions prioritaires vis-à-vis des buts de PAS

Rubrique	Objectifs du PA Stratégique (2010)	Objectifs du PAN MONACO (2010)
Eaux usées	Traitement des eaux usées des agglomérations supérieures à 100000 habitants	Objectif du PAS atteint
Déchets solides	Décharge contrôlée aux agglomérations supérieures à 100000 habitants	Objectif du PAS atteint
Dépollution industrielle	Réduire de 50% les rejets, les émissions et les pertes des substances TPB Réduire de 50% le DBO_5	Objectif du PAS atteint
Déchets spéciaux industriels	Eliminer 50% des déchets dangereux	Objectif du PAS atteint

Participation publique anticipée pour la réalisation des actions prioritaires

Le PAN du Monaco ne contient pas des informations sur la participation publique pour la réalisation des actions prioritaire.

Estimation du coût de réalisation des actions prioritaires

Le PAN du Monaco ne contient pas des informations sur le coût de réalisation des actions prioritaires.

NATIONAL ACTION PLAN

SERBIA & MONTENEGRO

Assessment analysis of the issues included in the NAP

The Municipalities of Herceg Novi, Kotor, Tivat, Budva, Bar and Ulcinj, share similar problems in the management of municipal sewage and solid wastes. The sewage collection network is old and malfunctioning, wile untreated effluents are discharged into the sea through short outfalls, which often lack operational diffusers. Also septic tanks are often emptied into the rainwater network (25%). Municipal solid waste management is totally inadequate, since not a single sanitary landfill is operating in the area. Furthermore, because of the location of many industries in the coastal zone, hazardous wastes and heavy metals emissions constitutes a serious problem (Shipyards at Bijela, Metal industry and petroleum hydrocarbons storage at Kotor, chemical plant at Tivat). Also the industrial and commercial harbor of Bar is an important pollution source for the area.

The National priority actions for 2010

Priority Problems	Emission pollution	Measures	Expected reduction %	Time framework
Waste waters management*	BOD cca 6.444t TN cca 1.060t Tpcca 376t	WWtP, Tertial treatment of the waster waters	50%	To 2010 for Boka Kotorska Bay
Urban solid waste*	cca 60.276t	Landfills, selection, collecting, reduction through recycling	55%	To 2015
Hazardous and industrial waste **Medical waste, Mud from WWTP**	cca 668t cca 1.007t 2.805t[1]	Landfills, selection, collecting, reduction through recycling and composting	40% 50% 50%	To 2010 (burning to 2015) To 2010 To 2019
Heavy metals	Data are not available	BAT Colllecting and recycling	For liquid emission reduction in the source	Depends from the financial means provision
PCB	Data are not available	Decontamination of the equipment, collecting and exportation	-	Adopting the reguloations and obligations from the Protocol about POPs
Lubricating oils	cca1.25t	Collecting and recycling	50%	To 2010 (oils from the ports which collect pf"Hemosan")
Batteries and accumulators	Data are not available			2010

*Emission amunt is relaed on the estimation of total emission for inhabitants, economy and tourists and is given detailed in the BB and NDA

[1]Production of the mud from WWTP in Coastal region will begin with building of the WWTP, in middle term period (2009-2019).

Overview of the actions scheduled for 2025

All sources of pollution in the coastal area are planned to be controlled until 2025. Although few actions are already scheduled for that horizon (the management of sewage sludge produced from the WWTP, which will be build in the near future and the completion of sanitary landfills). However, if some of the actions scheduled for 2010 will not be completed until that deadline, they will be implemented in the period 2010-2025.

Compatibility of actions vis-à-vis the SAP targets (2010)

Pollutant	Pollutant releases	Measures	Expected reduction %	SAP target for 2010
Waste waters management	TN 530t TP188t	WWtP, Tertial treatment of the waster waters	50% for boka Kotorska Bay	Dispose seage for cities >100.000 in conformity with LBS
Solid waste management	27.124t	Landfills, selection, collecting, reduction through recycling	55%	Solid waste management for cities >100.000
Hazardous and industrial waste **Medical waste, Mud from WWTP**	401t 503t -	Landfills, selection, collecting, reduction through recycling	40% 50% -	50% reduction
Pollution caused by Hg, Cd, Pb	Data are not available	BAT Colllecting and recycling	-	50% reduction
PCB	Data are not available	Decontamination of the equipment, collecting and exportation	100%	Collect and sipose all PCB
Lubricating oils	Data are not available	Collecting, recycling	50%	50% collected and disposed in an environrmental manner
Batteries and accumulators	Data are not available	Collecting, recycling in frame of com.of the waste	40%	20% reduction of generation, 50% collected and disposed in an environmental manner

* The estimated emission from inhabitants

The public participation foreseen to implement the actions

The following measures are planned:

- Inter resources cooperation in the implementation of the mutual projects.
- Introduction of regular working meetings between the Ministry of the Environment Protection and Physical Planning, and NGOs and other interested groups
- NGOs integration in the preparation of the strategic documents and regulations,
- Transfer of the public functions in the NGOs (ecological information centre),
- Introducing of a special link to the web pages of the Ministry of the Environment and Physical Planning
- Training of public servants on the citizens' right to access ecological data
- Determination and strengthening of the inter-Ministerial cooperation
- Promote environmental education programs in all levels of the education level

The cost estimate for the implementation of the actions

Priority problems		**Cost (in Euros)**	**Financing sources**	**Date of start**
Waste water management	I phase	27.70.000	Credits 50% Donations 45% Budget of PEWS And S 5%	2004
	II phase	82.400.000	Credits 75% Donations15% Budget of PEWS 10%	2009
	III phase	170.000.000	Credits 75% Donations 0% Budget of PEWS And S 25%	2019
	Total	280.800.000		2005
Solid waste management	• **Urban waste**	2.725.876 2.608.302	Local organs (+private sector(	2005 2014
	• Hazardous waste	3.021.700[1]	Credits Donations	
	• Medical waste	430.000[1]	Credits Donations	2005
	• Mud from WWPT	2.086.000 1.061.500	Credits Donations Compensation for mud	2009 2019
	• Recycling	8.686.202[1] 5.965.891[1]	Credits Donations	2005 2009
	• Building of new landfills	2.350.000.[2] 5.400.000[3]	Credits Donations	2005 2005
	• Sanation of the existing dump	1.554.269.20 1.167.688.50 85.300.50	Credits Donations	2005 2009 2019
Lubricating oils	In frame of the sector of solid waste			

Priority problems		Cost (in Euros)	Financing sources	Date of start
Batteries, accumulators	In frame of the sector of solid waste			
PCB	In frame of the sector of solid waste			

NATIONAL ACTION PLAN

SLOVENIA

Assessment analysis of the issues included in the NAP

Wastewaters are an issue of primary concern at the Slovenian coast. Municipal wastewaters in Koper and Piran receive only primary treatment, while municipal wastewaters in Izola have no treatment at all. Other issues are mostly of moderate or minor concern. The principal industries in the coastal region thus include metal manufacturing, production of chemicals and food industry and some regions in the watershed are also strongly industrialized, especially the region along the Soča River. The main industries in the watershed include cement, lime and metal manufacturing, timber and food industry. The Soča River is the main input of pollutants to the Gulf of Trieste from the northern and central part of its watershed. Since it partly flows on the Italian territory, both pollutant emissions, Slovenian as well as Italian are discharged to the Gulf via the Soča River. The Reka River is an outlet to the Gulf for pollutants emitted in the southernmost part of the watershed.

Transboundary pollution is an important issue in the Gulf of Trieste. Considerable source of pollution, affecting the water quality, is the nearby town of Trieste, with its population and industry. Moreover, conditions in the Gulf of Trieste are also determined by general conditions of the whole northern Adriatic basin and reflect different coastal zone managements of the existing parties.

The National priority actions for 2010

Priority issues	Actions
Sewage management	• Construction of the WWTP of Kopper and Isola (tertiary treatment) • Modernization of the WWRP of Piran (tertiary treatment) • Connection of nearby villages to the WWTPs
Urban solid waste	• Waste separation • Waste recycling (50%)
Pollution caused by Hg, Cd and Pb	• Reduce Hg emission from Idrija mine
Organohalogens - PCBs	• Al PCB devices to be decontaminated or removed
Wastewaters from industrial installations	• Implementation of BAT to industrial plants
Lubricating oils	• Creation of additional collection sites and recycling (collect 50% of lub oil)
Batteries and accumulators	• Reduction (20%) of generation • Collection and disposal (50%) in environmentally safe manner

Overview of the actions scheduled for 2025

Priority issues	Action
Sewage management	• Treatment of rainwater runoff (2017)
Urban solid waste	
Pollution caused by Hg, Cd and Pb	
Organohalogens and PCBs	
Wastewaters from industrial installations	
Lubricating oils	
Batteries and accumulators	

Compatibility of actions vis-à-vis the SAP targets (2010)

POLLUTANT	POLLUTANT RELEASES	MEASURES	EXPECTED DECREASE OF POLLUTANTS EMISSION (%)	SAP TARGET FOR 2010
Sewage management[1]	TN: 100 tons TP: 10 tons	tertiary treatment of WWTP	TN: 70% TP: 80%	dispose sewage from cities >100,000 in conformity with LBS
Urban solid waste	128,000 tons	separate collection and reduction by recycling	process 50% of total weight of urban solid waste	solid waste management for cities >100,000
Pollution caused by HG, CD, PB	HG: 0.1 kg CD: 0.1 kg PB: 1.4 kg	emissions are not relevant	-	50% reduction
Organohalogens	no data available	-	-	reduce discharges
Wastewaters from industrial installations	TN: 19 tons TP: 6.5 tons	BAT	according to adopted BAT	50% reduction
Lubricating oils	12,800 tons	additional collection sites, recycling	collect 50 % of the generated lub oils	50% collected and disposed in an environmental manner
Batteries and accumulators	PB: 4,163 tons Ni-Cd: 12.7 tons	collection, recycling	20% reduction of generation, 50% collected and disposed in an environmental manner	20% reduction of generation, 50% collected and disposed in an environmental manner
PCB	10.8 tons	decontamination/destruction of PCB containing devices	100%	Collect and dispose all PCB

[1] Reduction of emitted pollutants in relations with actual releases for sewage management is presented only for WWTPs listed in *Baseline Budget* and *National Diagnostic Analyses*. Actual releases are higher because there are no emission data for agglomerations not connected on WWTPs.

The public participation foreseen to implement the actions

Public participation is of key importance to successful implementation of sustainable development. Therefore, integration of various interest groups is of key importance to the forming of decisions – from their preparation to realisation. It is early public integration and participation in the preparation of developmental strategic documents, which assures that these documents will satisfy the needs of a large number of people, create affiliation, reduce interest conflicts and augment the initiative for realisation of plans.

Goals according public participation:

- ✓ open up political area for all civil society operators,
- ✓ enhance culture of openness and free access to information,
- ✓ ensure active participation of various public in the legislative processes of the Ministry of the Environment, Spatial Planning and Energy,
- ✓ link various environmental operators,
- ✓ proactive role of environmental operators with regard to mass media,
- ✓ upgrading of comprehensive information system of environmental protection.

The goals will be achieved by the following measures:

- ✓ inter-branch cooperation for implementation of joint projects,
- ✓ introduction of regular working meetings of the Ministry of the Environment, Spatial Planning and Energy and NGOs and, where necessary, other interest groups,
- ✓ integration of NGOs in the preparation of strategic documents and regulations,
- ✓ transfer of public functions to NGOs (e.g. environmental information centre),
- ✓ linking the websites of the Ministry of the Environment, Spatial Planning and Energy into a single entry point,
- ✓ training and informing civil servants at all levels about the right to access environmental data,
- ✓ preparation of instructions on obtaining environmental information.

The cost estimate for the implementation of the actions

PRIORITY ISSUE	COSTS	FUNDING SOURCES	COMMENCEMENT DATE
Sewage management[1]	165 millions € (till 2015) Waste water treatment plants: 52 millions € Sewage system: 113 millions €	State budget: 6 % Municipality budgets: 4% EU funds: 4% Waste water tax: 39 % Loans for infrastructure: 36 % Financing from Waste water treatment service: 11%	(1995)[2] 2003
Urban solid waste[3]	53 millions € (till 2008)[4]	State budget: 9% Municipality budgets and Urban solid waste service: 22% Urban solid waste tax: 30% EU funds: 39 %	2003
Pollution caused by HG, CD, PB	emissions not relevant, thus no costs estimated		
Organohalogens	no data available, thus no costs estimated		
Wastewaters from industrial installations	-	Private sector, Loans from Environmental found, Loans form other financing institutions	(1995)[5] 2004
Lubricating oils[6]	6 millions € (till 2006)	State budget, Private sector	2003
Batteries and accumulators[7]	10,000 € (per year)	Municipality budgets and Urban solid waste service	2003
PCB[8]	0.5 million € (till 2006)	Private sector, State budget	2003

[1] According to the *Operational Programme for the Collection and Treatment of Urban Waste Water*.
[2] According to the *Decree on the Water Pollution Tax*.
[3] According to the *Operational Programme for the Waste Disposal with a view to Reducing the Quantities of Disposed Biodegradable Waste by the End of 2008*.
[4] 15% of the total costs for Slovenia (353 millions €).
[5] According to the *Decree on the Water Pollution Tax*.
[6] According to the *Operational Programme for Waste Oil Management for the Period from 2003 to 2006*.
[7] According to the *Operational Programme for Waste Batteries and Accumulators for the Period from 2003 to 2006*.
[8] According to the *Operational Programme for the Disposal of PCBs and PCTs for the 2003-2006 Period*.

NATIONAL ACTION PLAN

SPAIN

Assessment analysis of the issues included in the NAP

The inventory of emissions in Spain (Baseline Budget) has been developed using the data available from the EPER database, and selecting the Mediterranean administrative regions. Emissions to air, water and coastal emissions are calculated for each region and pollutant considered in the SAP. Agro-food industries (including farms) are the most represented in the Spanish BB.

Specific analysis of emission data was carried out to identify industrial 'hot spots'. As a result, the following sites were identified as potential hot spots in Spain:

Emissions to water	**Coastal emissions**	**Air emissions**
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		

These hot spots accounts for the majority of total emissions included in the Baseline Budget. The main industrial sectors contributing to these emissions are the chemical sector, the metal industry, and combusting installations. However, these hot spots have been identified on the basis of its emissions, no data has been collected related to concentrations in the nearby environment.

Sensitive areas in the Mediterranean region have also been identified, and two of them have been found to be potentially affected by two hot spots, in Murcia (Valle Escombreras) and Almeria (Carboneras).

The National priority actions for 2010

The NAP includes the following proposals for action:

GENERIC MEASURES	
SAP targets	Integration of SAP temporal and % targets concerning reduction of discharges into the national regulatory framework
Baseline Budget	To include into the NBB those substances and industrial sources included in the SAP, but not considered in the Spanish NBB
Hot Spots	Urgent actions in identified priority hot spots (14)
Water	To develop actions foreseen by the adoption of the European Water Framework Directive
BAT	To propose to develop BAT in those SAP sectors not included in EU IPPC regulation. To promote adoption of BAT in priority sectors.
URBAN CENTRES	
Wastewater	To ensure that national legislation includes all provisions from Annex II of LBS Protocol. To apply national legislation addressing nutrients, specially the adoption of tertiary treatments in areas with problems of eutrophization
Solid waste	No additional measures to national and regional programs are needed
Air pollution	To promote changes in energy consumption patterns: - use of biofuels in public transport - promotion of public transport and by bicycle - to optimize household heating systems - substitution of coal boilers - adoption of good practices codes on driving - promotion of photovoltaics in new buildings
INDUSTRIAL SECTOR	
Heavy metals	To apply measures included by the European Water Framework Directive. To promote additional measures in coastal regions oriented to reduce emissions of heavy metals.
	To ensure the adoption of SAP targets in strategic programs, specially in those industrial sectors more affected.
	To propose to the Barcelona Convention the adoption of emission limits (standards) for heavy metals, considering the adoption of BATs, for coastal and inland wasters, and for air emissions
	To develop monitoring programs in priority hot spots
	To restrict the use of Cd, Hg and Pb. To apply the future European strategy on Hg.
Oganohalogen compounds	To apply in the most affected regions and specially in the chemical sector the following actions: - to adopt the substitution principle as defined in the EU

	- to set emission limits under the current IPPC regulatory framework - production of pesticides: to apply European regulatory framework - Ebro basin (main hot spots): to adopt the SAP targets in the next Basin Hydrologic Plan - To promote reduction of short-chain chlorinated paraffins, following EU and international initiatives - To promote reduction of tri, tetra and penta chlorophenol in wood treatment
POPs	To approve the NAP for the Stockholm Convention: - to set specific proposals to adapt to national regulatory framework - to include in the NBB those POPs not included in the current BB (future use of the PRTR) - elimination of any use of DDT, in spite of exemptions included in the Convention - consideration of substance included in the Stockholm Convention into the Barcelona Convention
Radioactive substances	No additional measures to the national regulatory framework are needed
Nutrients and suspended solids	Industrial wastewaters: - Determination of standards and criteria adopted by the Parties - To further develop national plans, considering SAP targets - To promote voluntary agreements with priority sectors (chemical industry, agro-food, textile), considering the recommendations in BREFs - To promote and regulate the adoption of tertiary treatments for industrial wastewater Agriculture: - To consider SAP targets in current strategic plans in the sector, as in good practices codes. - To enhance the participation of Spain in FAO's programs addressing sustainable agriculture and rural development - To continue to apply the national plan against desertification
Hazardous waste	- To consider SAP targets in current and future regional plans for HW management, as well as in the national HW Plan 2001-2006. - Approval of the HW National Plan 2001-2006 - To promote the final development of BREFs related to waste management, chemical industry, energy production and mining. - More investment in BATs leading to HW reduction

	- To ratify the Protocol on Hazardous Wastes, or continue with an active participation in the Basel Convention.
Specific waste	- to create a national inventory for obsolete chemicals, luboils and batteries - to adopt SAP targets in strategic plans, specially in those regions without specific plans, and to develop integrated management systems

Overview of the actions scheduled for 2025

No specific actions are planned for 2025.

Compatibility of actions vis-à-vis the SAP targets (2010)

GENERIC OR COMMON MEASURES

GENERIC OR COMMON MEASURES			
SAP ISSUE		**LEVEL OF ACHIEVEMENT**	**COMMENTS**
GENERIC	TARGET: by 2025, emissions in conformity with LBS and other internacional agreements	Medium	National and EU measures are being adopted, and will tend to reduce loads of pollutants
	TARGET:: in 10 years, 50% reduction in loads and emissions of PTS from industrial sites		
	TARGET:: in 10 years, 50% reduction of loads and emissions from industrial hot spots		

GENERIC OR COMMON MEASURES			
REDUCTION AND ELIMINATION TARGETS			
SAP ISSUE		**LEVEL OF ACHIEVEMENT**	**COMMENTS**
HEAVY METALS	TARGET: by 2025 phase out of discharges of Hg, Cd, Pb	Medium	With respect to heavy metals, Law 16/2002 on IPPC, sets emission limits, considering the adoption of BATs. Some specific regulations set emission limits for Pb (air), and Cr and Cd to continental waters. Besides this, Cd and Hg have restricted uses. Organohalogens are also regulated under Law 16/2002.
	TARGET:: by 2005 50% reduction of discharges of Hg, Cd, Pb		
	TARGET: by 2000 25% reduction of discharges of Hg, Cd, Pb		

ORGANOMETALLIC	TARGET:: by 2010 phase out of discharges of organomercury compounds, and organolead and organotin		
	Target: by 2010 50% reduction of discharges of organometallic		
	TARGET:: to phase out by 2005 the use of organomercuric compounds		
OTHER HEAVY METALS	TARGET:: to eliminate the fullest pollution from discharges of Zn, Cu and Cr		
	TARGET:: by 2010, to reduce discharges of Zn, Cu, and Cr		
ORGANOHALOGEN	Target: to eliminate the fullest pollution from discharges of ornahalogen		
	TARGET:: by 2010, to reduce discharges of organohalogen		

GENERIC OR COMMON MEASURES			
ADOPTION OF ENVIRONMENTAL AUDITS AND BATS AND BEP			
SAP ISSUE		**LEVEL OF ACHIEVEMENT**	**COMMENTS**
HEAVY METALS	1. Adoption of BATs and BEPs to reduction of industrial sources, giving priority to installations located in hot spots	Medium	The IPPC scheme adopted in Spain, periodically reviewed, which promotes the adoption of MTDs and BEP, have an effect in the progressive reduction of pollution, although no specific targets (in time or in %) are established.
ORGANOMETALLIC			

OTHER HEAVY METALS			
ORGANOHALOGEN COMPOUNDS			
GENERIC OR COMMON MEASURES			
INVENTORIES			
SAP ISSUE		**LEVEL OF ACHIEVEMENT**	**COMMENTS**
GENERIC	MEASURE: inventory of industrial hot spots and areas of concern	High	The Spanish Baseline Budget has been carried out, including air and water emissions, which has already been reviewed and updated once. It is expected to be enlarged and improved in the forthcoming years. The NBB has been derived from the EPER Register, which includes 50 pollutants.
GENERIC	MEASURE: inventory of hot spots from public sector	–	
ORGANOMETALLIC	MEASURE: inventory of uses and quanitities of organomercuric used	Low	Inventories of uses and quantities in Spain are not available, although they are being prepared.
ORGANOHALOGEN	MEASURE: inventory of uses and quantities of pesticides and organohalogen compounds		
	MEASURE: inventory and uses and quantities of chlorinated paraffins		
VOLUNTARY AGREEMENTS			
H**EAVY METALS**	MEASURE: to prepare voluntary agreements to which authorities, producers and users are committed on the basis of a reduction plan	Medium-High	Several agreements between authorities and industrial sectors are in place, altough somtimes only generic targets of reduction are defined, without setting types of substances and periods of time to be achieved.
ORGANOHALOGEN	MEAURE: to prepare voluntary agreements to which authorities, producers and users are committed on the basis of a reduction plan		

HAZARDOUS WASTE	MEASURE: to prepare voluntary agreements to which authorities, producers and users are committed on the basis of a reduction plan		
GENERIC OR COMMON MEASURES			
NATIONAL PROGRAMMES			
SAP ISSUE		**LEVEL OF ACHIEVEMENT**	**COMMENTS**
HEAVY METALS	MEASURE: to prepare national programme on the reduction and control of Hg, Cd and Pb	Medium	No specific plans for reduction have been identified, however, these pollutants are included in different plans on wastes, atmospheric pollution reduction, and wastewater treatment, promoted at national and regional level.
ORGANOHALOGEN	MEASURE: to prepare national programme on the reduction and control of organohalogen compounds		
HAZARDOUS WASTE	MEASURE: national programme for HW management, including evaluation of generation and financial resources for environmental sound collection and disposal	High	A National Plan on Hazardous Wastes was approved for 1995-2000, and a new Plan exists for 2001-2006. At regional level (autonomous communities), also specific plans for HW exists.
- PROGRAMMES FOR COLLECTION, RECYCLING, TREATMENT AND ELIMINATION OF SPECIFIC WASTES-			
OBSOLETE CHEMICALS	MEASURE: training programmes for identification, handling and disposal of obsolete chemicals	Low	No general pilot programmes are being developed, but occasional ones Several initiatives exist: a regulation is being prepared to establish deposit system for used batteries; there is a National Programme on Batteries and used batteries; and each regional government is responsible for the management of these wastes in its territory.
LUBOIL	MEASURE: national pilot programmes for collection, recycling and disposal of luboils		
BATTERIES	MEASURE: pilot programmes for collection, recovery and safe disposal of used batteries	High	

	MEASURE: pilot programmes for collection, recovery and safe disposal of used batteries from the public services sector and military establishments	High	High in relation to public services
GENERIC OR COMMON ISSUES			
SMALL AND MEDIUM ENTERPRISES			
SAP ISSUE		**LEVEL OF ACHIEVEMENT**	**COMMENTS**
GENERIC	MEASURE: to promote association between SME in order to minimize waste generation and collective wastewater treatment	Low/Medium	Voluntary agreements are the most suitable instrument to develop this measure in SAP.

INDUSTRIAL SECTOR

HEAVY METALS *			
SAP ISSUE		**LEVEL OF ACHIEVEMENT**	**COMMENTS**
SAP MEASURES	To adopt at the national level and apply the common measures for preventing mercury pollution adopted by the Parties in 1987 (releases into the sea, max. conc. 0.050 mg/l).	High	Regulatory mechanisms are in place which complies with these measures
	To adopt and apply for the industries of the alkaline chloride electrolysis sector, as well as the previous standard, the maximum value of 0.5 grams of mercury in the water per tonne of chlorine production capacity installed (brine recirculation), 5 grams of mercury in the water per tonne (lost brine technology) and, if possible, 2 g of mercury from total releases into water, air and products).	High	
	To adopt at the national level and apply the anti-pollution common measures for cadmium and cadmium compounds adopted by the Parties in 1989 (releases into the sea, max. conc. 0.2 mg/l).	High	
ORGANOMETALLIC COMPOUNDS			
SAP ISSUE		**LEVEL OF ACHIEVEMENT**	**COMMENTS**
SAP MEASURES	To promote the use of lead-free petrol	High	Lead-petrol is currently prohibited in Spain, with some exceptions for special old vehicles
	To phase out the use of organotin compounds as anti-fouling agents in cooling systems	Low	This measure has not been identified within the Spanish legislation

OTHER HEAVY METALS			
SAP ISSUE		**LEVEL OF ACHIEVEMENT**	**COMMENTS**
SAP MEASURES	To adopt at the national level and apply the common measures to control pollution caused by zinc, copper and their compounds adopted by the Parties in 1996 (releases into the sea, max. conc. 1.0 mg/l for zinc and 0.5 mg/l for copper).	Medium	Current legislation on discharges to waters (inland or coastal) does not establish generic limits for Zn and Cu, but Royal Decree 606/2003 establish that discharge permits will set limits for those substances in order to comply with environmental quality standards.
ORGANOHALOGEN COMPOUNDS			
SAP ISSUE		**LEVEL OF ACHIEVEMENT**	**COMMENTS**
SAP MEASURES	To adopt at the national level and apply the anti-pollution common measures adopted by the Parties.	Not possible to be checked	These measures are not specified in SAP, thus it is not possible to be checked against the Spanish regulatory framework
	To regulate releases of organochlorines by the paper and paper pulp industries by limiting discharges measured as AOX adsorbable organic halogen) to 1 kg per tonne of pulp produced	Medium	This limit is not regulated by national legislation, although emission limits are established for discharges from paper industry. On the other hand, in the BREF for pulp and paper, this limit is set in <0,25 kg/ADt (Air Dry Ton) for bleached pulp paper.
	To reduce the use of short-chain chlorinated paraffins.	Medium	Not identified in the spanish regulatory framework, although european and international regulation exists.
	To reduce and control the manufacture and use of PDBEs and PBBs.	High	Existing regulations for organohalogen compounds are applicable, in particular, Law 16/2002 no IPPC, and European regulations on chemicals.

	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.	Medium – High	General legislation to reduce pollutants exist, but not the prohibition of these herbicides. Not specific national legislation, European regulations applies.
	To participate in the programmes and activities of international organizations, especially FAO on the sustainable use of pesticides and to promote integrated pest management..	–	Spain is member of OCDE and FAO
	To participate in the OECD/FAO Pesticide Risk Reduction Project.	–	
RADIOACTIVE SUBSTANCES			
SAP ISSUE		**LEVEL OF ACHIEVEMENT**	**COMMENTS**
SAP TARGETS	To eliminate to the fullest possible extent inputs of radioactive substances.	Medium-High	The generation of certain low and medium intensity radioactive substances has proved to be decreasing
SAP ISSUE	To promote policies and practical measures including the setting of targets and timetables to minimize the generation of radioactive waste and provide for their safe processing, storage, conditioning, transportation and disposal.	High	The National Plan on Radioactive Wastes includes these measures
	To adopt measures, including BAT and BEP, for the reduction and/or elimination of discharges, emissions and losses of radioactive substances to the Mediterranean Sea.	Medium-High	No specific reference to this measures, but would be included in regulations on the safe management of these substances.

	To submit reports on: the authorizations granted, data resulting from monitoring, quantities of pollutants discharged from their territories and the action plans, programmes and measures implemented.	High	Both Nuclear Safety Council and the public company for radioactive waste management (ENRESA), produce these kind of reports.
PERSISTENT ORGANIC POLLUTANTS			
SAP ISSUE		**LEVEL OF ACHIEVEMENT**	**COMMENTS**
SAP TARGETS	Those common or generic targets referred to reduction in 10 years of discharges and emissions of PTS and liable to bioaccumulate, and compliance by 2025 of these discharges to international agreements and national provisions	High	Spain has ratified the Stockholm Convention, and a National Action Plan is being developed for POPs.
NUTRIENTS AND SUSPENDED SOLIDS			
INDUSTRIAL WASTEWATER			
SAP ISSUE		**LEVEL OF ACHIEVEMENT**	**COMMENTS**
SAP TARGETS	To develop National Programmes for the environmentally sound management of waste water and solid waste from industrial installations which are sources of BOD,.	Medium	Spain has prepared and adopted regulations on discharges from industrial sources within the framework of the Protocol. However, as criteria and standards adopted by Contracting Parties have not been clarified, the level of achievement is supposed to be medium.
	By the year 2025, to dispose all wastewater from industrial installations which are sources of BOD, nutrients and suspended solids, in conformity with the provisions of the LBS Protocol.	Medium	No temporal target exists into Spanish regulation, but existing regulation adopts measures oriented to the achievement of this target.

	Over a period of 10 years, to reduce by 50 % inputs of BOD, nutrients and suspended solids from industrial installations sources of these substances	Medium	
SAP MEASURES	To reduce discharges of pollutants in the industrial installations which are sources of BOD	High	The IPPC scheme introduced by Law 16/2002 establishes the approval of discharge permits including of emission limits based on BATs
	To promote the implementation of environmental audits and apply BEP and, if possible, BAT	Medium	
	To promote primary, secondary and, where appropriate and feasible, tertiary treatment of BOD waste water	Medium	In some specific cases, the discharge permit can enforce to apply tertiary treatments
	To promote sound operation and proper maintenance of facilities.	High	These measures are considered in the national and regional legislation
	Re-use of treated wastewater	High	
	Sound environmental management of sludge	High	
NUTRIENTS AND SUSPENDED SOLIDS			
-AGRICULTURE-			
SAP ISSUE		**LEVEL OF ACHIEVEMENT**	**COMMENTS**

SAP TARGET	To reduce nutrient inputs, from agriculture and aquaculture practices into areas where these inputs are likely to cause pollution.	Medium	There is not a specific target, but protection of waters against pollution by nitrates has been regulated since 1996, both at national and regional level.
SAP MEASURE	To assess the quantities and types of fertilizers used.	High	Both good practices codes and Royal Decree 261/1991 include measures to this respect.
	To assess the quantity of solid and liquid manure produced by farm animals.	High	
	To promote the rational use of fertilizers and reduce the losses of nutrients by misuse of inorganic fertilizers and manure.	High	
	To promote rules of good agricultural practices.	High	
	To participate in the programmes and activities of international organizations, especially FAO, on sustainable agricultural and rural development in the Mediterranean.	Medium-High	
	To promote the implementation of the Convention on Desertification.	High *	This Convention is enforceable in Spain and there is also a specific NAP to fight against desertification.

HAZARDOUS WASTE			
-HAZARDOUS WASTE (GENERAL)-			
SAP ISSUE		**LEVEL OF ACHIEVEMENT**	**COMMENTS**
SAP TARGETS	By 2010, to reduce as far as possible by 20 % the generation of hazardous waste from industrial installations.	Medium	The previous National HW Plan 1995-2000 already included a target for reduction of 40% by 2000, in relation to generation in 1994.
	By the year 2010, to dispose 50 % of the hazardous waste generated, in a safe and environmentally sound manner and in conformity with the provisions of the LBS Protocol and other internationally agreed provisions. By the year 2025, to dispose all hazardous wastes in a safe and environmentally sound manner.	Medium	Spanish regulation sets criteria for safe elimination of hazardous waste
SAP MEASURES	To prepare a National Strategy for the Management of Hazardous Wastes.	Medium	Spanish regulation includes SAP principles for waste management, but with no specific mention to the use of BATs.
	To prepare National Plans for the Management of Hazardous Wastes.	High	Measure included in the different plans for specific waste in Spain
	The National Plans may include National or Regional Programmes for specific wastes, National Programmes for military establishments and National programmes for the public industrial sector.	High/Low	Public services sector included in plans, but military sites could not have been included.
	To establish facilities for the environmentally sound disposal of hazardous wastes.	High	

HAZARDOUS WASTE			
-HAZARDOUS WASTE (GENERAL)-			
SAP ISSUE		**LEVEL OF ACHIEVEMENT**	**COMMENTS**
	To ratify and apply the “Hazardous Wastes” Protocol.	Medium	Spain has not ratified this protocol yet, but has ratified tha Basel Convention

SPECIFIC WASTE			
- INVENTORY OF SPECIFIC WASTES-			
SAP ISSUE		**LEVEL OF ACHIEVEMENT**	**COMMENTS**
SPECIFIC WASTE	MEASURE: elaboration of inventories	Medium	This measure is not fully included in the management of specific wastes
OBSOLET CHEMICALS			
SAP TARGET	By the year 2005, to collect and dispose all obsolete chemicals in a safe and environmentally sound manner.	Medium	The collection and safe disposal of hazardous wastes is regulated by law 10/98 on waste.
-LUBOIL-			
SAP TARGET	By the year 2005, to collect and dispose 50 % of used lubricating oil in a safe and environmentally sound manner.	Medium	As above, this issue in included in law 10/98 on waste
-BATTERIES-			

SAP TARGETS	By 2010, to reduce by 20 % the generation of used batteries, and to dispose 50 % of used batteries in a safe and environmentally sound manner.	Medium	Several measures exist, although temporal scales shoud be reviewed. In some regions no integrated management system are still in place.
	By the year 2025, to dispose all used batteries in a safe and environmentally sound manner	Medium	
SAP MEASURES	To promote substitution methods and encourage the reduction of the use of batteries.	High	National legislation encourages the use of batteries with low content f heavy metals. Commercialization of batteries above a certain content of Hg is prohibited.

The public participation foreseen to implement the actions

No measures concerning public participation are included in the NAP.

The cost estimate for the implementation of the actions

No cost estimations are included in the proposed NAP.

NATIONAL ACTION PLAN

SYRIA

Assessment analysis of the issues included in the NAP

Two coastal administrative regions have been considered for the NAP: the Governorate of Lattakia and the Governorate of Tartous.

For Latakia, the identified priority environmental issues were:

1. Municipal solid waste dumps; lack of management of hazardous wastes, construction debris and garbage dumping on side of roads, and the non-segregation of medical wastes;
2. Municipal sewage from the City of Lattakia and surrounding tourists' areas;
3. Air emissions from diesel-operated vehicles on roadways and in the cities; and
4. Aqueous effluents from olive oil mills and slaughterhouses.

For Tartous, the identified priority environmental issues were:

1. Aqueous effluents from the Banias refinery
2. Municipal sewage from the Cities of Tartous and Banias in addition to sewage from small coastal and non-coastal cities and areas;
3. The problem of the "unlicensed" municipal waste dumps in Tartous governorate;
4. Air emissions from combustion of fuel oil in Banias refinery, cement plant; thermal power generation plant, and the phosphate loading docks;
5. Aqueous effluents from olive oil mills; and
6. Surface water runoff from petroleum facilities due to leakage and spills, and from agricultural lands due to the extensive use of fertilizers and pesticides.

The National priority actions for 2010

Project (in order of priority)
• The rehabilitation of the Banias refinery industrial wastewater treatment plant, including the construction of a landfill for industrial hazardous waste
• The construction of the Tartous municipal wastewater treatment plant (WWTP)
• The construction of the Lattakia municipal WWTP
• The exchange of fuel with natural gas for two power generation units at the Banias thermal power plant
• The development of the municipal landfill of Tartous
• The construction of a WWTP in Jableh and a sewerage network for the industrial area of Al Fawar Spring
• The construction of the Banias WWTP and sanitary sewers network
• The installation of fabric filters on the production line for the Tartous Cement Factory
• The rehabilitation of the Old Jableh City sewerage network
• Pretreatment of wastewater from food manufacturers at Fawar Spring area and Ugarit Beverages Company prior to discharge to public sanitary sewers

Overview of the actions scheduled for 2010+ and 2025

Actions scheduled for 2010+

Municipal Sewage Sector

- Extension of sewage network to illegal areas and suburbs in Lattakia, Tartous, Jableh and Banias
- Remediation of the untreated municipal wastewater in Arwad island

Municipal Solid Waste Sector

- Development of municipal solid waste collection system in Lattakia
- Development of municipal solid waste collection system in Tartous
- Development of municipal solid waste collection system in Jableh
- Construction of waste segregation plant and landfill in Heddah valley (Tartous)
- Rehabilitation of Al Bassa solid waste landfill (Lattakia)

Industrial Solid Wastes and Aqueous Effluent Sector

- Separation of storm water runoff from industrial effluent discharge line at the Tartous oil terminal and rehabilitation of existing separation tank
- Recycling and recovery of segregated petroleum and mineral oil wastes at the Banias thermal power station

Hazardous Wastes of Particular Interest to the SAP

- Reduction of lead particulate emissions from transport vehicles (substitution of leaded gasoline by unleaded gasoline)
- Substitution of PCB oil in five transformers (two in the Tartous and two in the Banias electric transformers' stations and one in the old Jableh Weaving Company)

Air Emissions from Urban & Industrial Sector

- Developing the public transport sector in Lattakia, Tartous and Jableh Developing the public transport sector in Lattakia, Tartous and Jableh
- Phasing out leaded gasoline from use by vehicular traffic

Actions scheduled for 2025

Municipal Sewage Sector

- Extending sewers networks to all rural population areas
- Treatment of wastewater in Arwad Island
- Introducing WWTP for small coastal communities and tourists' centers
- Introducing WWTP for small non-coastal communities
- Segregating storm water sewers networks from municipal sewage networks
- Segregation and pre-treatment of industrial wastewater with effluent to municipal sewers

Municipal Solid Waste Sector

- Construction of solid waste segregation plant and landfill in Kassieh (Lattakia)
- Development of solid waste collection systems in rural population centers
- Closure of Al Bassa landfill site south of Lattaklia
- Elimination of all unauthorized dump sites for municipal solid waste and construction debris

Industrial Solid Wastes and Aqueous Effluent Sector

- Construction of a centralized incinerator for disposal of hazardous wastes in the coastal area
- Development of integrated wastewater treatment systems for dealing with aqueous effluents from olive oil mills

Hazardous Wastes of Particular Interest to the SAP

- Phasing out all activities discharging PCB's and organohalogens from industrial sectors
- Reducing inputs of organohalogens from agriculture

Air Emissions from Urban & Industrial Sector

- Improve the environmental standards in the extraction and refining of petroleum products
- Reduce the gaseous emissions, dust and other particulates to allowable limits
- Reduce demand on vehicular transport; adjust peak periods; and substitute the individual vehicular traffic with an integrated public transport system
- Raise the efficiency of energy utilization in industry

The public participation foreseen to implement the action

Public participation is a key issue for the successful implementation of the measures and activities proposed in this plan. For that purpose, specific environmental issues of concern to stakeholders in the Syrian coastal region were identified based on the participatory approach. Participating stakeholders included government authorities, industries, associations, NGO's and members of parliament. Serious attempts were made through two public consultation meetings to demonstrate to stakeholders that the real needs and concerns of the people are reflected in the SAP's targets and activities. Ultimately, the environmental and economic priorities raised by the stakeholders were adopted in the NAP. It is thought that this process ensures the sustainable implementation of this plan, at least up to the year 2010.

Compatibility of actions vis-à-vis the SAP targets

Sector	Priority actions	Admin. Region	Pollutant	Expected Reduction	Baseline Load	Expected Final Load	Relevant Stakeholder
BOD and Nutrients	• Construct wastewater treatment plants in Lattakia, Tartous, Banias and Jableh (with sewerage networks for the industrial area of Fawar Spring in Jableh and the old Jableh city)	Lattakia & Tartous	BOD and nutrients	Wastewater treatment plants built for all cities with population in excess of 100,000 people			Ministry of housing and construction
	• Manage solid waste and construct landfill in Tartous. Rehabilitate Bassa landfill (Lattakia and Jableh)	Lattakia & Tartous	BOD and nutrients	Solid waste managed and landfills constructed for all cities with population in excess of 100,000 people			Ministry of Local Admin. and Environment
PAH	• Reduce gaseous emissions from the Banias thermal power generation plant by converting from fuel to gas	Tartous	PAH	NA	600 kg/year	NA	Ministry of electricity
Organohalogen	• Reduce emissions from Tartous cement plant by means of fabric filters	Tartous	Chloro-benzene	NA	14 kg/year	NA	Ministry of Industry
Industrial BOD	• Pre-treat wastewater from food manufacturers at Fawar Spring area prior to discharge to sewers	Lattakia	Industrial BOD	50%	2600 tons/year	20 tons/year	Ministry of Industry
	• Pre-treat wastewater from for the Ugarit beverages company	Lattakia	Industrial BOD			220 tons/year	Ministry of Industry

Sector	Priority actions	Admin. Region	Pollutant	Expected Reduction	Baseline Load	Expected Final Load	Relevant Stakeholder
Hazardous Wastes	• Construct an industrial wastewater treatment plant for the Banias refinery and build a disposal site for hazardous wastes	Tartous	Hydro-carbon minerals	NA	30 tons/year	NA	Ministry of petroleum and minerals

The cost estimate for the implementation of the actions

Project (in order of priority)	Approximate cost (Million SYP)	Type of funding	Potential funding sources
• Rehabilitation of the Banias refinery IWWTP, including the construction of a landfill for industrial hazardous waste	300	Grant et Public Funds	GEF and Syrian Government
• Construction of the Tartous municipal WWTP	300	Loan	France
• Construction of the Lattakia municipal WWTP	1367	Loan	France
• Exchange of fuel with natural gas for two power generation units at the Banias thermal power plant	2800	Public Funds	Syrian Government
• Development of the municipal landfill of Tartous	125	NA	International Funds
• Construction of a WWTP in Jableh and a sewerage network for the industrial area of Al Fawar Spring	220	NA	International Funds, Syrian Government
• Construction of the Banias WWTP and sanitary sewers network	567	Grant and Public Funds	GEF and Syrian Government
• Installation of fabric filters on the production line for the Tartous Cement Factory	65	Public Funds	Syrian Government
• Rehabilitation of the Old Jableh City sewerage network	50	NA	Funds, bilateral donors, European Investment Bank,, Syrian Gov.
• Pretreatment of wastewater from food manufacturers at Fawar Spring area and Ugarit Beverages Company prior to discharge to public sanitary sewers	NA	NA	NA

* 1 USD = 53 Syrian Pounds (SYP); NA = Not Available

PLAN D'ACTION NATIONAL

TUNISIE

Issues environnementales incluses dans le PAN

Les régions de Gabes (rejets de phosphogypse), de Tunis (eaux usées), de Sfax (rejets urbains et industriels) et la lagune de Bizerte (rejets industriels), sont considérées prioritaires pour la protection du milieu littoral. Dans le secteur des déchets solides urbains, 10 décharges contrôlées sont déjà en opération et le plan est de fermer et réhabiliter 400 décharges non contrôlées dans le pays et de mettre en place un système intégré de gestion (traitement, recyclage et valorisation des déchets). Les rejets industriels de phosphogypse (Gabes, Sfax), la pollution atmosphérique de cimenteries et de fonderies, le control des émissions industrielles dans tout le pays et la dépollution du littoral, sont des issues prioritaires pour le PAN de Tunisie.

Actions prioritaires Nationales pour 2010

Eaux usées urbaines	• 4eme projet d'assainissement des quartiers populaires (366 Km de canalisations supplémentaires, 28,000 raccordements, stations d'épuration) • Assainissement des petites et moyennes villes (El Mrissa, Hammamet Nord, El Mida) • Assainissement du grande Tunis (complexe d'épuration El Attar, projets à Tunis, Sidi Hassine, Ariana et Ben Arous) • Réhabilitation des ouvrages endommagés par les inondations (Tunis, Ariana et Ben Arous) • Extension et réhabilitation de 19 stations d'épuration
Déchets solides urbaines	• Renforcement du cadre institutionnel et législatif de la gestion des déchets solides urbains • Programme des décharges contrôlées et poursuite de la fermeture et réhabilitation des décharges sauvages • Mise en place d'une «Gestion Durable des Déchets Solides» • Renforcement du système de récupération des emballages en plastique ECOLEF • Programme de sensibilisation, d'information et d'éducation environnementale • Renforcement de la participation du tissu associatif à la dynamique de protection de l'environnement • Renforcement de la coopération intercommunale • Développement de nouvelles filières de traitement, de recyclage et de valorisation des déchets • Développement de la coopération avec les organisations non gouvernementales (ONG) dans le domaine de la gestion des déchets • Renforcement de l'implication du secteur prive
Pollution atmosphérique	• Réseau National de surveillance de la qualité de l'air (régions Grand Tunis, Sfax, Gabes, Bizerte, Sousse) • Connexion de 5 industries au Réseau de surveillance • Programme de surveillance mobile de la qualité de l'air • Programme de partenariat pour l'amélioration de la qualité de l'air • Stratégie Nationale pour la réduction de la pollution atmosphérique • Encouragement a l'utilisation du gaz naturel par les bus • Programme de promotion des énergies renouvelables et de l'économie d'énergie • Promotion des transports collectifs dans les villes et les agglomérations urbaines (Grand Tunis)
Control des émissions des	• Décharge de phosphogypse (Gabes) • Décharge de Jradou

métaux lourds	• Programme de technologie propre • Programmes de dépollution du littoral
Eaux usées et déchets solides industriels	• Mise à niveaux des entreprises industrielles (4000 entreprises) • Dépollution et aménagement de la zone côtière de Sfax (projet Taparura) • Elimination des rejets de phosphogypse dans le Golfe de Gabes • Réhabilitation du Lac de Bizerte par la dépollution des industries environnantes • Création de nouvelles zones industrielles dotées d'infrastructures nécessaires y compris celles de la gestion de la pollution • Programme de dépollution du littoral tunisien • Etude de la dépollution industrielle dans les gouvernorats de l'Ariana, Sousse et Mednine • Actions d'accompagnement du PAN pour la lutte contre la pollution industrielle • Programme de dépollution des principales unités industrielles publiques (Cimenterie de Bizerte, Industrie Chimique de Gabes, Usines de phosphates de Sfax, Fer/Acier El Fouleth e Menzel Bourguiba, Centrales Electriques de Rades et Ghannouch) • Décharges de Gabes pour le phosphogypse • Décharges programmées de Jradou pour les déchets industriels
Déchets dangereux	• Mise en place de moyens d'accompagnement pour la décharge de Jradou • PAN sur les POPs • Programme de gestion des pesticides • Programme de gestion des huiles lubrifiantes et des filtres à huiles usagées • Programme de batteries et piles épuisées

Actions programmées pour 2015 et 2020

Eaux usées urbaines	• Amélioration du taux de branchement au réseau d'assainissement • Renforcement du système actuel de traitement des eaux usées urbaines • Amélioration de la capacité de collecte dans les stations du Grand Tunis aux horizons 2011 et 2021 • Mise en conformité des rejets aux normes • Traitement des puanteurs émises par les installations d'épuration • Traitement des boues des stations d'épuration
Déchets solides urbaines	• Création de centres d'enfouissement technique régionaux et de centres de transfert • Fermeture et réhabilitation des décharges non contrôlées (plus de 400) • Mise en place de système intègres de gestion des déchets (collecte, tri, traitement et valorisation) • Développement de nouvelles filières de traitement, de recyclage et de valorisation des déchets
Pollution atmosphérique	• Compléter le Réseau National de surveillance de la qualité de l'air • Connexion des industries au Réseau de surveillance • Promotion des transports collectifs dans les villes et les agglomérations urbaines (Sfax)
Contrôle des	• Dépollution industrielle, recyclage et introduction des technologies

émissions des métaux lourds	propres
Eaux usées et déchets solides industriels	• Poursuit du programme National de dépollution industrielle

Compatibilité des actions prioritaires vis-à-vis des buts de PAS

	Objectif de PAS (2010)	PAN de Tunisie (2010)
Eaux usées urbaines	Stations d'épuration pour toutes les villes côtières de plus de 100000 habitants	Réalisé
Déchets solides urbains	Système de gestions de déchets solides dans les villes de plus de 100000 habitants	L'objectif sera atteint avant terme
Pollution atmosphérique	Une qualité de l'air ambiant conforme aux normes pour les villes de plus de 100000 habitants	L'objectif sera atteint pour les régions du Grand Tunis, Sfax, Gabes, Bizerte et Sousse
Control des émissions des métaux lourds	Réduire de 50% les rejets de mercure, de cadmium et de plomb	Aménagement de la décharge de phosphogypse a Gabes (>50% de réduction).
Eaux usées et déchets solides industriels	Réduction de 50% des substances toxiques persistantes et susceptibles de bioaccumulation	Réduction de décharges de phosphogypse de Gabes et décharges programmées des déchets industriels de Jradou
Déchets dangereux	• Réduire de 50% des POPs et composes organohalogenes • Collecte et élimination de 50% des huiles lubrifiantes usées • Réduire les apports de 20% et éliminer 50% de manière écologique, piles et accumulateurs	• Plan national sur les POPs et programme africain relatif aux stocks de pesticides (PASP) • Système ECO-ZIT (56%) et ECO-FILTRE • Système de recyclage. L'objectif sera atteint avant 2010

Participation publique anticipée pour la réalisation des actions prioritaires

Les programmes de sensibilisation vont porter principalement sur l'appropriation de la dynamique de protection de l'environnement au niveau de la base par la population tunisienne. L'évolution vers une responsabilisation doit passer par une phase relais impliquant les ONGs pour en faire un partenaire à part entière dans le cycle de control de pollution.

Estimation du coût de réalisation des actions prioritaires

Secteur	Action	Coût (millions de Dinars)	Financement
Eaux usées urbaines	• 4eme projet d'assainissement des quartiers populaires (366 Km de canalisations supplémentaires, 28,000 raccordements, stations d'épuration)	• 21	• Public
	• Assainissement des petites et moyennes villes (El Mrissa, Hammamet Nord, El Mida)	• 14	• AFD et Dette italienne • Banque Européenne d'Investissments
	• Assainissement du grande Tunis (complexe d'épuration El Attar, projets àTunis, Sidi Hassine, Ariana et Ben Arous)	• 145	• AFD
	• Réhabilitation des ouvrages endommagés par les inondations (Tunis, Ariana et Ben Arous)	• 3.3	• Public
	• Extension et réhabilitation de 19 stations d'épuration	• 32	
Déchets solides urbains	• Renforcement du cadre institutionnel et législatif de la gestion des déchets solides urbains	• 6	Public
	• Programme des décharges contrôlées et poursuite de la fermeture et réhabilitation des décharges sauvages	• 1	Public
	• Mise en place d'une «Gestion Durable des Déchets Solides«		Programme Tuniso-Allemand
	• Renforcement du système de récupération des emballages en plastique ECOLEF	• 3	Public
	• Programme de sensibilisation, d'information et d'éducation environnementale	• 6	• Public
	• Renforcement de la participation du tissu associatif à la dynamique de protection de l'environnement	• 5	• Public
	• Renforcement de la coopération intercommunale		• Public
	• Développement de nouvelles filières de traitement, de recyclage et de valorisation des déchets	• 5	• Public
	• Développement de la coopération avec les organisations non gouvernementales (ONG) dans le domaine de la gestion des déchets	• 0	• Public
	• Renforcement de l'implication du secteur privé	• 3	• Privé

Secteur	Action	Coût (millions de Dinars)	Financement
		• 5 • 0	
Pollution atmosphérique	• Réseau National de surveillance de la qualité de l'air (régions Grand Tunis, Sfax, Gabes, Bizerte, Sousse) • Connexion de 5 industries au Réseau de surveillance • Programme de surveillance mobile de la qualité de l'air • Programme de partenariat pour l'amélioration de la qualité de l'air • Stratégie Nationale pour la réduction de la pollution atmosphérique • Encouragement à l'utilisation du gaz naturel par les bus • Programme de promotion des énergies renouvelables et de l'économie d'énergie • Promotion des transports collectifs dans les villes et les agglomérations urbaines (Grand Tunis)	• 2 • 0.5 • 0.5 • 0.2 • 2.7 • - • 20 • 160	• Public • Public/Privé • Public • Public/Privé • Public • Public/Privé • Public/Privé
Control des émissions des métaux lourds	• Décharge de phosphogypse (Gabes) • Décharge de Jradou • Programme de technologie propre • Programmes de dépollution du littoral	• • • •	
Eaux usées et déchets solides industriels	• Mise à niveau des entreprises industrielles (4000 entreprises) • Dépollution e aménagement de la zone côtière de Sfax (projet Taparura) • Elimination des rejets de phosphogypse dans le Golfe de Gabes • Réhabilitation du Lac de Bizerte par la dépollution des industries environnantes • Création de nouvelles zones industrielles dotées	• • 270 • 3.5 • 17	

Secteur	Action	Coût (millions de Dinars)	Financement
	d'infrastructures nécessaires y compris celles de la gestion de la pollution		
	• Programme de dépollution du littoral tunisien	• 17	
	• Etude de la dépollution industrielle dans les gouvernorats de l'Ariana, Sousse et Mednine	• 0.25	
	• Actions d'accompagnement du PAN pour la lutte contre la pollution industrielle	• 1.5	
	• Programme de dépollution des principales unités industrielles publiques (Cimenterie de Bizerte, Industrie Chimique de Gabes, Usines de phosphates de Sfax, Fer/Acier El Fouleth e Menzel Bourguiba, Centrales Electriques de Rades et Ghannouch)	•	
	• Décharges de Gabes pour le phosphogypse	•	
	• Décharges programmées de Jradou pour les déchets industriels	• 9	
Déchets dangereux	• Mise en place de moyens d'accompagnement pour la décharge de Jradou	• 2	•
	• PAN sur les POPs	•	• GEF
	• Programme de gestion des pesticides	• 6	• GEF CropLife, Gov. Tunisien • Privé
	• Programme de gestion des huiles lubrifiantes et des filtres a huile usages	• 1	
	• Programme de batteries et piles épuisées	• 4	

NATIONAL ACTION PLAN

TURKEY

Assessment analysis of the issues included in the NAP

Studies implemented in the Mediterranean region have been split into 6 basins. These basins are West Mediterranean, Antalya, Doğu Akdeniz, Seyhan, Ceyhan and Asi basins. On the other hand, hot spots in these basins have been defined as İçel gulf (Erdemli, Silifke, Tarsus), Adana (Ceyhan), Antalya (Alanya/Side, Manavgat), Antakya (İskenderun, Dörtyol, Kırıkhan), Bodrum Peninsula (Marmaris, Datça). In 16% of the industries in basins both domestic and industrial wastewater treatment plants, in 35% only domestic wastewater treatment plants and in 49% only industrial wastewater treatment plants are present. Such treatment plants are mostly involved in the paper and paper product, food, chemical, textile and metal industries. The outcomes of the examination conducted show that iron, steel, paper, non-ferrous metals and milk products give rise to water pollution; non-ferrous metal, iron, steel, fertilizer and petroleum refineries cause toxic pollution; and non-ferrous metal, iron, steel and processed metal products cause toxic metal pollution. In six basins in the Mediterranean region, there are a total of 301 industrial facilities Numerically food industry is ranked the first, followed successively by the textile, petroleum products and line industrial institutions.

Basin	Residential Pollution	Industrial Pollution	Heavy metals	Agricultural Pollution
West Mediterranean	+			
Antalya				
Doğu Akdeniz		+	+	
Seyhan				
Ceyhan	+			+
Asi		+	+	

Aegean Region has been split into 4 basins (Kuzey Ege, Gediz, Küçük Menderes and Büyük Menderes) and assessments have been made on basin basis. The basins have been compared general terms such as domestic, industrial, agricultural, organic pollutants and heavy metals, and the basin that inflicts the utmost risk has exhaustively been studied. The domestic wastewater pollutant load is ranked the top in the Büyük Menderes basin in terms of COD, BOD_5 and TSS. COD and BOD_5 are assessed as the indicators of domestic pollution. There are 38 counties in this region and majority of inner residential areas probably dump their wastes without preliminary treatment into the Büyük Menderes River. Therefore the COD, BOD_5 and TSS loads have been found at exorbitant rates due to the high volume of industrial loads.

Basin	Residential Pollution	Industrial Pollution	Heavy metals	Agricultural Pollution
Kuzey Ege				
Gediz		+	+	+
Küçük Menderes	+			
Büyük Menderes	+		+	+

The National priority actions for 2010

High Priority Actions

Basin	List Of Projects
Seyhan Basin	Solid Waste Storage Plants for Adana**-Seyhan, Adana-Yüreğir** counties
	Sewage and domestic wastewater treatment plant for Adana-**Karataş** county
Büyük Menderes Basin	Solid Waste Storage Plants for **Denizli-Merkez, - Uşak-Merkez** counties
Antalya Basin	Solid Waste Storage Plants for **Antalya-Serik, Antalya-Merkez (hot spot)** **Antalya-Alanya (hot spot), Antalya-Manavgat (hot spot), Isparta-Merkez,** Isparta-Yalvaç ounties
Küçük Menderes Basin	Solid Waste Storage Plants for the **İzmir-Ödemiş** county
	Sewage and domestic wastewater treatment plant for the **İzmir-Çeşme** county
	Sewage and domestic wastewater treatment plant for the **İzmir-Buca, İzmir-Ödemiş** counties
Gediz Basin	Solid Waste Storage Plants for **the İzmir-Menemen, Manisa-Salihli, Manisa-Turgutlu, İzmir-Bergama** counties
	Sewage and domestic wastewater treatment plant for the **İzmir-Menemen** county
Doğu Akdeniz Basin	Solid Waste Storage Plants for the **İçel-Silifke, İçel-Tarsus, İçel-Erdemli, İçel-Mersin,** (capacity improvement) * counties
	Sewage and domestic wastewater treatment plant for the **İçel-Erdemli** county
Batı Akdeniz Basin	Solid Waste Storage Plants for the **Muğla-Milas, Muğla-Fethiye, Muğla-Bodrum** counties
	Sewage and domestic wastewater treatment plant for the **Muğla-Milas** county
Ceyhan Basin	Solid Waste Storage Plants for the **Adana-Ceyhan, Adana-Kozan, K.Maraş-Merkez** **K.Maraş-Elbistan, Osmaniye-Merkez, Osmaniye-Kadirli** counties
	sewage and domestic wastewater treatment plant for the **Adana-Ceyhan** county
Asi Basin	Solid Waste Storage Plants for the **Hatay-Dörtyol, Hatay-İskenderun, Hatay-Samandağ, Hatay-Antakya, Hatay Kırıkhan** counties
Kuzey Ege Basin	Solid Waste Storage Plants for the **İzmir-Bergama** county
	Sewage and domestic wastewater treatment plant for the **Balıkesir-Ayvalık, Balıkesir-Gömeç** counties
	Sewage and domestic wastewater treatment plant for the **İzmir-Bergama** county
Asi Basin	Sewage and domestic wastewater treatment plant for the **Hatay-Dörtyol** county
	Sewage and domestic wastewater treatment plant for the **Hatay-Samandağ, Hatay Kırıkhan** county
Meriç - Ergene Basin	Sewage and domestic wastewater treatment plant for **Edirne-Enez** county
	Solid Waste Storage Plants for the **Edirne - Merkez, Kırklareli - Lüleburgaz, Tekirdağ - Çorlu** counties

Medium Priority Actions

Basin	List Of Projects
Seyhan Basin	Sewage and domestic wastewater treatment plant for **Adana-Seyhan, Adana-Yüreğir** counties
	Wastewater Treatment Plant for summer housing complexes and accommodation facilities
	Treatment of industrial wastewaters produced during the production activities of **Textile industry**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
	Treatment of industrial wastewaters produced during the production activities of **Food Sector**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
	Treatment of industrial wastewaters produced during the production activities of **other organic chemical industries**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
	Treatment of industrial wastewaters produced during the production activities of **Pulp and Paper Sector**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
Antalya Basin	- Isparta-Yalvaç sewage and domestic wastewater treatment plant for the county
	Wastewater Treatment Plant for summer housing complexes and accommodation facilities
Büyük Menderes Basin	Treatment of industrial wastewaters produced during the production activities of **industrial organized district industry**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
	Sewage and domestic wastewater treatment plant for **Denizli-Merkez, Uşak-Merkez** counties
	Wastewater Treatment Plant for summer housing complexes and accommodation facilities
	Treatment of industrial wastewaters produced during the production activities of **Textile industry**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
	Treatment of industrial wastewaters produced during the production activities of **Tannery industry**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
	Treatment of industrial wastewaters produced during the production activities of **Paper and Food industry**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
	Treatment of industrial wastewaters produced during the production activities of **other organic and inorganic industry** -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants

Medium Priority Actions (continued)

Basin	List Of Projects
Gediz Basin	Sewage and domestic wastewater treatment plant for **Manisa-Salihli, Manisa-Turgutlu, Manisa-Akhisar** counties
	Wastewater Treatment Plant for summer housing complexes and accommodation facilities
	Treatment of industrial wastewaters produced during the production activities of **Tannery** industry, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
	Treatment of industrial wastewaters produced during the production activities of **Food** Sector, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
	Treatment of industrial wastewaters produced during the production activities of **Textile** industry, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
Asi Basin	Treatment of industrial wastewaters produced during the production activities of **Metal** industry, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
	Treatment of industrial wastewaters produced during the production activities of **Food** Sector, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
Küçük Menderes Basin	Treatment of industrial wastewaters produced during the production activities of **Textile** industry, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
	Treatment of industrial wastewaters produced during the production activities of **Metal** industry, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
	Treatment of industrial wastewaters produced during the production activities of **Food** Sector, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
	Treatment of industrial wastewaters produced during the production activities of **Pulp and Paper Sector**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants

Basin	List Of Projects
	Treatment of industrial wastewaters produced during the production activities of **Other organic chemical** Sector, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
	Wastewater Treatment Plant for summer housing complexes and accommodation facilities
Doğu Akdeniz Basin	Treatment of industrial wastewaters produced during the production activities of **Food Sector**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
	Treatment of industrial wastewaters produced during the production activities of **Petroleum Sector**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
	Treatment of industrial wastewaters produced during the production activities of **Metal industry**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
	Treatment of industrial wastewaters produced during the production activities of **Paper Sector**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
	Wastewater Treatment Plant for summer housing complexes and accommodation facilities
Meriç - Ergene Basin	Sewage and domestic wastewater treatment plant for **Edirne - Merkez, Kırklareli - Lüleburgaz , Tekirdağ - Çorlu** counties
	Treatment of industrial wastewaters produced during the production activities of **Pulp and Paper Sector**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
	Treatment of industrial wastewaters produced during the production activities of **Textile Sector**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
	Treatment of industrial wastewaters produced during the production activities of **Food Sector**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
	Treatment of industrial wastewaters produced during the production activities of **Other inorganic chemical** Sector, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants

Basin	List Of Projects
	Treatment of industrial wastewaters stemming from **Metal industry** effected in lack of wastewater treatment plants, improving the current wastewater treatment plants

Medium Priority Actions (continued)

Kuzey Ege Basin	Treatment of industrial wastewaters produced during the production activities of **Tannery industry**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
	Wastewater Treatment Plant for summer housing complexes and accommodation facilities
	Treatment of industrial wastewaters produced during the production activities of **Food Sector**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
Ceyhan Basin	Treatment of industrial wastewaters produced during the production activities of **Textile** industry, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
	Treatment of industrial wastewaters produced during the production activities of **Food** Sector, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
	Treatment of industrial wastewaters stemming from **Aquaculture Production**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
	Sewage and domestic wastewater treatment plant for **K.Maraş-Merkez, K.Maraş-Elbistan, Osmaniye-Kadirli** counties
Batı Akdeniz Basin	Sewage and domestic wastewater treatment plant for **Muğla-Datça** county
	Treatment of industrial wastewaters stemming from **Aquaculture Production**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
	Treatment of industrial wastewaters stemming from **mining activities**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
	Treatment of industrial wastewaters produced during the production activities of **Energy production** -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
	Wastewater Treatment Plant for summer housing complexes and accommodation facilities

Low Priority Actions

Basin	List of projects sorted by priority
Doğu Akdeniz Basin	Treatment of industrial wastewaters stemming from mining activities, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
	Treatment of industrial wastewaters produced during the production activities of textile industry, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
Ceyhan Basin	Treatment of industrial wastewaters produced during the production activities of other organic chemical industries, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
Antalya Basin	Treatment of industrial wastewaters stemming from Aquaculture Production, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
	Treatment of industrial wastewaters produced during the production activities of Food Sector, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
	Treatment of industrial wastewaters stemming from mining activities, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants
Gediz Basin	- improving the current Domestic Wastewater Treatment Plant in İzmir-Foça (e.g: increasing capacity, transforming physical treatment into biological treatment etc.)
Meriç - Ergene Basin	Treatment of industrial wastewaters stemming from **Electronic industry** effected in lack of wastewater treatment plants, improving the current wastewater treatment plants

Overview of the actions scheduled for 2025

No specific actions are planned for 2025. However, actions included in the 2010 plan will continue to be implemented during the next period (2010 – 2025).

Compatibility of actions vis-à-vis the SAP targets (2010)

According to the NAP of changing the timeframe for implementation from 2010 to 2015 will be more realistic.

Issue	Targets	
	2010*	**2025**
URBAN ENVİRONMENT		
1.1 Municipal Sewage	**dispose sewage from cities >100000 in conformity with LBS**	**Dispose all sewage in conformity with LBS**
1.2 Urban solid waste	**solid waste management system in cities >100000**	**solid waste management for all**

		urban agglomerations
1.3 Air pollution	**cities >100000 ambient air quality conform to standards**	**cities ambient air quality conform to standards**
INDUSTRIAL POLLUTION		
2. Industrial pollution	% 50 reduction of industrial emmisons and discharges	Industrial point sources discharge and emmisions conformity with LBS and standards
2.1 TPB		
- Twelwe priority POPs	% 50 reduction of inputs	Collection and disposal of all PCB waste and 9 prior pesticides in a safe and environmentally sound manner
- Other POPs	% 25 reduction of inputs of PAHs	Phase out to the fullest possible extent inputs of PAHs
- Heavy metals	%50 reduction of discharges, emissions and losses of heavy metals (mercury, cadmium and lead)	Phase out to the fullest possible extent discharges and emissions and losses of heavy metals
- Organometallic compounds	%50 reduction of discharges, emissions and losses of organomercury compounds	Phase out to the fullest possible extent discharges and emissions and losses of organometallic compounds

NAP Targets

Issue	**Targets**	
	2010	**2025**
2.2. Other heavy metals		
-Zinc, copper, chrome	reduction of discharges of zinc, copper and chrome	Phase out the discharges of zinc, copper and chrome
2.3. Organohalogen compounds: -Halogenated aliphatic	reduction of discharges of organohalogen compounds	Phase out the discharges of organohalogen

hydrocarbons -Halogeneted aromatic hydrocarbons -Chlorinated phenolic compunds -Organohalogenated pesticides		compounds
2.4 Radioactive substances		Eliminate to the possible fullest possible extent inputs of radioactive substances
2.5 Nutrients and suspended solids		
-Industrial wastewater	% 50 reduction of BOD, nutrients nad suspended solids from ind. installations	Dispose all wastewater from industrial installations which are sources of BOD, nutrients and suspended solids, in conformity with the provisions of the LBS protocol
-Agriculture		Reduction of nutrient inputs, from agriculture and aquaculture practices into areas where these inputs are likely to cause pollution
2.6 Hazardous wastes	To reduce as far as possible by %20 the generation of hazardous waste from industrial installations To dispose %50 of the hazardous waste generated, in a safe and environmentally sound manner and in conformity with the provisions of the LBS protocol and other internationally agreed provisions	Dispose all hazardous wastes in a safe and environmentally sound manner and in conformity with the provisions of the LBS protocol and other international agreed provisions.
-Obsolote chemicals	To collect and dispose all obsolete chemicals in a safe and environmentally sound manner	

-Used lubricating oil	To collect and dispose %50 of used lubricating oil in a safe and environmentally sound manner	
-Batteries	To reduce by %20 the generation of used batteries, To dispose %50 of used batteries in a safe and environmentally sound manner	To dispose all used batteries in a safe and environmentally sound manner

The public participation foreseen to implement the actions

Publicizing the studies of the Ministry of Environment and Forest, Provincial Directorates for Environment and Forest, Governor's Offices and Municipalities, as well as raising public consciousness, are crucial steps taken towards ensuring the public participation in the process of formulating, adapting and implementing National Action Plan and further ensuring the sustainability and permanency of the works carried out.

To this end, the following issues are vital:
- Announcing the locations of sensitive spots and hot spots to the public
- Listing and announcing the actions to be taken to reduce pollution in these zones,
- Preserving sensitive spots and hot spots and re-assessing the same on national and regional level if necessary.
- Announcing the conclusions of the works performed to the non-governmental organizations and public,
- Employing visual and print media to elevate social consciousness in environmental issues,
- Announcing the affirmative and successful studies performed by the Provincial Environmental Directorates and other related organizations,
- Utilizing the aids of banks, non-governmental organizations, entrepreneurs and sponsors in addition to the governmental investments devoted to preserving the living environment,
- Transforming such proceeds into environmental projects
- Ensuring the effect of necessary legal revisions and amendments on the strength of sound information conveyed to policy makers through the projects implemented.

Furthermore, studies have to be conducted to increase public consciousness. These activities can be categorized as follows:

- Making regional and national announcements via print and visual media (radio, television, newspapers),
- Holding meetings where decision-makers and policy-makers attend,
- Holding meetings in towns to be selected out of the Aegean and Mediterranean regions where the non-governmental organizations, people and representatives of the major industries in the region will attend.
- Stakeholders and target groups to take part in the process of formulating, adapting and implementing NAP.
    - NGOs
    - Industries
    - Trade unions
    - Scientific and academic organizations
    - Journalists, media and communication experts
    - Politicians

- Water-sewer and solid waste units of Metropolitan Mayoralties, and
- Teachers and educators

The cost estimate for the implementation of the actions

Table 1 List of high priority projects (projects with score higher than 70 according to the investment portfolio matrix) * Solid waste from tourism is included

Basin	List Of Projects	Estimated Cost	Resource Public/Private	Term
Seyhan Basin	Solid Waste Storage Plants for **Adana-Seyhan, Adana-Yüreğir** counties	$ 10.000.000 - 20.000.000	Public	2010
	Sewage and domestic wastewater treatment plant for **Adana-Karataş** county	$ 5.000.000 -7.000.000	Public	2010
Büyük Menderes Basin	Solid Waste Storage Plants for **Denizli-Merkez, - Uşak-Merkez** counties	$ 10.000.000 - 25.000.000	Public	2010
Antalya Basin	Solid Waste Storage Plants for **Antalya-Serik, Antalya-Merkez (hot spot) Antalya-Alanya (hot spot), Antalya-Manavgat (hot spot), Isparta-Merkez,** Isparta-Yalvaç ounties	$ 20.000.000 - 25.000.000	Public	2010
Küçük Menderes Basin	Solid Waste Storage Plants for the **İzmir-Ödemiş** county	$ 6.000.000 - 10.000.000	Public	2010
	Sewage and domestic wastewater treatment plant for the **İzmir-Çeşme** county	$ 5.000.000 -8.000.000	Public	2010
	Sewage and domestic wastewater treatment plant for the **İzmir-Buca, İzmir-Ödemiş** counties	$ 70.000.000 - 100.000.000	Public	2010
Gediz Basin	Solid Waste Storage Plants for **the İzmir-Menemen, Manisa-Salihli, Manisa-Turgutlu, İzmir-Bergama** counties	$ 10.000.000 - 15.000.000	Public	2010
	Sewage and domestic wastewater treatment plant for the **İzmir-Menemen** county	$ 25.000.000 - 35.000.000	Public	2010
Doğu Akdeniz Basin	Solid Waste Storage Plants for the **İçel-Silifke, İçel-Tarsus, İçel-Erdemli, İçel-Mersin,** (capacity improvement) * counties	$ 10.000.000 - 25.000.000	Public	2010
	Sewage and domestic wastewater treatment plant for the **İçel-Erdemli** county	$ 30.000.000 - 40.000.000	Public	2010
Batı Akdeniz Basin	Solid Waste Storage Plants for the **Muğla-Milas, Muğla-Fethiye, Muğla-Bodrum** counties	$ 6.000.000 - 10.000.000	Public	2010
	Sewage and domestic wastewater treatment plant for the **Muğla-Milas** county	$ 20.000.000 - 30.000.000	Public	2010
Ceyhan Basin	Solid Waste Storage Plants for the **Adana-Ceyhan, Adana-Kozan, K.Maraş-Merkez K.Maraş-Elbistan, Osmaniye-Merkez, Osmaniye-Kadirli** counties	$ 10.000.000 - 15.000.000	Public	2010
	sewage and domestic wastewater treatment plant for the **Adana-Ceyhan** county	$ 30.000.000 - 40.000.000	Public	2010

Basin	List Of Projects	Estimated Cost	Resource Public/Private	Term
Asi Basin	Solid Waste Storage Plants for the **Hatay-Dörtyol, Hatay-İskenderun, Hatay-Samandağ, Hatay-Antakya, Hatay Kırıkhan** counties	$ 7.000.000 - 12.000.000	Public	2010
Kuzey Ege Basin	Solid Waste Storage Plants for the **İzmir-Bergama** county	$ 6.000.000 - 10.000.000	Public	2010
	Sewage and domestic wastewater treatment plant for the **Balıkesir-Ayvalık, Balıkesir-Gömeç** counties	$ 5.000.000 -8.000.000	Public	2010
	Sewage and domestic wastewater treatment plant for the **İzmir-Bergama** county	$ 8.000.000 - 12.000.000	Public	2010
Asi Basin	Sewage and domestic wastewater treatment plant for the **Hatay-Dörtyol** county	$ 20.000.000 - 30.000.000	Public	2010
	Sewage and domestic wastewater treatment plant for the **Hatay-Samandağ, Hatay Kırıkhan** county	$ 25.000.000 - 35.000.000	Public	2010
Meriç - Ergene Basin	Sewage and domestic wastewater treatment plant for **Edirne-Enez** county	$ 2.000.000 - 4.000.000	Public	2010
	Solid Waste Storage Plants for the **Edirne - Merkez, Kırklareli - Lüleburgaz, Tekirdağ - Çorlu** counties	$ 4.000.000 - 8.000.000	Public	2010

Table 2 List of medium priority projects (projects with between 60 - 70 according to the investment portfolio matrix)

Basin	List Of Projects	Estimated Cost	Resource Public/Private	Term
Seyhan Basin	Sewage and domestic wastewater treatment plant for **Adana-Seyhan, Adana-Yüreğir** counties	$ 200.000.000 - 300.000.000	Public	2010
	Wastewater Treatment Plant for summer housing complexes and accommodation facilities	$ 1.000.000 - 2.000.000	Public	2010
	Treatment of industrial wastewaters produced during the production activities of **Textile industry**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 35.000.000 - 55.000.000	Private	2010
	Treatment of industrial wastewaters produced during the production activities of **Food Sector**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 25.000.000 - 35.000.000	Private	2010
	Treatment of industrial wastewaters produced during the production activities of **other organic chemical industries**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 20.000.000 - 30.000.000	Private	2010
	Treatment of industrial wastewaters produced during the production activities of **Pulp and Paper Sector**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 10.000.000 - 20.000.000	Private	2010
Antalya Basin	- Isparta-Yalvaç sewage and domestic wastewater treatment plant for the county	$ 15.000.000 - 25.000.000	Public	2010
	Wastewater Treatment Plant for summer housing complexes and accommodation facilities	$ 30.000.000 - 50.000.000	Public	2010
Büyük Menderes Basin	Treatment of industrial wastewaters produced during the production activities of **industrial organized district industry**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 8.000.000 - 12.000.000	Private	2010
	Sewage and domestic wastewater treatment plant for **Denizli-Merkez, Uşak-Merkez** counties	$ 50.000.000 - 70.000.000	Public	2010
	Wastewater Treatment Plant for summer housing complexes and accommodation facilities	$ 2.000.000 - 4.000.000	Public	2010

Basin	List Of Projects	Estimated Cost	Resource Public/Private	Term
	Treatment of industrial wastewaters produced during the production activities of **Textile industry**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 40.000.000 - 60.000.000	Private	2010
	Treatment of industrial wastewaters produced during the production activities of **Tannery industry**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 20.000.000 - 40.000.000	Private	2010
	Treatment of industrial wastewaters produced during the production activities of **Paper and Food industry**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 15.000.000 - 25.000.000	Private	2010
	Treatment of industrial wastewaters produced during the production activities of **other organic and inorganic industry** -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 20.000.000 - 40.000.000	Private	2010
Gediz Basin	Sewage and domestic wastewater treatment plant for **Manisa-Salihli, Manisa-Turgutlu, Manisa-Akhisar** counties	$ 50.000.000 - 80.000.000	Public	2010
	Wastewater Treatment Plant for summer housing complexes and accommodation facilities	$ 2.000.000 - 3.000.000	Public	2010
	Treatment of industrial wastewaters produced during the production activities of **Tannery** industry, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 10.000.000 - 20.000.000	Private	2010
	Treatment of industrial wastewaters produced during the production activities of **Food** Sector, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 1.000.000 - 5.000.000	Private	2010
	Treatment of industrial wastewaters produced during the production activities of **Textile** industry, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 40.000.000 - 60.000.000	Private	2010

Basin	List Of Projects	Estimated Cost	Resource Public/Private	Term
Asi Basin	Treatment of industrial wastewaters produced during the production activities of **Metal** industry, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 10.000.000 - 20.000.000	Private	2010
	Treatment of industrial wastewaters produced during the production activities of **Food** Sector, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 8.000.000 - 12.000.000	Private	2010
Küçük Menderes Basin	Treatment of industrial wastewaters produced during the production activities of **Textile** industry, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 5.000.000 - 10.000.000	Private	2010
	Treatment of industrial wastewaters produced during the production activities of **Metal** industry, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 2.000.000 - 4.000.000	Private	2010
	Treatment of industrial wastewaters produced during the production activities of **Food** Sector, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 3.000.000 - 5.000.000	Private	2010
	Treatment of industrial wastewaters produced during the production activities of **Pulp and Paper Sector**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 5.000.000 - 10.000.000	Private	2010
	Treatment of industrial wastewaters produced during the production activities of **Other organic chemical** Sector, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 5.000.000 - 10.000.000	Private	2010
	Wastewater Treatment Plant for summer housing complexes and accommodation facilities	$ 3.000.000 - 5.000.000	Public	2010

Table 2 (continued) List of medium priority projects (projects with between 60 - 70 according to the investment portfolio matrix) (continued)

Basin	List Of Projects	Estimated Cost	Resource Public/Private	Term
Doğu Akdeniz Basin	Treatment of industrial wastewaters produced during the production activities of **Food Sector**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 50.000.000 -80.000.000	Private	2010
	Treatment of industrial wastewaters produced during the production activities of **Petroleum Sector**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 10.000.000 -20.000.000	Private	2010
	Treatment of industrial wastewaters produced during the production activities of **Metal industry**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 15.000.000 -25.000.000	Private	2010
	Treatment of industrial wastewaters produced during the production activities of **Paper Sector**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 5.000.000 -15.000.000	Private	2010
	Wastewater Treatment Plant for summer housing complexes and accommodation facilities	$ 15.000.000 -25.000.000	Private	2010
Meriç - Ergene Basin	Sewage and domestic wastewater treatment plant for **Edirne - Merkez, Kırklareli - Lüleburgaz , Tekirdağ - Çorlu** counties	$ 80.000.000 - 140.000.000	Private	2010
	Treatment of industrial wastewaters produced during the production activities of **Pulp and Paper Sector**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 3.000.000 - 9000.000	Private	2010
	Treatment of industrial wastewaters produced during the production activities of **Textile Sector**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 4.000.000 -10.000.000	Private	2010

Basin	List Of Projects	Estimated Cost	Resource Public/Private	Term
	Treatment of industrial wastewaters produced during the production activities of **Food Sector**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 1.000.000 -5.000.000	Private	2010
	Treatment of industrial wastewaters produced during the production activities of **Other inorganic chemical** Sector, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 1.000.000 -5.000.000	Private	2010
	Treatment of industrial wastewaters stemming from **Metal industry** effected in lack of wastewater treatment plants, improving the current wastewater treatment plants	$ 1.000.000 -5.000.000	Private	2010

Table 2 (continued) List of medium priority projects (projects with between 60 - 70 according to the investment portfolio matrix)

Basin	List Of Projects	Estimated Cost	Resource Public/Private	Term
Kuzey Ege Basin	Treatment of industrial wastewaters produced during the production activities of **Tannery industry**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 5.000.000 - 10.000.000	Private	2010
	Wastewater Treatment Plant for summer housing complexes and accommodation facilities	$ 8.000.000 - 12.000.000	Public	2010
	Treatment of industrial wastewaters produced during the production activities of **Food Sector**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 10.000.000 - 20.000.000	Private	2010
Ceyhan Basin	Treatment of industrial wastewaters produced during the production activities of **Textile** industry, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 8.000.000 - 12.000.000	Private	2010
	Treatment of industrial wastewaters produced during the production activities of **Food** Sector, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 8.000.000 - 12.000.000	Private	2010

Basin	List Of Projects	Estimated Cost	Resource Public/Private	Term
	Treatment of industrial wastewaters stemming from **Aquaculture Production**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 5.000.000 - 7.000.000	Private	2010
	Sewage and domestic wastewater treatment plant for **K.Maraş-Merkez, K.Maraş-Elbistan, Osmaniye-Kadirli** counties	$ 30.000.000- 40.000.000	Public	2010
Batı Akdeniz Basin	Sewage and domestic wastewater treatment plant for **Muğla-Datça** county	$ 2.000.000 - 3.000.000	Public	2010
	Treatment of industrial wastewaters stemming from **Aquaculture Production**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 1.000.000 - 2.000.000	Private	2010
	Treatment of industrial wastewaters stemming from **mining activities**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 1.000.000 - 2.000.000	Private	2010
	Treatment of industrial wastewaters produced during the production activities of **Energy production** -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 4.000.000 - 6.000.000	Private	2010
	Wastewater Treatment Plant for summer housing complexes and accommodation facilities	$ 30.000.000 - 60.000.000	Public	2010

* Solid waste from tourism is included

Table 3 List of low-priority projects (projects with score below 60 according to the investment portfolio matrix)

Basin	List of projects sorted by priority	Estimated Cost	Financial resource Public/Private	Term
Doğu Akdeniz Basin	Treatment of industrial wastewaters stemming from mining activities, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 10.000.000 - 20.000.000	Private	2010
	Treatment of industrial wastewaters produced during the production activities of textile industry, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 15.000.000 - 25.000.000	Private	2010

Basin	List of projects sorted by priority	Estimated Cost	Financial resource Public/Private	Term
Ceyhan Basin	Treatment of industrial wastewaters produced during the production activities of other organic chemical industries, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 500.000-1.500.000	Private	2010
Antalya Basin	Treatment of industrial wastewaters stemming from Aquaculture Production, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 200.000-600.000	Private	2010
	Treatment of industrial wastewaters produced during the production activities of Food Sector, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 1.000.000 -2.000.000	Private	2010
	Treatment of industrial wastewaters stemming from mining activities, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 200.000-600.000	Private	2010
Gediz Basin	- improving the current Domestic Wastewater Treatment Plant in İzmir-Foça (e.g: increasing capacity, transforming physical treatment into biological treatment etc.)	$ 1.000.000 -2.000.000	Public	2010
Meriç - Ergene Basin	Treatment of industrial wastewaters stemming from **Electronic industry** effected in lack of wastewater treatment plants, improving the current wastewater treatment plants	$ 1.000.000 -5.000.000	Private	2010

Table 4 Investment plan for instruments supporting the National Action Plan (NEAP, 1998)

List of projects	Estimated Cost	Financial Resource Public /Private	Time scale
Works for Harmonizing the Legal and Corporate Structure			
Comparative Analysis of Corporate Authority and Responsibility – Working Method and Scope	< $ 5.000.000 private	Public	Short term
Comparative Analysis of Legal Regulation	< $ 5.000.000 private	Public	Short term
Classification of Land Utilization Capabilities, Establishing the Opportunities and Forms of Use and further Elaboration of the Land Utilization Plans	$ 5-25.000.000 private	Public	Medium term
Priorities in Systems for Raising the Public Awareness and Developing Information Systems			
Administration/Arrangement of Environmental Data	< $ 5.000.000 private	Public	Medium term
Environmental Training	$ 5-25.000.000 private	Public	Short term
Investments in Developing Environmental Management			
Promotion of Clean Technologies and Energy Resources	$ 26-50.000.000 private	Public	Medium term
Developing the Management of Coastal Areas	$ 26-50.000.000 private	Public	Short term

List of medium priority projects (projects with between 60 - 70 according to the investment portfolio matrix) (continued)

Basin	List Of Projects	Estimated Cost	Resource Public/Private	Term
Doğu Akdeniz Basin	Treatment of industrial wastewaters produced during the production activities of **Food Sector**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 50.000.000 -80.000.000	Private	2010
	Treatment of industrial wastewaters produced during the production activities of **Petroleum Sector**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 10.000.000 -20.000.000	Private	2010
	Treatment of industrial wastewaters produced during the production activities of **Metal industry**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 15.000.000 -25.000.000	Private	2010
	Treatment of industrial wastewaters produced during the production activities of **Paper Sector**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 5.000.000 -15.000.000	Private	2010
	Wastewater Treatment Plant for summer housing complexes and accommodation facilities	$ 15.000.000 -25.000.000	Private	2010
Meriç - Ergene Basin	Sewage and domestic wastewater treatment plant for **Edirne - Merkez, Kırklareli - Lüleburgaz , Tekirdağ - Çorlu** counties	$ 80.000.000 - 140.000.000	Private	2010
	Treatment of industrial wastewaters produced during the production activities of **Pulp and Paper Sector**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 3.000.000 - 9000.000	Private	2010
	Treatment of industrial wastewaters produced during the production activities of **Textile Sector**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 4.000.000 -10.000.000	Private	2010

Basin	List Of Projects	Estimated Cost	Resource Public/Private	Term
	Treatment of industrial wastewaters produced during the production activities of **Food Sector**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 1.000.000 -5.000.000	Private	2010
	Treatment of industrial wastewaters produced during the production activities of **Other inorganic chemical** Sector, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 1.000.000 -5.000.000	Private	2010
	Treatment of industrial wastewaters stemming from **Metal industry** effected in lack of wastewater treatment plants, improving the current wastewater treatment plants	$ 1.000.000 -5.000.000	Private	2010

List of medium priority projects (projects with between 60 - 70 according to the investment portfolio matrix) (continued)

Basin	List Of Projects	Estimated Cost	Resource Public/Private	Term
Kuzey Ege Basin	Treatment of industrial wastewaters produced during the production activities of **Tannery industry**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 5.000.000 - 10.000.000	Private	2010
	Wastewater Treatment Plant for summer housing complexes and accommodation facilities	$ 8.000.000 - 12.000.000	Public	2010
	Treatment of industrial wastewaters produced during the production activities of **Food Sector**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 10.000.000 - 20.000.000	Private	2010
Ceyhan Basin	Treatment of industrial wastewaters produced during the production activities of **Textile** industry, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 8.000.000 - 12.000.000	Private	2010
	Treatment of industrial wastewaters produced during the production activities of **Food** Sector, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 8.000.000 - 12.000.000	Private	2010
	Treatment of industrial wastewaters stemming from **Aquaculture Production**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 5.000.000 - 7.000.000	Private	2010
	Sewage and domestic wastewater treatment plant for **K.Maraş-Merkez, K.Maraş-Elbistan, Osmaniye-Kadirli** counties	$ 30.000.000- 40.000.000	Public	2010
Batı Akdeniz Basin	Sewage and domestic wastewater treatment plant for **Muğla-Datça** county	$ 2.000.000 - 3.000.000	Public	2010
	Treatment of industrial wastewaters stemming from **Aquaculture Production**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 1.000.000 - 2.000.000	Private	2010
	Treatment of industrial wastewaters stemming from **mining activities**, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 1.000.000 - 2.000.000	Private	2010

Basin	List Of Projects	Estimated Cost	Resource Public/Private	Term
	Treatment of industrial wastewaters produced during the production activities of **Energy production** -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 4.000.000 - 6.000.000	Private	2010
	Wastewater Treatment Plant for summer housing complexes and accommodation facilities	$ 30.000.000 - 60.000.000	Public	2010

* Solid waste from tourism is included

List of low-priority projects (projects with score below 60 according to the investment portfolio matrix)

Basin	List of projects sorted by priority	Estimated Cost	Financial resource Public/Private	Term
Doğu Akdeniz Basin	Treatment of industrial wastewaters stemming from mining activities, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 10.000.000 - 20.000.000	Private	2010
	Treatment of industrial wastewaters produced during the production activities of textile industry, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 15.000.000 - 25.000.000	Private	2010
Ceyhan Basin	Treatment of industrial wastewaters produced during the production activities of other organic chemical industries, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 500.000-1.500.000	Private	2010
Antalya Basin	Treatment of industrial wastewaters stemming from Aquaculture Production, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 200.000-600.000	Private	2010
	Treatment of industrial wastewaters produced during the production activities of Food Sector, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 1.000.000 -2.000.000	Private	2010
	Treatment of industrial wastewaters stemming from mining activities, -furnishing Wastewater Treatment Plants in areas in lack of the latter, -Improvement of current Wastewater Treatment Plants	$ 200.000-600.000	Private	2010
Gediz Basin	- improving the current Domestic Wastewater Treatment Plant in İzmir-Foça (e.g: increasing capacity, transforming physical treatment into biological treatment etc.)	$ 1.000.000 -2.000.000	Public	2010
Meriç - Ergene Basin	Treatment of industrial wastewaters stemming from **Electronic industry** effected in lack of wastewater treatment plants, improving the current wastewater treatment plants	$ 1.000.000 -5.000.000	Private	2010

Investment plan for instruments supporting the National Action Plan

List of projects	Estimated Cost	Financial Resource Public /Private	Time scale
Works for Harmonizing the Legal and Corporate Structure			
Comparative Analysis of Corporate Authority and Responsibility – Working Method and Scope	< $ 5.000.000 private	Public	Short term
Comparative Analysis of Legal Regulation	< $ 5.000.000 private	Public	Short term
Classification of Land Utilization Capabilities, Establishing the Opportunities and Forms of Use and further Elaboration of the Land Utilization Plans	$ 5-25.000.000 private	Public	Medium term
Priorities in Systems for Raising the Public Awareness and Developing Information Systems			
Administration/Arrangement of Environmental Data	< $ 5.000.000 private	Public	Medium term
Environmental Training	$ 5-25.000.000 private	Public	Short term
Investments in Developing Environmental Management			
Promotion of Clean Technologies and Energy Resources	$ 26-50.000.000 private	Public	Medium term
Developing the Management of Coastal Areas	$ 26-50.000.000 private	Public	Short term

NATIONAL ACTION PLAN

PALESTINIAN AUTHORITY

Assessment analysis of the issues included in the NAP

Seawater in the Gaza Strip is polluted to a large extent by sewage, sediments, nutrients, pesticides, litter and marine debris, and toxic wastes. The lack of concern during past years because of the political situation has left the coastal area in a bad and neglected state and consequently led to the deterioration of seawater quality. Urban sewage, industrial wastewater and solid waste are the major priority environmental issues in the area. The lack of sufficient wastewater treatment facilities makes wastewater the main source of pollution of the coastal zone of Gaza Strip. There are more than 20 individual sewage drains, ending either on the beach or a short distance away in the surf zone. High percentage of the wastewater that is generated in Gaza city is currently discharged without treatment into the sea. Most of the industrial plants in Gaza Strip discharge their wastewater without proper treatment or even without any treatment to the municipal sewerage system. Furthermore, the solid waste, which may include hazardous waste, is badly managed and is dumped without separation in the municipal landfills or open dumpsites. Also the gaseous emissions from some industries are not monitored, and no treatment is used which endanger the public health of the workers and the people living at close proximity to these industries.

The National priority actions for 2010

No	Project Name
1	Construction of Northern area central new wastewater treatment plant
2	Central wastewater Treatment Plant for Gaza and the Middle area
3	Implementation of Khan-Younis Sewerage Development
4	Beit- Lahia Effluent Reuse Demonstration Project
5	Feasibility Study Reuse of Slurry
6	Hazardous Waste Cell
7	Rehabilitation and Closing of Old Dumpsites at Rafah & Biet Hanoun
8	Enhancement of Separate Hazardous Waste Management
9	Development of SW Composting Technique and Communal Comp. Center
10	Pilot Project Organic Farming
11	Soil and Water Laboratory
12	Integrated Pest Control
13	Environmental assessment of sectoral policies
14	Agricultural Pests and Diseases Information System
15	Vector Control
16	Establishment of Rural Development Centres
17	Water Logging and Salinity Management
18	Information system to rationalize the use of water and soil
19	Industrial Environmental Management System
20	Integrating Environmental Education into Educational Curriculum
21	Increasing Women's Role Efficiency in Environmental Protection
22	Using Mass Media to Transmit Environmental Awareness
23	Raising Public Awareness on Wise Use of Water and Sanitation
24	Marine Monitoring and Database Management
25	Monitoring SW Dumping Sites and WWT Facilities
26	Environmental Standards and Guidelines
27	Purchase of Portable Air Quality Measurement Instruments, Phase I
28	Capacity Building to Enable Palestine Response and Communication to the Stockholm Convention
29	Coastal Zone Management for Gaza
30	Elmawasi Environmental Profile
31	Beach and Sand Dunes Management

Overview of the actions scheduled for 2025

No specific actions are planned for 2025. However, it is expected that actions for the control of urban sewage, solid wastes and industrial effluents will continue after 2010.

Compatibility of actions vis-à-vis the SAP targets (2010)

SAP targets for 2010	Actions included in the NAP of Palestinian Authority – Gaza Strip
Urban Sewage: Wastewater treatment plants built for all cities with population in excess of 100,000 people	Construction of WWTPs (Northern area, Gaza and Middle area), Khan-Younis sewerage development.
Solid wastes: SW's proper management and landfills constructed for all cities with population in excess of 100,000 people	Closing of old dumpsites (Rafah and Biet Hamoun). SW composting
Industrial effluents: BOD5 50% reduction, Heavy metals 50% emissions' reduction	Industrial Environmental Management System, Environmental Standards and Guidelines
Air Pollution: Control emissions	
Organohalogen compounds: Formulation of programs for reduction and control of these substances	
Hazardous wastes: Good management and reduce releases from industrial installations. Prohibiting the use, collect and dispose PCBs	Enhance separate hazardous waste management

The public participation foreseen to implement the actions

Public information and awareness is one of the key strategy elements of the NAP of Palestinian Authority – Gaza Strip. The main issues include awareness campaigns on:
1. Wastewater practices;
2. Collection of solid and hazardous waste;
3. Prevention of waste littering and burning;
4. Information regarding exposure risks from open hazardous waste dumps;
5. Agricultural pollution;
7. Industrial pollution.

The cost estimate for the implementation of the actions

Already "committed" funds for aid and investments amount to US$ 850 million. These funds are in "the aid pipe line", and the related projects may come on stream. The capacity of the Palestine economy to absorb committed aid projects lacks behind the committed funds. The PDP recommends therefore a "realistic upper limit" of available external funding in the order of US$ 510 million per year.
For distribution of this budget over the 7 Environmental issues, the following guiding principle has been applied in preparing the NAP. This preferred distribution was based on the priority setting of Strategy Elements of the ESP.

Preferred Budget Share for NAP Issues

No	**Environmental issue**	Preferred share of budget **%**
1	Wastewater Management	24.5
2	Solid Waste Management	12
3	Industrial Pollution Control	5.9
4	Agricultural and Irrigation Management	9
5	Land use Planning	3.7
6	Public Information and Awareness	2.1
7	Monitoring, Database Management and Studies	5.3
	Other environmental issues	

NAP Investment Plan

The investments that are required for the NAP projects, both for their total project cycle are presented in the following table.

Size of investment required for each NAP project

No	Project Name	**Cost**, USD
1	Construction of Northern area central new wastewater treatment plant	57,000,000
2	Central wastewater Treatment Plant for Gaza and the Middle area	86,000,000
3	Implementation of Khan-Younis Sewerage Development	114,000,000
4	Beit- Lahia Effluent Reuse Demonstration Project	2,000,000
5	Feasibility Study Reuse of Slurry	450,000
6	Hazardous Waste Cell	750,000
7	Rehabilitation and Closing of Old Dumpsites at Rafah & Biet Hanoun	3,000,000
8	Enhancement of Separate Hazardous Waste Management	55,000,000
9	Development of SW Composting Technique and Communal Comp. Center	530,000
10	Pilot Project Organic Farming	200,000
11	Soil and Water Laboratory	500,000
12	Integrated Pest Control	97,000
13	Environmental assessment of sectoral policies	150,000
14	Agricultural Pests and Diseases Information System	250,000
15	Vector Control	2,000,000
16	Establishment of Rural Development Centres	2,000,000
17	Water Logging and Salinity Management	12,700,000
18	Information system to rationalize the use of water and soil	1,434,000
19	Industrial Environmental Management System	1,000,000
20	Integrating Environmental Education into Educational Curriculum	300,000
21	Increasing Women's Role Efficiency in Environmental Protection	160,000
22	Using Mass Media to Transmit Environmental Awareness	180,000
23	Raising Public Awareness on Wise Use of Water and Sanitation	350,000
24	Marine Monitoring and Database Management	1,000,000
25	Monitoring SW Dumping Sites and WWT Facilities	1,000,000
26	Environmental Standards and Guidelines	1,000,000
27	Purchase of Portable Air Quality Measurement Instruments,	525,700

	Phase I	
28	Capacity Building to Enable Palestine Response and Communication to the Stockholm Convention	700,000
29	Coastal Zone Management for Gaza	612,000
30	Elmawasi Environmental Profile	800,000
31	Beach and Sand Dunes Management	1,200,000
	Total	**346,888,700**

The cost estimates were based on preliminary evaluation of the project components and related cost. It is assumed that, after finalizing of project proposals in co-operation with the stakeholders involved, these cost estimates may change between 5% to about 25%. As has been clarified in the previous tables, the total required investment in the NAP priority projects are estimated to be about US$ 346 million up to the year 2010. Taking into account an expected maximum deviation of about 25% after detailed project preparation, the total investment will safely remain below the available budget of US$ 554 million, as has defined as ceiling for the NAP for the coming planning period.