SUMMARY PROJECT FICHE

Project Number BG 9912

Title: Institution Building and Investment Projects for the Ministry of Environment and Water

Sub-programme: Environment
Geographical Location: Bulgaria

Objectives: The *overall objective* is to assist the Republic of Bulgaria in preparing for accession to the European Union by strengthening its environmental legislation in specific key areas, bringing it into line with EU requirements and improving the institutional and administrative framework necessary to implement and enforce this legislation.
This project is fully in compliance with the Accession Partnership requirements, namely:

- continuation of the transposition of legislative framework
- establishment of detailed approximation programmes and implementation strategies related to individual acts
- planning and commencement of implementation of these programmes and strategies
- strengthening of the public administration at national and local levels
- supporting the improvement of infrastructures contributing to pollution reduction.

The *immediate objectives* include:

1. develop environmental policies, harmonise and enforce legislation, strengthen the public administration to transpose and prepare the programme for putting in operation the following specific EU directives:
   - 96/82/EC (Seveso)
   - 96/59/EC (polychlorobiphenyls- PCBs/polychloroterphenyls- PCTs disposal)
   - 94/62/EC (packaging and packaging waste)
   - 96/61/EC (Integrated Pollution Prevention and Control-IPPC)

2. pilot action to assist the Bulgarian municipalities in putting in operation the requirements of air quality management envisaged in the Air Quality Framework Directive 96/62/EC and daughter directives COM/97/500 and 92/72/EC, already transposed by the corresponding Bulgarian regulations.

3. support the Ministry of Environment and Water in establishing, putting in operation and making functional the authorities in charge of the river basins management according to the requirements of the new Water Act.

4. reduce the urban air pollution by limiting the harmful effects of the exhaust gases from the public transport through the replacement of old engines with new standard dual fuel powered engines in compliance with EU requirements, for the buses in Sofia.

Description: **Institution Building component:**

Sub-project 1

Support the transposition and the implementation of specific essential European Union environmental Directives:

The existing Bulgarian legislation for industrial pollution control, risk management and waste is not fully in line with EU standards and the existing administrative systems for implementing and enforcing those laws are insufficiently developed.
The specific objective of this sub-project is to assist the Ministry of Environment and Water

in:

- transposition of waste management legislation and adoption of regulations concerning the limiting the quantity of packaging and the ruling the disposal of PCBs/PCTs (EU directives 96/59/EC and 94/62/EC)
- transposition of environmental legislation and application of environmental requirements for the control and minimisation of large industrial accidents risks through the adoption of the Seveso directive (96/82/EC)
- introducing and facilitating the implementation of the Integrated Pollution Prevention and Control (IPPC Directive 96/61/EC).

Long and short term advisors will be made available through **twinning** assistance for the achievement of the following expected results:

- strengthening of the administrative knowledge and capacity to implement the directives
- drafts regulations limiting the quantity of packaging in the waste stream and ruling the PCBs and PCTs disposal
- establishment of a registration system of chemical plants and specific arrangements for emergencies
- development of the prevention methods and emergency response procedures
- setting up of a permanent risk assessment programme
- development of a flexible, result-oriented approach towards permitting
- drafting of permits containing measures preventing pollution based on application of Best Available Technologies
- preparation and carrying out of training programmes at national and regional levels, involving the private sector and municipalities.

Sub-project 2

Support of air quality management of at local level:

At present, 14 areas of the country have been designated by the government as hot spots for air quality (see attached map). According to the Clean Air Act and the regulation on air quality management and assessment [transposing Directive 96/62/EC] which enters into force on 01.01.2000, the Municipalities of hot spot areas are obliged to prepare and implement relevant programs and action plans in order to achieve the air quality standards.

The immediate objective of the sub-project is to promote the putting in operation of the Air Quality Framework Directive and daughters directives COM/97/500 and 92/72/EC. The idea is based on the requirements of the Clean Air Act and aims to prepare and implement an air quality management plan for attainment of the air quality limit values in an urban area where those values are now significantly exceeded. The immediate intention is to provide an example of this complex air quality planning process, as a learning exercise and as a model in Bulgaria.

The area selected for this pilot sub-project is Pernik, as being the town having the worst air quality in comparison with the other 13 hot spots. The size of the town is corresponding to the "agglomeration" definition as given in the Directive.

Long and short term advisors will be made available through **twinning** assistance for the achievement of the following expected outcomes:

- preparation and implementation of an air quality management plan model tested in a pilot hot spot
- assistance to the Ministry of Environment in the preparation and carrying out of a plan for the disseminating of the lessons learned to the other hot spot areas of the country: assistance in the preparation of a number of guidebooks, and training reference materials for use by other local and provincial authorities that will have to implement similar in air quality planning process.

The Ministry of Environment and Water will ensure that the results of the sub-project are properly utilised in the other hot spot areas.

Sub-project 3

Establishing and institutional strengthening of the water management authorities:

The Water Act, to be adopted by the end of the year 1999, envisages the establishing of the local authorities in charge with the management of the 4 or 6 proposed river basins (see map attached). Two different options concerning the organisation / structure of river authorities in Bulgaria are under discussion: one envisages the establishment of four River Basin Authorities: Blagoevgrad (rivers Struma and Mesta), Plovdiv (rivers Maritsa, Arda and Tundzha), Pleven (rivers Iskar, Yantra, Vit and Osum), and Varna (for the Black Sea Rivers); the second of six: Blagoevgrad (rivers Struma and Mesta), Plovdiv (rivers Mariza and Arda), Pleven (rivers Yantra, Vit and Osum), Varna (for the Black Sea Rivers), Bourgas (river Tundzha), Vratsa (river Iskar). The most likely option is the adoption of the solution with four Authorities.

The sub-project aims at assisting the Ministry in identifying and putting in operation the structure and the organisation of the River Basin Authorities (RBAs) so to avoid possible shortcomings, problems and constraints, in taking the necessary concrete actions to strengthen the position of RBAs among other environmental structures so that it becomes a strong environmental organisation able to provide relevant services. This sub-project will be a direct continuation of Phare 1998 twinning sub-project with practical implementation of the Regulation for Waste Water Discharges and Emission Norms by RBAs.

Long and short term advisors will be made available through **twinning** assistance for the achievement of the following results:

- the design of organisational structure, service level and tasks for the newly created River Basin Authority
- the proposition of a new structure on the system for permitting the procedure of intakes and discharges and their related quality and quantity
- the identification and development of the training programme to enforce the administrative structures and its capacities for monitoring and implementation of permitting control
- the training of the personnel of the RBAs.

The equipment of the new management authorities will be financed by the Bulgarian State budget.

In the case 6 river basins are set up under the new Water Law, no additional budget could be allocated to the sub-project. In that case, the sub-project would need to be reorganised.

Investment Support component:

Sub-project 4

Limiting the harmful effect of the exhaust gases from the urban transport buses in Sofia

Sofia has been identified by a government decree as a hot spot as regards the air quality. The largest contribution to the pollution of the atmospheric air in Sofia comes from the automobile transport (buses and cars). The public transport has a considerable impact on the formation of high concentrations of nitrogen oxides, carbon oxide and carbon dioxide, especially in the big crossroads. In order to improve the air quality, Sofia municipality adopted programmes for reduction of the harmful impact of air pollution which envisage, among others measures, the renovation of the outdated buses park.

A Phare 1994 project aimed to investigate the possibilities and alternative strategies of converting diesel powered buses to natural gas and to encourage the introduction of improved environmental control techniques. The present project is the direct continuation of this pilot project.

The purpose of the sub-project is to replace the old engines of a sufficient number of buses in Sofia with new dual fuel powered engines (in compliance with EU requirements) to permit a significant decrease of air pollution in the city. The sub-project will permit to achieve compliance with the EU legislation concerning exhaust gases emission standards and the

EU legislation on ambient air quality assessment and management (Framework and the corresponding Daughter directives) already introduced in the Bulgarian legislation with the following regulations of the Ministry of Environment and the Ministry of Health under the Clean Air Act: Regulation on AAQ assessment and management; Regulation on SO2, NOx, PM and lead AAQ standards and Regulation on AAQ standards for ozone, and the compliance to the EU quality standards for engines for public transport. The sub-project also includes the provision of the necessary equipment for control of emission's parameters, and the supply for a gas filling station in Sofia.
The National Environmental Protection Fund will co-finance the project by supplying additional engines. The municipality of Sofia will contribute to the project with the supply of a small number of new buses and maintenance of the ones, delivered under the project. The Municipality of Sofia is committed to ensure the maintenance of the equipment during its lifetime duration.

Institutional Framework: The Ministry of Environment and Water will be the Implementing Agency for the sub-project. The technical management of the sub-projects will be the responsibility of the following bodies:

Sub-project 1

Support the transposition and the implementation of specific European Union Directives: The Waste Management Department and Department for Co-ordination and Action during Environmental Risk at the Ministry of Environment and Water of Bulgaria will be in charge of the technical implementation of the PCBs/PCTs and Seveso components of the project. For the IPPC component, the Ministry will appoint by 12/99 the beneficiary department within the Ministry.

Sub-project 2

Support the management of the air quality at local level: The Air Protection Department at the Ministry of Environment and Water will be responsible for the management of the sub-project. The following other institutions will be involved during project implementation:
- Ministry of Environment and Water – Air Protection Department;
- National Centre of Environment and Sustainable Development – Air Monitoring Department;
- Sofia Regional Environmental Inspectorate – Pernik Department;
- Municipality of Pernik – Environmental Department;
- Ministry of Health – Regional Epidemiological Inspection;
- Ministry of Transport – Regional Directorate of the State Vehicle Agency;
- Ministry of Interior – Regional Directorate on Vehicle Traffic Control;
- Private sector (representatives of the main polluting industries) and NGOs.

Sub-project 3

Establishing and institutional strengthening of the water management authorities: The Division of Water Management at the Ministry of Environment and Water will be responsible for the implementation of the sub-project.

Sub-project 4

Limiting the harmful effect of the exhaust gases from the urban transport buses in Sofia: The Municipality of Sofia will be responsible for the technical management of the project.

Budget:

Title of sub-project	Institution Building	Investment	Total Phare	Recipient	TOTAL
Sub-project 1 Support the transposition and the implementation of specific European Union Directives	1,4	0	1,4	0	1,4
Sub-project 2 Support the management of the air quality at local level	0,55	0	0,55	0	0,55
Sub-project 3 Establishing and institutional strengthening of the water management authorities	0,65	0	0,65	0	0,65
Sub-project 4 Limiting the harmful effect of the exhaust gases from the urban transport buses in Sofia	0	2,3	2,3	1,5	3,8
TOTAL	**2,6**	**2,3**	**4,9**	**1,5**	**6,4**

Implementation Arrangement:

The Ministry of the Environment and Water of the Republic of Bulgaria is the Implementing Agency (IA) for all the sub-projects.

The financial management of the twinning arrangements (sub-projects 1, 2 and 3) will be the responsibility of the CFCU.

The Ministry of the Environment and Water will be in charge of the contracting and financial management of sub-project 4.

For the sub-projects implemented under a twinning arrangement, a specific work plan defining tasks, competencies, role and time schedule of the Bulgarian authorities will be agreed with the twinning partner prior to the start of the assistance and will be part of the twinning covenant (see draft in annex).

Conventional Phare tendering procedures shall be followed as outlined in the DIS manual for sub-project 5. The IA will undertake the procurement process.

The salaries of the staff of the Ministry of Environment working on the projects, office accommodation, and all the relative running costs and logistical support (telecommunications, printing, etc.) will be provided/financed by the Ministry of Environment and Water.

Implementation Schedule

Implementation schedule is indicative as follows:

- Start of tendering: January 2000
- Start of project activity: First quarter 2000
- Completion: July 2002

All the sub-projects need to be contracted 2 years after the signature of the Financing Memorandum, and disbursed 3 years after the signature of the Financing Memorandum.

Environment

Environmental benefits from the institution building projects:

The institution building projects will result:

- in transposing specific EU directives for an effective waste management regime for specific types of waste such as: packaging and PCBs/PCTs (EU directives 96/59/EC and 94/62/EC).
- preparing the basic requirement to transpose and implement the EU legislation in the areas of control of major accident hazards and control of industrial emissions. The

first area covers the Seveso Directive 96/82/EC, and the second includes the Integrated Prevention Control Directive 96/61/EEC

- strengthening the public administration promoting the putting in operation Air Quality Framework Directive and daughter directives COM/97/500 and 92/72/EC through the implementation of a tested air quality management plan for the hot spot areas of the country
- assisting the Ministry in establishing and putting in operation the local authorities in charge of the river basin management, the River Basin Authorities (RBAs) through the identification of possible shortcomings, problems and constraints and the recommendation of concrete actions to be taken to strengthen the position of RBAs among other environmental structures so that it becomes a strong environmental organisation able to provide requested professional assistance.

Environmental benefits from the investment project

Environmental effect for Sofia

1. Environmental effect from the replacement of 50 old engines D2156HM6U with new ones – D10UTS155E1, corresponding to EURO 1 for 14 hours operation per day and daily run 245 km, 250 days per year.

Pollutant	*Old D2156HM6U, kg/day*	*New D10UTS155E1, kg/day*	*Effect of reduction for 50 pcs.*	
			Kg/day	*T/year*
CO	1,120	210	910	227.5
NOx	1,410	860	550	137.5
CH (hydrocarbons)	505	57.5	447.5	111.9
Solid particles	55	25	30	7.5
Total effect				**484.4**

2. Environmental effect from the replacement of 20 old engines D2156HM6U with new ones, operating on dual fuel (gas-diesel) – D2156HM6U), corresponding to EURO 1 for 14 hours operation per day, daily run of 245 km, 250 days per year

Pollutant	*Old D2156HM6U, kg/day*	*New dual fuel D2156HM6U, kg/day*	*Effect of reduction for 20 pcs.*	
			Kg/day	*T/year*
CO	448	216	232	58
NOx	564	284	280	70
CH (hydrocarbons)	202	62.8	139.2	34.8
Solid particles	22	10	12	3
Total effect				**165.8**

The total effect for Sofia is Total 1 + Total 2 = 650 tons per year, reduction of emissions of pollutants.

Reference: Company Polyconsult Eco Ltd. (Bulgaria) Sept. 98

Rate of return Not applicable

Investment criteria

1. Catalytic Effect

The all projects exhibit catalytic effects being targeted at promoting compliance with EU Directives, norms and regulations from the acquis communautaire. Implementation will result in accession driven actions, which would otherwise would have taken place or would take place at a later date.

2. Co-financing:

The institution building projects will be financially supported by the Ministry of Environment and Water through the provision of office accommodation with furniture and other facilities (telephone, fax, copiers), the necessary translations, the coverage of the running costs of the project (telephone and fax bills, photo-copies, paper, etc.)

The investment project will be supported by local investment: Municipality of Sofia 0.8 MEUR (small number of new buses), the National Environmental Protection Fund 0.7 MEUR (additional engines). The Municipality will cover the management, running and maintenance costs of sub-project.

3. Additionality

Phare intervention has not displaced other public or private sector financiers for this project.

4. Project readiness

The sub-projects are in an advanced stage of preparation. Preparatory studies have been undertaken. Technical Specifications are ready. However, some conditionalities remain for the starting of some of the projects (see relevant section).

5. Sustainability

The projects comply with norms and standards and are coherent with the sector policies of the EU. Some of the projects would be implemented as pilot ones and the other are direct continuation of previously implemented projects and can be regarded as promoting the further environmental sustainable development.

Conditionality and sequencing

The fulfilment of the following conditionalities will be checked by the EC services before the starting of the projects.

Sub-project 1

Support the transposition and the implementation of specific European Union Directives:

The implementation of the third activity of the sub-project, namely the one concerning the introduction of the Integrated Pollution Prevention and Control (IPPC Directive 96/61/EC), is strictly conditioned by:

- the adoption by the Ministry of a clear consensus on the strategy for approximation (by 09/99)
- the establishment of an IPPC unit staffed with qualified experts (by 12/99) and a clear statement on the competencies and responsibilities of the IPPC unit over the transposition and implementation of the directive (by 12/99).

Sub-project 2

Support the management of the air quality at local level:

- Prior to sub-project implementation, the Ministry will work out a plan for continuation of the programme and the best utilisation of the results of the pilot action. The plan shall contain a clear statement of the Ministry of Environment and Water in continuing the preparation and implementation of air management plans for the all hot spot area of the country.

Sub-project 3

Establishing and institutional strengthening of the water management authorities:

- The New Act for Water is under discussion in Parliament and will be adopted by end of year 1999. Two different options concerning the organisation/structure of river authorities in Bulgaria are under discussion. One envisages the establishment of four River Basin Authorities, the second one six. The most likely option is the adoption of the solution with four Authorities, and the project has been designed accordingly. In case the option with six Authority will adopted, the Ministry shall agree with the twinning partner and the EC services on a project re-organisation. No budget revision will be allowed and the Ministry of Environment and Water shall fund similar actions in the two additional authorities.

Sub-project 4

Limiting the harmful effect of the exhaust gases from the urban transport buses in Sofia

- Effective institutional commitment by the Municipality of Sofia to maintain satisfactorily the new engines after project completion.

ANNEXES

1. Log-frame in standard format

2a. Cumulative contracting and disbursement schedule standard format for full duration of programme

2b. Detailed implementation time chart in standard format

3. Detailed sub-projects fiches:

Sub-project 1: Support the transposition and the implementation of specific European Union Directives.

Sub-project 2: Support the management of the air quality at local level.

Sub-project 3: Establishing and institutional strengthening of the water management authorities

Sub-project 4: Limiting the harmful effect of the exhaust gases from the urban transport buses in Sofia

4. Relation of project with previous Phare activities

5. Reference to feasibility studies

6. List of main relevant laws and regulations

7. Reference to relevant Government strategies.

Summary Twinning Project Fiche including twinner profile

ANNEX 1

LOGFRAME PLANNING MATRIX FOR PROJECT: **Institution Building and Investment Projects for the Ministry of Environment and Water**

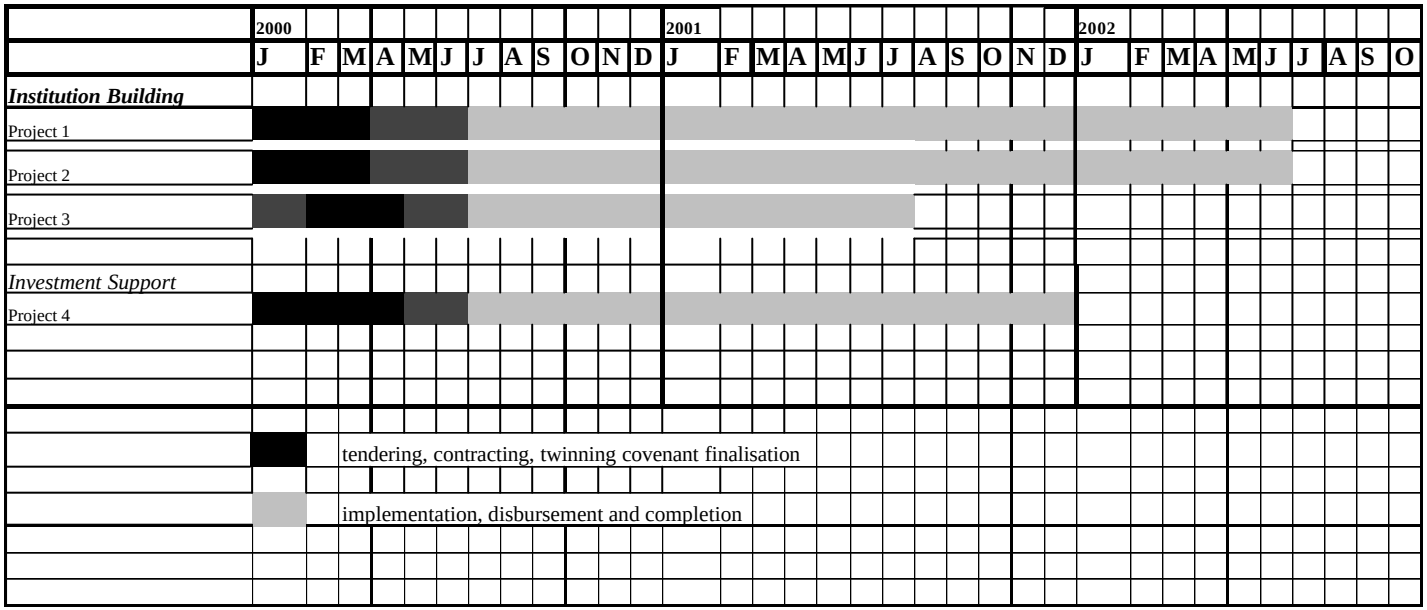
TOTAL BUDGET: 4.9M€

Contracting period expires: 31 December 2001

Disbursement period expires: 31 December 2002

Wider Objectives:	**Indicators of Achievement:**	**Source of Information:**	**Assumptions and Risks:**
• Assist the Ministry of Environment and Water of Bulgaria in the continuation of the transposition of EU environmental legislative framework, the establishment of detailed approximation programmes and implementation strategies related to individual acts, the planning and the commencement of implementation of these programmes and strategies**, the** strengthening of the public administration at national and local level**,** supporting the infrastructures improvement contributing to environmental control and pollution reduction	• Development of functional institutional structures and realisation of accession programmes • Establishment of a sound, modern legal framework in line with EU legislation and best practice • Improvement of environmental infrastructures in relation to pollution control, emissions reduction, protection of environment and human health	• EC and IFI assessment reports • Documents by the Ministry of Environment and Water • Statistic of Ministry of Environment and Water	• Stable political commitment and engagement • Inter ministerial co-operation • Cooperation with other governmental institutions
Immediate Objectives			
• Develop environmental policies, harmonise and enforce legislation**,** strengthen the public administration to transpose and prepare the programme for putting in operation the following specific EU directives: Seveso, IPPC, PCBs/PCTs disposal, packaging and packaging waste. • Support the municipalities of the hot spot areas in putting in operation the Air Quality Framework Directives and daughters directives COM/97/500 and 92/72/EC • Support the Ministry of Environment and Water in establishing and putting in operation the authorities in charge with management of rivers basin • Reduce the air pollution emission at source limiting the harmful effects of the exhaust gases from the urban public transport in Sofia	• The specific directives are transposed and legislation adopted, the administrative structure is capable to implement the directives, a phased plan for implementation is adopted • The air management plans are adopted and implemented in the hot spot areas. • The River Basin Authorities are established and fully operational • Respect emission's thresholds in the public transport sector . Urban air pollution in Sofia is visibly reduced.	• List of adopted Bulgarian legislation • The Ministry of Environment and Water approvals of plans and programmes • Continuos monitoring of parameters and compliance with the norms	• Full commitment of the recipient departments at the Ministry of Environment and Water • Strong link and Co-operation between the recipient departments and the legal department • The specific conditionalities for the starting of the sub-projects are fulfilled • Co-financing from the Bulgarian authorities is available.
Outputs			
• Strengthening of administrative knowledge and capacity to implement the directives, drafts implementing of specific regulations; the implementation of preparatory steps for the identification of major accident hazards and for taking steps to control them and to limit their effect; the development of a flexible, result-oriented approach towards permitting; the determination of criteria for the management of industrial pollution • Implementation of a comprehensive air quality management plan for a pilot urban area, and the dissemination of the results/experience to the other 13 hot spot areas of the country • River Basin Authorities are established and fully operational • Introduction of new gas powered engines for the public transport buses in Sofia	• Awareness build among the stakeholders in general, adoption of relevant regulations, criteria for inventory major risks hazards adopted, permitting system in place, conducted training • Results from pilot are finalised and disseminated • The water management structures are in place and the staff is trained • The eco-buses circulate in Sofia	• Technical sub-projects reports, including twinning reports • Measurements and monitoring by MoEW • Proceeding from workshops and seminars • Projects' audit reports • EC/Bulgarian authorities meetings	• Clear consensus on the strategy for approximation of the relevant EU Directives • Setting up of appropriate IPPC Unit in the Ministry of Environment • Definition of programme for disseminating the air management plan to all hot spot areas • Adequate co-financing available. • Effective institutional commitment by the recipients to maintain satisfactorily the new engines after project completion, • Long term maintenance contracts from suppliers
Inputs			
• Long and short term expertise detached from member state • Contracted technical assistance in projects preparation of different legislation and measures • Funds available for the investment: provision of equipment and its installation	• Outputs from the twinning technical covenant are fulfilled • Tender procedure are successful and contracts are finalised • Delivery of supplies and successful installation. Maintenance ensured	• Monthly implementation reports • Tender evaluation reports • MoEW and EU Commission to monitor the tender process and carrying out the assignment • Meeting reports	• Adequate member state secondments • Twinning covenants prepared without delay • Adequate expertise is provided • Effectiveness and professionalism of all concerned

ANNEX 2b
Detailed Implementation Time Chart



ANNEX 2a
Contracting and Disbursement Schedule

Institutional Building and Investment Projects for the Ministry of Environment and Water of Bulgaria											
	PLANNED										
	31.12.1999	31.3.2000	30.6.2000	30.9.2000	31.12.2000	31.3.2001	30.06.2001	30.9.2001	31.12.2001	31.3.2002	**TOTAL**
Commitments											
Cumulative MEUR			4.7	4.9	4.9	4.9	4.9	4.9	4.9	4.9	**4.9**
Institution Building			2.4	2.6	2.6	2.6	2.6	2.6	2.6	2.6	**2.6**
Investment			2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	**2.3**
Disbursement											
Cumulative MEUR				2.86	2.91	3.52	4.13	4.74	4.9	4.9	**4.9**
Institution Building				0.48	0.61	1.22	1.83	2.44	2.6	2.6	**2.6**
Investment				1.38	2.3	2.3	2.3	2.3	2.3	2.3	**2.3**

ANNEX 3

Individual project fiches

ANNEX 4

Relation of Project with Previous Activities

Institution Building

- **DISAE facility** - BUL 111. Development of the Bulgarian Implementation Programme for the Approximation of EU Environmental Legislation.

- **Danish Environmental Agency**. Approximation of the environmental legislation with EU pollution control requirements.

- **Phare National Programme 1998**. Twinning project for institutional building – main sub-project is the Preparation of the National Environment Strategy. Facilitate the elaboration of the "environment" section of the national development plan of the Republic of Bulgaria which will be prepared within the frame of special preparatory programme for Bulgaria for the structural funds of EU.

Investment

- The project is the continuation of the pilot project **BG 9408-04-01**. Reduction of the urban transport exhaust emission in Sofia. The project envisaged the delivery of 22 new engines, conforming to EURO 1 norms for the buses of Sofia Urban Transport Company and replacing the old ones.

- Capital City Company for Public Transport. Ecological Assessment Study on the pilot project for the decrease of harmful effect from the exhausted gases of the public transport buses in Sofia.

SUB-PROJECT No. 1

Title: **Support the transposition and the implementation of specific European Union Directives**

Recipient Institution: Waste Management Department and Department for Co-ordination and Action during Environmental Risk at the Bulgarian Ministry of Environment and Water.

Background: Although there has been particular progress in the development and the implementation of waste management standards and regulations since the adoption of Waste Management Law, there is still a series of EU regulations that need to be transposed into the Bulgarian legislation.
The recently updated NPAA identifies the following short term objectives for the approximation of the waste management legislation:

- adoption of the directive 96/59/EC on the disposal of PCBs/PCTs: by June 2000.
- adoption of the directive 94/62/EC on packaging and waste packaging: by November 2000
- The introduction of the SEVESO Directive 96/82/EC and IPPC Directive 96/61/EC: by the year 2000.

Objectives: The specific objective of theproject is to assist the Ministry of Environment

- in transposing specific EU directives for an effective waste management regime for specific types of waste such as: packaging and PCBs/PCTs (EU directives 96/59/EC and 94/62/EC).
- preparing the basic requirement to transpose and implement the EU legislation in the areas of control of major accident hazards and control of industrial emissions. The first area covers the Seveso Directive 96/82/EC. The second include the Integrated Prevention Control Directive 96/61/EEC

Description: The project aims in general to:

1. ensure an overview of the existing relevant legislation and procedures to create a basis for transposition
2. to make it possible to change the Bulgarian legislation and the administrative structures in accordance with EU requirements
3. strengthen the knowledge of EU environmental law and policies among the relevant stakeholders and specific training package shall be developed
4. identify and implement specific visible measures

and more specifically to:

<u>Packaging and PCBs/PCTs:</u>

- give solutions at the administrative and technical issues related to the transposition of legal standards concerning the directives: PCBs/PCTs and packaging waste

<u>Seveso:</u>

- define the procedures to be put in place to ensure that all existing installations with major-accident hazards potential have taken the measures needed to prevent major accidents and limit their consequences
- define criteria to develop external emergency plans
- define criteria to improve methods and emergency procedures
- define criteria to program inspections

IPPC:

- time and phasing the implementation of directive according the capacity of the existing administration
- development of a flexible, result-oriented approach towards permitting
- drafting of permits containing measures preventing pollution based on application of Best Available Technologies

The following activities shall be carried out in general:

1. Identify the changes needed to Bulgarian legislation and administrative structures in order to meet EU requirement for implementation of the directives
2. Plan and develop an intensive training programme for the all relevant bodies in charge with the implementation of the directives, and in particular:

Packaging and PCBs/PCTs:

- establish a framework for the transposition of the directives
- preparing the regulation for collection, storage and disposal of PCBs and PCTs
- harmonising the methods for determination of PCBs and PCTs
- preparing a scheme to inventory the contamination from PCBs and PCTs and a work plan for decontamination
- preparing the regulation for limiting the quantity of packaging in the waste stream
- preparing a set of recommendation to improve the collection system of packaging waste
- preparing a programme to introduce separate collection systems at local level

Seveso:

- establish a registration system (inventory) for all existing installations with major accident hazards potential. The inventory shall include: total production, quality of production, quantity and storage, safety report, emergency plan, and management system
- establish basic criteria to test and review the emergency plans
- define the interventions needed in case of accidents
- define the schemes for systematic appraisal of major-accident hazards
- organise and conduct a workshop for the relevant persons in MoE and
- organise a study tour for ministerial staff in the twinning partner country
- prepare training and educational material

IPPC:

- introduce the knowledge of the directive to relevant stakeholders
- prepare an inventory of the principal emissions and sources according to annex 1 of the directive
- evaluate implementation needs and the capacity for implementation
- define the criteria for determining and accessing to the Best Available Techniques on which bases the complex of permitting system
- establish a framework for the implementation of the directive and tested it in a pilot case
- organise and conduct workshops for the stakeholders
- tailor specific training activities for the private sector

- organise a study tours for ministerial staff in the twinning partner country
- prepare training and educational material

Expected Outputs:

1. Awareness build among the stakeholders in general and private sector in particular
2. The knowledge of the EU environmental law is strengthened among MoEW staff
3. Adoption of regulations for limiting the quantity of packaging in the waste stream and for ruling the PCBs and PCTs disposal.
4. Adoption of unique criteria for inventory of chemical plants
5. Definition of the procedure and criteria to prepare and assess safety plans and emergency plans
6. Acquainting with the criteria for determining and access to the best available techniques
7. Acquainting with the procedures for preparing and issuing integrated permits
8. Strengthening the capacities of staff at MoE and at the Regional Inspectorate for Environment

Required Inputs:

Packaging and PCBs / PCTs:

- one long term advisor for 12 months (for packaging)
- one short term advisor for 4 months (for PCBs / PCTs)

Seveso:

- one safety plan advisor for short term assignment (5 months)
- one emergency plan advisor for short term assignment (6 months)
- one inventory advisor for short term assignment (5 months)

IPPC:

- one long term expert for 12 months
- three short term experts for 18 months (six months each)

Because English will be the working language, the all advisors shall be fluent in English. All of them should satisfy following qualification requirements:

- minimum 10 years of working experience in a relevant administrative structure of a Member State (preferably in the Ministry of Environment)
- knowledge of EU acquis as well as practical experience in policy implementation and project management;
- broad knowledge of the specific directives is an advantage
- computer literate
- ability to lead a process, communicate clearly and regularly and train staff.

Proposed Budget:

The whole project's budget is EURO 1,400,000 and includes: fees for experts, allowances, direct costs, reimbursable and training facility.
Reimbursable include: international and local travels for the international experts, and two study tours (Seveso and IPPC components) to relevant EU organisation for selected MoEaW staff.

Training is a lump sum that include: preparation of training materials, costs for organisation of seminar and workshops, simultaneous translation, refreshment and allowances for participants. The number of seminar / workshops has to be specified in the training programme.
The sub-project has no investment component.

Category	Inputs (months)	Unit Rate	Total (EURO)
A1) Fees			
Long Term Expatriate	24	18 500	444 000
Short Term Expatriate	38	20 000	760 000
A2) Allowances			111 780
A3) Direct Costs			18 000
A4) Reimbursable			38 220
A5) Training			28 000
TOTAL BUDGET			**1 400 000**

Implementation Arrangement:

The project will be implemented through twinning assistance. The CFCU will be responsible for the financial management of the project.

The Waste Management Department and Department for Co-ordination and Action during Environmental Risk at the Ministry of Environment and Water of Bulgaria are the Recipient Institutions for the activities concerning the implementation of Packaging and PCBs / PCTs and Seveso. The Ministry of Environment and Water will establish a specific department / unit to recipe the activities of IPPC.

A detailed work plan will be defined with twinning partner prior to commencement of the technical co-operation. The work plan will define tasks and role during the implementation for the Bulgarian partner.

Contribution of the Beneficiary

The Recipient Institution will actively take part at the project implementation, providing the following contribution:

PERSONNEL: a project counterpart working on part time basis will be appointed.

OFFICE: office accommodation with furniture and other facilities (telephone, fax, copiers) will be put at the project disposal.

DOCUMENTATION: the necessary documentation will be made available at the outset of the programme.

LOGISTICAL SUPPORT: the Recipient Institution will use its best endeavours to facilitate customs procedures and the freedom from clearance and taxes of luggage and experts equipment. Recipient Institution will cover the running costs of the project (telephone and fax bills, photo-copies, paper, etc.)

Period of implementation:

24 months.

LOGFRAME PLANNING MATRIX FOR SUB-PROJECT 1

Support the transposition and the implementation of specific European Union Directives Project budget: 1,400,000 EUR

Wider and Immediate Objectives:	**Indicators of Achievement:**	**Source of information:**	**Assumptions and Risks:**
The specific objective of the sub-project is to assist the Ministry of Environment • in transposing specific EU directives for an effective waste management regime for specific types of waste such as: packaging and PCBs/PCTs (EU directives 96/59/EC and 94/62/EC). • preparing the basic requirement to transpose and implement the EU legislation in the areas of control of major accident hazards and control of industrial emissions. The first area covers the Seveso Directive 96/82/EC. The second include the Integrated Prevention Control Directive 96/61/EEC	• The specific directives are transposed, the administrative structure is capable to implement the directives, a phased plan for implementation is adopted • The necessary legislative changes required by the adoption of directives are accepted and adopted	• NPAA progress report. • Technical Reports by Twinning Partner	• Adoption by the Ministry of a clear consensus on the strategy for approximation • Establishment of an IPPC unit staffed with qualified experts • Definition of the competencies and responsibilities of the IPPC unit over the transposition and implementation of the directive
Outputs: • solutions at the administrative and technical issues related to the transposition of legal standards concerning the directives: PCBs/PCTs and packaging waste • procedures to be put in place to ensure that all 100 existing installations with major-accident hazards potential have taken the measures needed to prevent major accidents and limit their consequences • criteria to develop and assess external emergency plans and to program inspections • evaluation of the capacity of existing administration to carry out the responsibilities laid out by the directive • time and phasing the implementation of directive according the capacity of the existing administration • development of a flexible, result-oriented approach towards permitting • drafting of permits containing measures preventing pollution based on application of Best Available Technologies	• Awareness building among the stakeholders in general • Knowledge of the EU environmental law is strengthened among appropriate MoEaW staff • Adoption of regulations for limiting the quantity of packaging in the waste stream and for ruling the PCBs and PCTs disposal. • Adoption of unique criteria for the inventory of chemical plants • Definition of the procedure and criteria to prepare and assess safety plans and emergency plans • Acquainting with the criteria for determining and access to the best available techniques • Acquainting with the procedures for preparing and issuing integrated permits	• Ministry of Environment • Regional Inspectorate • Main stakeholders • Regular project reporting • Implementation monitoring	• Lack of inter sectoral communication • Co-operation among the beneficiary departments • Full commitment by MoE legal Department • Slippage in time schedule and implementation

Inputs: • Identify and evaluate existing Bulgarian legislation and administrative structures relevant for transposition of directives • Identify the changes needed to Bulgarian legislation and administrative structures in order to meet EU requirement for implementation of the directives • Assistance in the preparation of an inventory the chemical enterprises. • Develop a specific training package for relevant staff • Strength the knowledge of EU environmental law	• All the necessary proposal are viable and the necessary enforcement is provided • Framework and workplan established and approved • Awareness build among stakeholders in general • Workshop has been organised and conducted • Training material has been prepared and distributed	• Monthly reporting by twinning partner • MoE • Independent ex/post evaluation	• Relevant Institutions are involved in the training programme • Adequate twinning covenant prepared on time. • Key staff participate in training and workshop • Wide involvement of relevant stakeholders

SUB-PROJECT No. 2

Title: **Support the management of the air quality at local level.**

Recipient Institution: Air Protection Department at the Ministry of Environment and Water

Background: All available indicators show that air quality is characterised by high concentrations of harmful substances in all major city of the country.
The air quality standards are not met in 14 areas (see map attached).
In addition to domestic heating and traffic, the industry is still, despite the production decline occurred in these last years, the largest originator of "primary pollutants".

With respect to environmental approximation, the effective compliance of the air emission standards with EU is not yet possible because regulations have not yet been developed.
NPAA identifies as short term priority to be achieved by the year 1999 the adoption of the following regulations:

- air quality management and assessment
- norms for concentration of SO2, NOx, dust and lead
- norms for ozone concentration in ambient air

The Air Quality Protection Act adopted by the Government in 1996 faces general problem of implementation and enforcement: fines are not consistently collected or do not act as effective deterrents.
According to the Clean Air Act and the Regulation on AAQ assessment and management [transposing Directive 96/62/EC] which enters into force on 01.01.2000, the Municipalities are obliged to prepare and execute relevant Programs and Action Plans in order to achieve the AAQ standards [for SO2, NOx, PM, Pb and other pollutants] in all not-attainment areas. The Regional Environmental Inspectorates are obliged to assist the municipal authorities during the preparation of above programmes and plans.

REIs are also responsible for the programmes quality. To this end Ministry of Environment and Water is planning to adopt an Instruction for the preparation of programmes aimed at improving the local AAQ.

Objectives: The immediate objective of the project is to strengthen the public administration promoting the putting in operation Air Quality Framework Directives and daughters directives COM/97/500 and 92/72/EC through the implementation of a tested air quality management plan for the hot spot areas of the country.

Description: Scope of the project is to develop and implement an air quality management plan for attainment of the air quality limit values in an urban area where those values are now significantly exceeded.
The goal is to test the plan in a demonstration (or pilot) area. The demonstration area selected is Pernik. This is an urban area with significantly decreased air quality, and size corresponding to the "agglomeration" definition as given in the Directive.
The immediate intention is to provide an example of this complex air quality planning process, as a learning exercise and as a model for other locations in Bulgaria.
Potential components include, but are not limited to:

1. analysis and presentation of existing air quality measurements, including:
    - meteorological data, short measurement campaigns (such as arrays of passive samplers, or use of internationally accredited instruments, methods or laboratories) to augment or verify existing data, evaluation of the present air quality measuring station network, and recommendations regarding equipment, methods, locations and quality control of

measurements, to comply with the EU requirements,

2. compilation of an emission inventory of point, area and mobile air pollution sources, including:
   - integration of existing emissions measurements and estimates, historical trends in emissions, time-variations of certain emissions (daily, weekly, seasonally), a GIS database, a traffic emissions model calibrated for the Bulgarian vehicle fleet, possibly with vehicle emission factors calibrated from ambient air quality measurements,
3. estimates of air quality levels over the entire area using one or more air quality models appropriate for the task,
4. mapping of the classification of areas according to compliance with air quality limit values,
5. identification and screening of potential industrial and power plant emission reduction measures, including cleaner technology and energy conservation, as well as pollution control devices,
6. identification and screening of potential emission reduction measures for transportation, including public transportation options, as well as traffic management, economic and technical measures,
7. identification and screening of potential domestic emission reduction measures, such as energy conservation, fuel switching or district heating, and economic measures regarding home energy use,
8. selection of specific measures for pre-feasibility study to obtain emission reduction and cost estimates,
9. projection of future emissions up to the year 2010, based on economic and social forecasts and scenarios of air quality improvement measures,
10. estimation of future air quality up to the year 2010, based on emission projections and scenarios,
11. prioritisation of proposed measures according to cost-effectiveness and other factors,
12. financial analysis and assessment,
13. preparation of draft plan document, including information specified in Annex IV to the framework Directive 96/62/EC,
14. seminar or public hearing on the plan,
15. revision and submission of final plan,
16. preparation of project documents for selected investment projects with potential for international financing,
17. seminars and training in management of air quality monitoring, use of air quality models
18. preparation of one or more guidebooks on the air quality planning process, for local and provincial officials.

Expected outputs:

The outcomes of the project is an air quality management plan model tested in a pilot hot spot. A detailed plan for the dissemination of the lessons learned to the other hot spot areas of the country will be prepared by the Ministry of Environment. A number of guidebooks, and training reference materials for use by other local and provincial authorities that will have to implement similar in air quality planning process.

Required inputs:

The following input are required:

- One international long term senior expert working on full time basis for one year.
- international short term expert for a global input of 12 months, including expert for: air quality monitoring, air quality management specialist, EU environmental legislation, traffic management.

In order to undertake the above tasks and produce the required outputs, experts shall be fluent in English.

Proposed Budget:

The whole project's budget is EUR 550,000 and includes: fees for experts, allowances, direct costs. Reimbursable include international and local travels for international experts. Direct costs include: communication and project co-ordination expenses

The budget includes lump sum for:

- carrying out analytical measurements (to be defined in number and type).
- organisation of seminars / workshops, preparation of training materials

The project has no investment component

CATEGORY	INPUT (man/months)	UNIT RATE (EURO)	TOTAL
A1)Fees			
International long term experts	12,0	18.500	222.000
International short term experts	12,0	20.000	240.000
A2) Allowances			39.720
A3) Direct costs			10.280
Workshop/Training			13.000
A4) Reimbursable			
Measures/Analysis/Monitoring			20.000
International Travels	10,0	500	5.000
TOTAL BUDGET			**550.000**

Implementation Arrangement:

The project, will be implemented through twinning. The CFCU will be in charge of the financial management of the sub-project.

The Air Protection Department of the Ministry of Environment and Water will be in charge of the technical management of the project. The following other institutions will be involved during project implementation:

- National Centre of Environment and Sustainable Development – Air Monitoring Department;
- Sofia Regional Environmental Inspectorate – Pernik Department;
- Municipality of Pernik – Environmental Department;
- Ministry of Health – Regional Epidemiological Inspection;
- Ministry of Transport – Regional Directorate of the State Vehicle Agency;
- Ministry of Interior – Regional Directorate on Vehicle Traffic Control;
- Others [representatives of the main polluting industries, NGOs, etc.].

A specific work plan defining tasks, competencies, role and time schedule of the Bulgarian authorities will be agreed with the twinning partner prior to the start of the assistance and will be part of the technical convention.

The activities related to project shall be held in Bulgaria. Office accommodation will be made available and the relative running costs (telecommunications, printing, etc.) will be Recipient Institution contribution to project implementation.

Period of implementation:

The duration of the activities to be provided within the project is 24 calendar months.

LOGFRAME PLANNING MATRIX FOR PROJECT 2

Support the management of the air quality at local level. Project budget: 550,000 EUR

Wider and Immediate Objectives:	**Indicators of Achievement:**	**Source of information:**	**Assumptions and Risks:**
• Develop environmental policies and enforce legislation**,** strengthen the public administration to transpose and put in operation specific directive-environmental approximation strategies with emphasis to on Air Quality Framework directive and daughter directives COM/97/500 and 92/72/EC.	• Implementation of air quality plan in the pilot area. • Transposition of the results to other hot spot areas.	• Ministry of the Environment • Technical report by twinning partner • Independent ex-post evaluation after project completion	• Preparation of a plan continuing the preparation and implementation of air management plans for the all hot spot area of the country. • Capability of the Recipient Institution to implement completely and in time the recommendations of the project. • Involvement of local authorities in the implementation process.
Outputs			
• development and implementation of an air quality management plan for the hot spot area of Pernik. • provision of an example of this complex air quality planning process, as a learning exercise and as a model for other locations in Bulgaria • preparation of draft plan document, including information specified in Annex IV to the framework Directive 96/62/EC, • seminar or public hearing on the plan, • revision and submission of final plan, • preparation of project documents for selected investment projects with potential for international financing, • seminars and training in management of air quality monitoring, use of air quality models • preparation of guidebooks on the air quality planning process, for local and provincial officials.	• Concepts, criteria and measures are agreed • Air management plan is enforced • Training is delivered • Results are disseminated	• Ministry of the Environment • Local Authorities • Regular project reporting	• Local and provincial authorities will participate fully in development of this plan, • Relevant offices and institutions will co-operate and share their data with the demonstration project • Key MoE staff at air dept. is fully involved in the continuation of sub-project • Relevant stakeholders take part in the seminar and training
Inputs			

• analysis and presentation of existing air quality measurements • compilation of an emission inventory of point, area and mobile air pollution sources • estimates of air quality levels over the area and mapping in compliance with air quality limit values, • identification and screening of potential industrial, power plant emission, transportation, and domestic emission reduction measures • selection of specific measures for pre-feasibility study to obtain emission reduction and cost estimates, • prioritisation of proposed measures according to cost-effectiveness and other factors, • financial analysis and assessment	• Completion of necessary supporting information/parameters/criteria for the demonstration area. • Concepts for plan implementation is prepared and in compliance with EU countries practice. • Relevant measures/actions are unidentified, agreed ad adopted	• Regular progress reports by Consultant	• Slippage in time schedule and implementation • Co-operation of involved institutions provided as required • Local authorities share data and information

SUB-PROJECT No. 3

Title:	**Establishment and institutional strengthening of the Water Basin Authorities**
Recipient Institution:	Division of Water Management at the Ministry of Environment and Water
Background:	The Water Act is under discussion in Parliament and will be adopted by end of year 1999. The Act envisages the establishing of the local authorities in charge with the river basin management. The law envisages the financial coverage of the costs due to the putting into force of the Authorities. The responsibility for putting in operation the administrative structure of the new River Basin Authorities is given to the Ministry of Environment and Water. Four River Basin Authorities should be established. Those shall be located at: Blagoevgrad (rivers Struma and Mesta), Plovdiv (rivers Maritsa, Arda and Tundzha), Pleven (rivers Iskar, Yantra, Vit and Osum) and Varna (for the Black Sea Rivers). A second solution with Six River Basin Authorities, although unlikely to be adopted, is also under discussion. This envisages two more structures at Bourgas (river Tundzha) and Vratsa (river Iskar). The sub-project has been conceived considering the first solution (4 authorities) to be adopted.
Objectives:	The project aims at assisting the Ministry in establishing and putting in operation the local authorities in charge of the river basin management: the River Basin Authorities (RBAs). The objective is to identify possible shortcomings, problems and constraints and to recommend concrete actions to be taken to strengthen the position of RBAs among other environmental structures so that it becomes a strong environmental organisation able to provide requested professional assistance and information. The specific objectives of this sub-project are the following: • Advice the Ministry of Environment and Water how to improve and strength the RBAs structure, service level, efficiency, tasks, competencies and sector planning of RBAs. • Enhancement and better definition of the position and the institutional linkages of RBAs within the complexity of state organisations in the environment in the framework of the harmonisation process in environmental management.
Description:	In accordance with the specific objectives, the twinning assistance shall focus on the activities specified as follows: • Propose the organisational structure , service level and tasks for each department at the following River Basin Authority: Blagoevgrad (rivers Struma and Mesta) Plovdiv (rivers Maritsa, Arda and Tundzha) Pleven (rivers Iskar, Yantra, Vit and Osum) Varna (for the Black Sea Rivers) • Compare the proposed organisational structure of RBA with similar organisations in EU and recommend possible modifications according the tasks defined in the new law for water • Review and propose a new structure on the system for permitting the procedure

of intakes and discharges and their related quality and quantity
- Identify the technical needs of each authority (including monitoring systems), design basic technical specification and assist the MoEW with tender procedures and contract negotiation
- Identify institutional links with the Ministry of the Environment and other organisations
- Review and analyse current institutional systems and organisations in some EU countries and compare with the Bulgarian situation
- Identify and develop contacts with the other River Basin Authority in EU and organise study visits in some EU countries.

Expected outputs: Creation and putting in operation of the River Basin Authority. The recommendations of this twinning programme will improve and strengthen the position of RBAs in implementation of the activities. Moreover, a better organisation and structure of RBAs will contribute to the enhancement of the service level efficiency, information exchange, better interconnection RBAs-Ministry of Environment and Water.

Required inputs: The following short term secondment shall be envisaged:
- a project director for one year
- four senior short term experts for 16 months.

Proposed Budget: The whole project's budget is EUR 650,000 and includes: fees for experts, allowances and direct costs. Reimbursable include local and international travels for international experts. Direct costs include expenses for project management and communication. The equipment necessary for the operation of the RDAs will be provided by the Ministry of Environment.

A1) Fees			
Long Term Expatriate	12	18 500	222 000
Short Term Expatriate	16	22 000	352 000
A2) Allowances			48 960
A3) Direct Costs			11 040
A4) Reimbursable			16 000
TOTAL BUDGET			**650 000**

Implementation Arrangements: The project will be implemented through Twinning.
A specific work plan defining tasks, competencies, role and time schedule of the Bulgarian authorities will be agreed with the twinning partner prior to the start of the assistance and will be part of the twinning covenant.

Period of implementation: 12 months. The starting of activities may be envisaged by middle 2000 and is conditionally bound to adoption of new law.

LOGFRAME PLANNING MATRIX FOR SUB-PROJECT 3

Establishment and institutional strengthening of the River Basin Authorities Project budget: 650,000 EUR

Wider and Immediate Objectives:	**Indicators of Achievement:**	**Source of information:**	**Assumptions and Risks:**
• To strengthen the institutional capacities and structures of the environmental institutions in Bulgaria. • To assist the Ministry in establishing and putting in operation the River Basin Authorities RBAs.	• Enhancement and better definition of the position and the institutional linkages of RBAs within the complexity of state organisations in the environment in the framework of the harmonisation process in environmental management.	• Ministry of Environment.	• Adoption of the framework water act • Failure of Ministry in environmental legislation approximation • Full commitment from the relevant MoEW Dept.
Outputs:			
• The River Basin Authorities are established • The structure is adequate to the need • The staff is in place and trained • The procedures and competencies adopted	• Law and regulation on water are accepted and comply with EU standards • All the necessary proposal are viable and the necessary enforcement is provided • The training is provided	• MoEW • RBAs • Technical Report by twinning partner • Independent Monitoring and Evaluation reports.	• Refusal of law proposals by parliament • Slippage in time schedule and implementation • Relevant staff participate in training
Inputs:			

• Propose the organisational structure , service level and tasks for each department at the River Basin Authority: • Compare the proposed organisational structure of RBA with similar organisations in the EU and recommend possible modifications according the tasks defined in the new law for water • Review and propose a new structure on the system for permitting the procedure of intakes and discharges and their related quality and quantity • Identify the technical needs of each authority (including monitoring systems) and design basic technical specification • Identify institutional links with the Ministry of the Environment and other organisations • Review and analyse current institutional systems and organisations in some EU countries and compare with the Bulgarian situation • Identify and develop contacts with the other River Basin Authority in EU and organise study visits in some EU countries.	• improvement in implementation of the activities at RBAs • enhancement of the service level efficiency, • information exchange improvement • better interconnection RBAs-MoEW	• Regular semester progress reports to Delegation as well as the same measures as used for the outputs above. • River Basin Authorities	• Twinning covenant prepared without delays • Co-operation of involved institutions is provided as required • Lack of response from local level.

SUB-PROJECT No. 4

Title: **Limiting the harmful effect of the exhaust gases from the urban transport buses in Sofia**

Recipient Institution: Municipality of Sofia

Background: All available indicators show that air quality in Sofia is characterised by high concentrations of harmful substances. The data about the pollution of the air in Sofia were taken from the annual report of the Government about the State of Environment in Bulgaria for 1997. The emissions from the exhaust gases from the urban transport in Sofia were compared to the corresponding European ones. The latter would be transposed into the Bulgarian legislation in September 1999 with the new Regulation on the procedure for vehicle type approval to the Road Traffic Act. At present in Bulgaria there are only CO and smoke emission norms for vehicle periodical inspection.

According to existing legislation, there are existing ambient air quality (AAQ) standards for SO2 and CO for the whole country. Since 01.01.2000 the corresponding European AAQ standards from the proposed "daughter directives" (under directive 96/62/EC) are introduced with new regulations under the Clean Air Act.

Significant contribution to pollution from traffic is due to outdated diesel-engines buses circulating in the urban streets.

Most of those buses are old diesel engines IKARUS having a lifetime of 15 years or more.

Analytical measures on the average emissions from those buses were carried out in the framework of the PHARE pilot project BG 9408-04-01.

The table gives the results and compare it with the emission limits envisaged by EU directives 91/542/EEC (EURO1 and EURO2).

EMISSIONS (g/KWh)	**OLD DIESEL ENGINE**	**EURO1**	**EURO2**
Carbon Oxide	11.37	4.5	4.0
Nitrogen Oxides	14.3	8.0	7.0
Non exhausted hydrocarbons	5.12	1.1	1.1
Dust particles	0.55	0.36	0.15

In order to improve the air quality, the two municipalities adopted programmes for reduction of the emissions both from mobile and stationary sources.

Those programmes envisage, among others, adoption of measures targeted to reduce the impact of urban traffic through the renovation of the outdated buses park.

The goal is to replace the old diesel engines with new respecting EURO1 emission limits.

In the pilot project were investigate possibilities and alternative strategies of converting diesel powered buses to natural gas and to encourage the introduction of improved environmental control techniques so to achieve the goal.

The most efficient costs/benefits solution identified is the replacement of the old diesel engines on the same bus body.

Two types of engines compatible with EURO1 and EURO2 emissions criteria and suiting the IKARUS body were identified:

- new diesel engines D10UTS155E1
- dual fuel natural gas – diesel powered engines D2156HM6U

12 new diesel engines and 10 dual fuel natural gas - diesel powered engines were purchased under the pilot project.

Objectives: Wider objective of the sub-project is the reduction of polluting emissions from urban traffic. A significant contribution to such reduction may be obtained limiting the emissions of exhausted gases from outdated public transport diesel engines buses. The limitation of

exhaust gases emissions from the urban public transport is obtained replacing the old diesel engines with new one compatible with EURO1 emissions limit.

The project will permit to achieve compliance with the EU legislation concerning exhaust gases emission standards and the EU legislation on ambient air quality assessment and management (the Framework and the corresponding Daughter directives) already introduced in the Bulgarian legislation in April 1999 with the following regulations of Ministry of Environment and Water and Ministry of Health under the Clean Air Act: Regulation on AAQ assessment and management; Regulation on SO2, NOx, PM and lead AAQ standards and Regulation on AAQ standards for ozone.

Description:

The project consists of the:

- replacement of outdated diesel engines installing new diesel engines and new engines operating in a mixed gas-diesel regime on 115 IKARUS buses body
- provision of the necessary equipment for control of emission's parameters so to allow a correct engines maintenance
- and the supply of 1 gas filling station to be installed in Sofia at the urban transport depots to allow the convenient refuelling of the buses with natural gas.

The project realisation includes the provision for Sofia of :

- 50 pcs. Engines D10UTS 155E1, coupled with 50 pcs. automatic gearboxes VOITH P851.2, as well as 19 pcs. engines D2156HM6U, operating in mixed gas-diesel regime; compressor module for compressed natural gas with high pressure; gas analysers for control of the parameters during the operation,
- one natural gas filling station complete
- one oil consumption meter and automatic refill system and calibration unit
- 4 gas analysers and 4 smokemeters
- one power inertia measurement device

Detailed technical specifications for each item are given in annex.

The buses selected for the project have too old engines for repairing (a simple repair will not give the possibility to achieve the corresponding EU emission standards) and bodies in relatively good condition. The selection will be done by experts from the urban transport companies. The estimated emission reduction of 650 t/y (for each city including all pollutants) corresponds to 50 new diesel engines and 20 engines converted to natural gas. The estimations are taken from the Project environmental audit prepared by an independent Bulgarian consulting company and they are based on the UN/ECE CORINAIR Emission Inventory Methodology (there is no requirement to have an EIA for such kind of projects both in the existing Bulgarian legislation and the recent EU Directive 97/11/EC on EIA).

After the project completion, the up-graded buses will be operated on itineraries passing through the cities hottest air pollution spots thus providing the possibility to move towards the new Bulgarian (respectively EU) AAQ standards.

Expected Results:

The expected results given below cover only the Phare component of the sub-project. As direct result from the replacement of the old engines the estimation of annual reduction of emissions will be as follows:
Sofia (CO=227.7 t/year; nitrogen oxides=137.5 t/year; partially combusted hydrocarbons=111.9 t /year; solid particles=7.5 t /year).

The data as are presented in the "Ecological Assessment Study on the executive project for the decrease of harmful effect from the exhausted gasses of the public transport buses in Sofia by the Capital City Company for Public Transport" are calculated considering the average emissions (at certain average bus speed and average working hours) of the new engines

comparing the old ones.

Proposed Budget:

Item	Unit Price (EUR)	Units	TOTAL (EUR)
Engine type D10UTS 155E1	13.850	50	692.500
Automtic gearbox	12.500	50	625.000
Engine type D215HM6U	18.900	19	359.100
Natural gas compressor	179.000	1	179.000
Gas analyser	4.600	4	18.400
Power inertia measurement	170.000	1	170.000
Oil consumption meter and refill	130.000	1	130.000
Smokemeter	5.500	4	22.000
Public awareness			10.000
Testing			10.000
Delivery and installation			84.000
TOTAL PHARE BUDGET			**2.300.000**
National Environmental Fund			700.000
Sofia Municipality			800.000
TOTAL BUDGET			**3.800.000**

Implementation Arrangement:

The Ministry of Environment and Water will be in charge of the contracting and the financial management of the project according Phare procedures as per DIS manual.

The City Transport Departments of Sofia Municipal Transport Company will be in charge of the technical management of the project and the coverage of the running costs of project including the maintenance of engines after the completion of the project.

The NEPF will provide financial support, which will be managed separately according the local procurement rules. The tender will be composed of 2 components: the Phare one and the NEPF one in order to have the same provider for the equipment.

Implementation Schedule:

The duration of sub project is 18 months.
Detailed Implementation Schedule is given in annex.

ANNEX A)
LOGFRAME PLANNING MATRIX FOR SUB-PROJECT 4

Sub-project: **Limiting the harmful effect of the exhaust gases from the urban transport buses in Sofia** Project budget: 2,300,000 EUR

Wider and Immediate Objectives:	**Indicators of Achievement:**	**Source of information:**	**Assumptions and Risks:**
• Improvement of air quality in the city of Sofia. • Reduction of polluting emissions from urban traffic. • Replacement of the old diesel engines with new one compatible with EURO1 emissions limit.	• Limitation of the emissions of exhausted gases from outdated public transport diesel engines buses. • Buses powered with new diesel engines D10UTS155E1 and 55 dual fuel natural gas - diesel powered engines D2156HM6U circulating in the urban streets	• Ministry of the Environment • Independent ex-post evaluation after project completion • Audit's report • Municipality of Sofia • Air Quality monitoring data	• Effective institutional commitment by the recipients to maintain satisfactorily the new engines after project completion. • Involvement of local authorities in the implementation process.
Outputs			
• Reduction of polluting emission from exhausted gases of public transport buses. • Replacement of old diesel engines buses circulating in the urban streets of Sofia	• Reduction in the emission of specific air pollutants	• Ministry of the Environment • Local Authorities • Meeting Reports	• Capability of the Recipient Institution to continue in implementing the project
Inputs			
• new diesel engines and new engines operating in a mixed gas-diesel regime installed on 115 IKARUS buses body • equipment for control of emission's parameters delivered • gas filling station realised	• Tender has been launched, supplier selected and contracts signed • Equipment delivered	• Ministry of Environment and Water and EU Commission to monitor the tender process • Municipality of Sofia • Tender evaluation report • Completion of delivery to time and budget	• Funds are available • Funds are contracted and disbursement in time

ANNEX B) IMPLEMENTATION CHART

	2000												2001												2002												2003											
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
1. Tender																																																
2. Signing the contract																																																
3. Delivery and installation																																															
4. Commitment																																															
5. Disbursement:																																															
60%																																															
30%																																															
10%																																															
6. Start using the																																															
engines																																															
7. Start using the																																															
natural gas compresor																																															

ANNEX C) TECHNICAL SPECIFICATION

ITEM	QUANTITY
Diesel four-stroke water cooled engine • Nominal power – 155 kW / 1900 rev / min (DIN 70020) • Maximum torque – 890 Nm / 1200 rev / min • Operational volume – 10.35l • Number of cylinders – 6 • Bore / stroke of piston - 121 / 150 mm • Alignment of cylinders : in line, horizontal • Compression ratio : 15,2:1(17:1) • Forcible air filling (turbocompressor) • Fuel injection pressure – Mpa • Injection – direct into the combustion chamber • Specific fuel consumption - < 215g / Uwh • Bosch fuel injection pump • The engines shall be installed in IKARUS 280 buses without any modification to the design • The engine shall meet the EURO 1 requirements	50
Hydromechanical gear box for the engines • Switching degrees – 3 • Input power – up to 205 kW • Input torque - up to 1000 Nm • Input speed – up to 2800 rev / min • Gear box shall be completed with command and control systems • The supplies shall include the required diagnostics and gear box operation adjustment systems	50
Dual fuel – diesel and natural gas – engine 1. D 2156 HM6U diesel engine • Nominal power – 142 kW / 2100 rev / min • Maximum torque – 710 Nm / 1200 rev / min • Operational ratio - 10,35l • Compression ratio - 17:1 • Number of cylinders - 6 • Cylinder alignment : in line, horizontral • Atmospheric air filling of the cylinders • Fuel injection pressure - 19 Mpa • IPM, WSK, Bosch fuel injection pump 2. Gas system • Total geometric volume of the gas bottles – minimum 400 l • Operational pressure – 20 Mpa • Maximum pressure - 30 Mpa • Location of gas bottles – on the roof of the bus • Maximum height of the bus with gas bottles – 3550 mm • Operational fuel consumption : • diesel fuel only - 44 l / 100 km • duel fuel –diesel 22 l / 100 km and gas 32 nm3 / 100 km • minimum run with one filling – 350 km	19
Natural gas compressor • Operational pressure up to 25 Mpa • Sucking-in pressure 0.35 – 0.8 Mpa • Output - 310 –530 nm3 / h • Compressor units - 2 • Electrohydraulic drive • Cylinder alignment - horizontal • Installed power – 2x55 kW • Specific energy consumption < 0.21 kW / m3 • Autonomous cooling (antifreeze) • The compressor units shall be based in a container • Noise during operation < 60 dB • Signalling and safety systems shall be built in • Bus charging cranes and control manometers shall be made available	1

• Filling hoist length – 6 m and 12 m	

ITEM	QUANTITY
Engine power inertia measurement device • Power measuring range - up to 500 kW • Torque measuring range -up to 2000 Nm • Capability of selective choice of the measurement range • For inertia moment up to 10m3kg • For speed up to 10000 rev / min • For engine cylinders from 1 to 15 • Supply voltage - 220V, 150W • Recording capability - plotter for X -Y diagram of power and torque as per DIN A4 • Lightoptic speedometer • Operational temperature - o to 50°C • One measurement time - up to 1sec	1
Smokemeter • Based on the closed gas brightening column principle (Hartridge's principle) • Supply voltage 12V or 220V with adapter • Measurement range - up to 100% Hartridge • Operational temperature - 0 to 50° C • Capability of measurement recording	4
Three component (CO, Ox, CxHx) gas analyser • CO measurement up to 19 % vol. • NOx measurement • CxHx measurement • Supply voltage 12V or 220V with adapter • Measurement accuracy - up to 1%	4
Oil Consumption Meter and Automatic Refill and Calibration Unit • Determination of motor oil consumption without dismantling of the motor • Operational temperature - 10° to 50° C • Supply voltage - 220V, 50Hz • Automatic calibration system with accuracy to 1g or to 1 % • Capability of graphic consumption recording	1

SUMMARY TWINNING PROJECT FICHE

Key Facts

1. Country: **Bulgaria**

2. Sector: **Environment**

3. Beneficiary institution: **Ministry of Environment and Water**

4. PHARE Programming 1999

No. of project: BG99 –

Title of project: Institutional Building and Investment Projects for the Ministry of Environment and Water

Budget: 4,90 MEUR

5. Twinning component:

Title: Institutional Building of the Bulgarian Ministry of Environment and Water through Twinning

N° BG99*/IB/*

Total twinning project budget: 2,6 MEUR

Contextual Framework

Bulgaria has experienced severe economic difficulties since the collapse of former regime.
Partly as s result of these difficulties and the related decline in industrial and agricultural output, discharges of pollution have fallen quite considerably. However, there remain significant environmental problem in Bulgaria due to preponderance of heavy industry, outdated and highly polluting technologies, reliance on low quality indigenous brown coal and lignite for fuel, low efficiency in the use of energy and raw material, and increase of traffic in the cities.

The Bulgarian government has declared its intention to accede to the European Union and an Association Agreement was signed with European Union. In accordance, the Bulgarian government has undertaken to ensure that its legislation will gradually be made compatible with that of the European Union. This will also entail ensuring that the Bulgarian administrative systems and infrastructures are brought up to the requisite standard.
The National Programme for Adoption of Acquis (NPAA) adopted by Parliament in 1998, defines the state strategy for the implementation of the approximation activities as required in the White Paper and in the Europe Agreement.

For the environment the document focuses on achievement of concrete sector goals identifying the necessary actions / measures and indicating the financial resources.
The document sets the priorities in short and medium terms as follows:

1. **the approximation of legislation** with specific EU directives and international conventions which is the transposition of framework legislation on:
   - Horizontal legislation – Environmental Protection Act
   - Air quality –Ambient Air Quality Act
   - Waste management – Law for Limitation of the Harmful Impact of Waste on the Environment
   - Water quality –EC Framework Directive on Water
2. **strengthening of the institutional bodies** which means:
   - Optimisation and clear distinction of functions of the existing administrative structures at central and regional level with regard to implementation of respective legislation or development of new one
   - Training of staff in central and regional bodies, as well as staff in municipalities for the implementation of the requirements of the new legislation
   - Improving the level of technological support for the implementing bodies and more precisely introducing new information systems, expanding and improving the National System for Environmental Monitoring, and the capacities for monitoring

3. **development of Programmes and Action Plans and their implementation in relation to particular acts and regulations**. The main priority is the development of comprehensive programmes for the implementation of legislation and the provision of mechanisms for their implementation and monitoring.
4. **public information and involvement in resolving environmental issues**. Transparency of activities is a guiding principle in the Government's policy. A number of projects for involving the public and the non-governmental organisations as important partners in policy implementation are carried out particularly in the environment sector where public sensitivity is high. The development of respective legislation in this field and the elaboration of respective programmes for its implementation are envisaged for the short and medium term.
5. **infrastructures improvement** which comprises new investment related to water, air quality improvement and waste management and implementation of measure to ensure that the new investments meet EU environmental standard.

6. Most recent Accession Partnership

According to the short-term priority in the Accession Partnership in the field of environment Bulgaria should ***"continue transposition of framework and horizontal legislation establishment of implementation of detailed approximation programmes and implementation strategies related to individual acts. Planning and commencement of implementation of these programmes and strategies".***

Medium term priority listed in the Accession Partnership are: ***"development of monitoring and implementation control structures and capacities, continuous planning and implementation of approximation programmes related to individual legal acts. A particular emphasis should be given to the waste, water sector and air pollution including institutional requirements. Environmental protection requirements and the need for sustainable development must be integrated into the definition and implementation of national, sectoral policies."***

7. Most recent NPAA:

The short-term and medium-term priorities for the period 1 January 1998 – 31 December 2001 are based on the priorities provided for the same period for the sector "Environment" in the adopted by the Government of Bulgaria in 1998 – National Programme for the Adoption of the Acquis (NPAA). The supplementing and the updating are result mainly of the progress which was done during the last year in understanding the requirements of the European environmental legislation. This resulted from the improvement of the administrative capacity of the Ministry of Environment and Water which is due to the establishment of the Department "European Integration" and to the carried out training through different national and international programmes (especially the BUL 108 Project through DISAE Facility of Phare Programme which made a full comparative analysis of the European and the national environmental legislation).

Project Details

Project 1
Support the transposition and the implementation of specific European Union Directives.

Project 2
Support the management of the air quality at local level.

Project 3
Establishing and institutional strengthening of the water management authorities.

8. Objectives of the project

8.1 Broad Objectives

PROJECT No. 1
The objective of the sub-project is to assist the Ministry of Environment

- in transposing specific EU directives for an effective waste management regime for specific types of waste such as: packaging and PCBs / PCTs (EU directives 96 / 59 / EC and 94 / 62 / EC).
- preparing the basic requirement to transpose and implement the EU legislation in the areas of control of major accident hazards and control of industrial emissions. The first area covers the Seveso Directive 96 / 82 / EC. The second include the Integrated Prevention Control Directive 96 / 61 / EEC

PROJECT No. 2
The objective of the sub-project is to strengthen the public administration promoting the putting in operation Air Quality Framework Directives and daughters directives COM / 97 / 500 and 92 / 72 / EC through the implementation of a tested air quality management plan for the hot spot areas of the country.

PROJECT No. 3
The project aims at assisting the Ministry in establishing and putting in operation the local authorities in charge of the river basin management: the River Basin Authorities (RBAs).
The objective is to identify possible shortcomings, problems and constraints and to recommend concrete actions to be taken to strengthen the position of RBAs among other environmental structures so that it becomes a strong environmental organisation able to provide requested professional assistance and information.

8.2 Guaranteed results/Expected outputs

PROJECT No. 1
1. Awareness build among the stakeholders in general
2. The knowledge of the EU environmental law is strengthened among MoEaW staff
3. Adoption of regulations for limiting the quantity of packaging in the waste stream and for ruling the PCBs and PCTs disposal.
4. Adoption of unique criteria for inventory of chemical plants
5. Definition of the procedure and criteria to prepare and assess safety plans and emergency plans
6. Acquainting with the criteria for determining and access to the best available techniques
7. Acquainting with the procedures for preparing and issuing integrated permits
8. Strengthening the capacities of staff at MoE and at the Regional Inspectorate for Environment

PROJECT No. 2
The outcomes of the sub-project is an air quality management plan model tested in a pilot hot spot. A detailed plan for disseminating the lessons learned to the other hot spot areas of the country. A number of guidebooks, and training reference materials for use by other local and provincial authorities that will have to implement similar in air quality planning process.

PROJECT No. 3
Creation and putting in operation of the River Basin Authority. The recommendations of this twinning programme will improve and strengthen the position of RBAs in implementation of the activities. Moreover, a better organisation and structure of RBAs will contribute to the enhancement of the service level efficiency, information exchange, better interconnection RBAs-MoEaW .

9. Scope of the twinning assignment

PROJECT 1
Scope of assignment is to:
1. ensure an overview of the existing relevant legislation and procedures to create a basis for transposition
2. to make it possible to change the Bulgarian legislation and the administrative structures in accordance with EU requirements
3. strengthen the knowledge of EU environmental law and policies among the relevant staff developing specific training package

PROJECT 2

Scope of the sub-project is to develop and implement an air quality management plan for attainment of the air quality limit values in an urban area where those values are now significantly exceeded.

The goal is to test the plan in a demonstration (or pilot) area. The demonstration area selected is Pernik. This is an urban area with significantly decreased air quality, and size corresponding to the "agglomeration" definition as given in the Directive.

The immediate intention is to provide an example of this complex air quality planning process, as a learning exercise and as a model for other locations in Bulgaria.

PROJECT 3

In accordance with the specific objectives, the twinning assistance shall focus on the activities specified as follows:

- Propose the organisational structure , service level and tasks for each department at the following River Basin Authority.
- Compare the proposed organisational structure of RBA with similar organisations in EU and recommend possible modifications according the tasks defined in the new law for water
- Review and propose a new structure on the system for permitting the procedure of intakes and discharges and their related quality and quantity
- Identify the technical needs of each authority (including monitoring systems) and design basic technical specification
- Identify institutional links with the Ministry of the Environment and other organisations
- Review and analyse current institutional systems and organisations in some EU countries and compare with the Bulgarian situation
- Identify and develop contacts with the other River Basin Authority in EU and organise study visits in some EU countries.

10. Required inputs

PROJECT 1

Packaging and PCBs / PCTs

- one long term advisor for 12 months (for packaging)
- one short term advisor for 4 months (for PCBs / PCTs)

Seveso

- one safety plan advisor for short term assignment (5 months)
- one emergency plan advisor for short term assignment (6 months)
- one inventory advisor for short term assignment (5 months)

IPPC

- one long term expert for 12 months
- three short term experts for 18 months (six months each)

PROJECT 2

The following input are required:

- One international long term senior expert working on full time basis for one year.
- international short term expert for a global input of 12 months, including expert for: air quality monitoring, air quality management specialist, EU environmental legislation, traffic management.

PROJECT 3

The following short term secondment shall be envisaged:

- a project director for one year
- four senior short term experts for 16 months.

10.1. Profile of the PAA

Minimum 10 years experience in a relevant central administrative structure of a Member-State (preferably in Ministry of Environment or Environmental Agency); good familiarity with EU environmental acquis as well as practical experience in policy-implementation and management. Fluency in English. Computer literate. Proven ability to design training

programmes. Experience in negotiations for accession to the EU.

11. Implementation

24 months (indicative January 2000 – December 2001)

12. Other relevant projects in the sector

Phare:

- A joint project for preparation of the National Environmental Strategy applying the "twinning" mechanism will start within the frame of the 1998 Financial Memorandum of PHARE National Programme. This will facilitate the elaboration of the "environment" section of the National Development Plan of the Republic of Bulgaria which will be prepared within the frame of the "Special Preparatory Programme for Bulgaria for the Structural Funds of the EU" (SPP)
- BUL 111 Project of the DISAE Facility of the PHARE Programme started recently. The comparative institutional analysis, which will be carried out as part of the project, will facilitate the efforts for identifying the most suitable institutions for the implementation, taking into account the good practice of the member states.

TWINNER PROFILE

With due reference to the specific objectives and the expected achievements listed above, the twinner partner is expected to assist the Bulgarian authorities in preparing a technical proposal and methodology for the specific sub-project based also on the own experience matured facing similar problems and to discussed it with the MoEW.

With reference to the activities listed above, the twinner is expected to assist the Bulgarian authorities in preparing and presenting a work plan. The sub-projects requires a strong co-ordination effort from all parties.
The transfer of know how and the capacity of the local institutions to support the implementation of the project have to be considered as major keys for success.
An important issue will be also to ensure relevant links with other projects of the MoEW especially in terms of common training needs and planning of law approximation and implementation policies.

The twinner is expected to monitor the updating and implementation of strategies and programmes for alignment, identify and mobilise relevant short term expertise for the different elements of the specific sub-projects, prepare and carry out the training programme, organise and conduct seminars.

The twinner is expected to propose experts which will have in general the following qualification requirements:
- fluency in English. Because English will be the working language, the all advisors shall be fluent in English.
- minimum 10 years of working experience in a relevant administrative structure of a Member State (preferably in the Ministry of Environment)
- knowledge of EU acquis as well as practical experience in policy implementation and project management.
- broad knowledge of the specific directives and proven technical background
- computer literate
- ability to lead a process, communicate clearly and regularly and train staff

PROJECT 1

The carrying out of the envisaged activities requires the involvement of the following expertise:

Packaging and PCBs / PCTs
- one long term advisor for 12 months (for packaging)
- one short term advisor for 4 months (for PCBs / PCTs)

Seveso
- one safety plan advisor for short term assignment (5 months)
- one emergency plan advisor for short term assignment (6 months)
- one inventory advisor for short term assignment (5 months)

IPPC
- one long term expert for 12 months
- three short term experts for 18 months (six months each)

Because of the specific sub-project features, twinner is expected to make available experts having accrued experience in negotiations for accession to the EU.
Solid technical background with accrued experience in each specific sector is also required.
At least 10 years of working experience in a relevant central administrative structure of a member state is essential.

PROJECT 2

The following input are required:
- One international long term senior expert working on full time basis for one year.
- International short term expert for a global input of 12 months, including expert for: air quality monitoring, air quality management specialist, EU environmental legislation, traffic management.

For the long term position twinner is expected to propose an expert having solid management skill.
Previous working experience in preparation and implementation of similar plans will be expected.

For the short term experts “field experience” will be an advantage. Short term experts have accrued at least 10 years experience in Environmental Inspectorates, Environmental Agencies, or state organisations in charge with air pollution.

PROJECT 3

The following short term secondment shall be envisaged:

- a project director for one year
- four senior short term experts for 16 months.

Twinner is expected to involve in the sub-project a long term expert having long track working experience (at least ten years) in a management position within a River Basin Authority.