Standard Project Fiche for Phare 2005

1. Basic Information

- 1.1 CRIS Number: 2005/017-454.03.02
- 1.2 Title: Integrated Water Management of Struma/Strimon River Basin
- 1.3 Sector: Environment
- 1.4 Location: Trans-boundary Struma/Strimon River Basin Bulgaria/Greece
- 1.5 Duration: 36 months

2. Objectives

2.1 Overall Objective:

The **overall objective** is to establish trans-boundary, integrated and sustainable management of water resources of Struma/Strimon River Basin, including thermo-mineral waters, with particular emphasis on water quality and quantity, in compliance with the requirements of the EU Water Framework Directive 2000/60/EC and other EU water directives, and bilateral agreements between Bulgaria and Greece in the field of water management and national legislation through joint cross-border initiatives and actions.

2.2 Project purpose:

The **project purpose** is through technical and institutional support to the Western Aegean Basin Directorate:

- to prepare a Draft River Basin Management Plan for the Struma/Strimon River Basin;
- to carry out a feasibility study for the sustainable long-term use of thermo-mineral waters accumulated in the differentiated river basin hydrothermal basins;
- to support the relevant institutions in charge of integrated water management activities.
- 2.3 Accession Partnership (AP) and NPAA priority
- Accession Partnership Medium Term Priority
 - Complete transposition and implementation of framework and sector legislation according to pre-defined timetable;
 - Integrate sustainable development principles into the definition and implementation of all other sector policies
- Accession Partnership Short Term Priority
 - Continue transposition of framework legislation in the water, air and waste sectors, prepare and implement detailed directive specific approximation programmes; strengthen implementation structures, particularly at the regional level.
- 2.4 Contribution to National Development Plan

N/A

2.5 Cross Border Impact

This project is in compliance with the Joint Programming Document (JPD) and namely with Axis 3 – Improvement quality of life (in combination with upgrading of health services), environment and protection-promotion of cultural resources; Measure 3.2 – Protection, promotion and management of natural environment. It has direct cross-border impact and will be developed in a cross-border region of Struma/Strimon River Basin. The project shall improve cross-border counterparts' coordination and provide the responsible regional/local authorities with management capacity, relevant information and program documents for integrated planning, identification and development of programs of measures within the frame of a shared River Basin Management Plan and sustainable long-term direct utilization by Bulgaria and Greece of the thermo-mineral waters.

3. Description

3.1 Background and justification:

The Struma/Strimon River flows from its origin in Vitosha Mountain through the Central Macedonia region in the North-Eastern part of Greece and into the Aegean Sea. The River Basin contains substantial water resources, surface and ground (fresh and thermomineral) of strategic importance for the economic development of the region and the border regions. The River Basin comprises a range of ecologically valuable and vulnerable ecosystems in national parks, habitat areas and tributaries.

The *Struma* rift valley (graben system) is one of the most interesting areas on the Balkan Peninsula and rich in thermal waters. The geothermal activity is manifested from nearly 100 natural and borehole thermal sources, and many temperature and hydro-geochemical anomalies produced from concealed thermal in the basement and in sedimentary successions within the grabens.

There are 15 exclusively state owned and 9 municipal differentiated hydrothermal systems (*Annex 1*) located within the Struma River catchment area: Temperature of geothermal waters varies between 20° C and 100° C.

In Bulgaria the Struma/Strimon is located within the administrative area of the Western Aegean River Basin Directorate located in Blagoevgrad. The Basin Directorate is one of four Basin Management units established in 2002 under the Ministry of Environment and Water (MoEW) and is the competent authority for implementing the requirements of the EC Water Framework Directive (2000/60/EC) in the Western Aegean River Basin. The Water Directorate within MOEW is overall responsible for implementing the Water Framework Directive and co-ordinates the activities of the four River Basin Directorates.

Integrated Water Management specifically in Bulgaria attempts to bring together water sector actors traditionally tied to different Ministries. A new regional management authority has been introduced with the River Basin Directors in full accordance with the EU WFD. At the River Basin level, actual implementation work will have to be done within a tight time schedule. The resources and capacity of the River Basin Directorates are on place now.

The project's choice of the Integrated Water Management of the Struma/Strimon River Basin has been made for the following reasons:

□ In the present process of EU integration and economic development one of the challenges for Bulgaria is to balance a desire for strong socio-economic development with sustainable use of its water resources and protection of vulnerable ecosystems and an outstanding natural heritage. Bulgaria is committed to implementation of the EU Water Framework Directive (2000/60/EC) and the integrated approach to river basin management. The development of sustainable trans-boundary river basin management for the Struma/Strimon River catchment area should be seen in the frame of this directive.

- The Struma/Strimon river is a trans-boundary river located on the boundary with Greece and requires development of an integrated water management plan as well as to promote co-operation between the border regions and to contribute to the establishing of co-operation networks among counterpart organisations and entities on both sides of the border;
- The water issue between the two countries is considered as sensitive. The importance of the river basin is reflected in the collaboration between the Bulgarian and Greek governments concerning agreements in water flow, where the first bilateral agreement was signed in 1964. It was followed by a second one in 1991 concerning the implementation of monitoring programs regarding quality and quantity for all transboundary rivers;
- Considerable studies are needed to outline and evaluate the stratified hydro-geothermal reservoirs within the Neo-genic sedimentary successions of the *Sandanski* and *Serres* graben.

The project is directly related to the objective of the programme as follows:

- Introduce EU legislation and good European practices, with particular emphasis on water quality and quantity in respect of the Water Framework Directive 2000/60/EC, for integrated water management on the river basin basis
- Establish a long-term partnership between and to enhance co-operation between the border region's Regional and Local Government Authorities managing waters
- Strengthen the joint sustainable management of water through joint cross-border initiatives and actions;
- Present to the competent authorities and public the main water and trans-boundary management issues in the Struma/Strimon River Basin.

The entire project comprises 2 components:

- Component I (Service component) comprises of two lots: Lot 1 Technical Assistance for preparation of First Draft of Struma/Strimon River Basin Management Plan and Lot 2
 Technical Assistance for feasibility study for the sustainable long-term use of thermomineral waters accumulated in Struma/Strimon hydrothermal systems;
- **Component II (Supply component)** supply and installation of specialized water quality monitoring equipment.

The project will consist of three contracts: two Service and one Supply contracts.

Since the project has to strictly follow the timetable for WFD implementation (see Item *12*. *Conditionality and sequencing*), its duration is extended to 36 months. The disbursement period expires on 30 November 2009.

3.2. Sectoral rationale

Not applicable

3.3. Results

3.3.1 Component 1:

3.3.1.1 Purpose

The **project's component purpose** is through the technical and institutional support to the Western Aegean Basin Directorate:

• prepare a Draft River Basin Management Plan for the Struma/Strimon River Basin;

- carry out a feasibility study for the sustainable long-term use of thermo-mineral waters accumulated in the differentiated river basin hydrothermal systems;
- support the relevant institutions in charge of integrated water management activities

3.3.1.2 Results:

Lot 1 – Technical Assistance for preparation of First Draft of Struma/Strimon River Basin Management Plan

- Long-term cross-border partnership between Bulgarian and Greek authorities for the integrated water management of Struma/Stirmon river established;
- The technical and institutional requirements necessary for preparation of the Draft River Basin Management Plan (Annex VII of Directive 2000/60/EC) finalized;
- First draft of integrated management plan for the Struma/Strimon River basin ready;
- Monitoring programmes in compliance with the requirements of Water Framework Directive established and made operational;
- The main water and transboundary management issues about the Struma/Strimon River Basin identified and presented to the competent authorities and public
- Information network database on the water status in the Struma/Strimon River and website providing an Internet forum created;
- Public awareness campaigns provided;
- Common management methods and measures in compliance with Annex VII of WFD applied;

Lot 2 - Feasibility study for sustainable long-term use of thermo-mineral waters in Struma/Strimon hydrothermal systems

- Feasibility study of the Struma River Catchment area hydrothermal systems completed;
- Geothermal Sources Utilization Strategy for the Struma River catchment area, incl. Draft River Basin Management Plan ready;
- Assessment of local and regional (natural and operational) resources and operational long-term capacity of Struma River Catchment area hydrothermal systems completed;
- Increased public awareness and knowledge about the benefit of thermo-mineral water application in the border region;
- Projects for sanitary-protected areas ready;
- Mature projects for the utilization of thermo-mineral waters in the Struma/Strimon River basin in full compliance with WFD identified;
- Tender Documents for the implementation of the investment projects for use of thermomineral waters based on the Draft River Basin Management Plan prepared.

3.3.2 Component 2:

3.3.2.1 Purpose

• The **project's component purpose** is through delivery, installation and commissioning of specialized water quality and quantity monitoring equipment for sampling and analysis to the Western Aegean Basin Directorate and Regional Laboratory, Blagoevgrad, within EEA to guarantee the implementation of the monitoring programme, including biomonitoring, meeting the requirements of the Water Framework Directive.

3.3.2.2 Results:

- Specialized water quality monitoring equipment delivered
 - o Ground water, including 1 automated monitoring station
 - Surface water 1 automated monitoring station
 - Central Control System it will collect, organize, elaborate and visualize the data coming from the whole monitoring network
- Regional Laboratory within EEA and Basin Directorate, Blagoevgrad equipped with the necessary equipment for water quality monitoring (sampling and analysis), including biomonitoring (based on the results of Mesta II Supply component)

3.4 Activities (including Means)

The above mentioned results will be achieved through 2 components: technical assistance and for supply of monitoring equipment.

The following activities, under component No 1, will be developed:

Component 1:

Lot 1 - TA for preparation of First Draft of Struma/Strimon River Basin Management Plan:

- Ensure a common approach to river basin management (approved by the CBC Joint Cooperation Committee) in accordance with the requirements of WFD, of national legislation and of bilateral agreements, to be adopted in the preparation of RBMPs for the Bulgarian part of Struma River Basin as well as for the preparation of the Transboundary River Basin Management Plans for Struma/Strimon;
- Foster trans-boundary co-operation for the Struma/Strimon River basin management and provide support for involving and making aware the public;
- Produce technical, socio-economic and other required assessments for preparation of the Draft River Basin Management Plan (according to Annex VII of WFD);
- Assist in the implementation of the monitoring requirements related to the planning of monitoring networks and programmes in accordance with WFD;
- Assist in the creation and in organising the maintenance of an information network database on the water status in the Struma/Strimon River, as well as of a website providing an Internet forum;
- Enhance technical and institutional capacities of the Western Aegean Basin Directorate's for the preparation of the Working Plan (art.14 of WFD) and of the Bulgarian authorities for the Struma/Strimon River Basin Management Plan;
- Provide support to public awareness campaigns.

Lot 2 – Technical Assistance for feasibility study for the sustainable long-term use of thermo-mineral waters in Struma/Strimon hydro-geothermal systems:

• Preparation of feasibility study covering:

Identification and description of the existing situation:

- Review of all existing records related to the geological and tectonic characteristic and to the hydro-geological, hydro-chemical and geothermal conditions of the hydrothermal basins and occurrences, technical data of every single well, etc;
- Collection of data necessary for complete determination of the conditions of the hydrothermal basins and occurrences including: geological, tectonic, hydro-geological, hydro-chemical and geothermal characteristics;
- Analysis of the background information;

<u>Field works</u> - in order to verify the data and findings in the background information, field explorations including: water quality and quantity monitoring of natural thermal springs and wells;

<u>Modelling</u> - incorporation of the most suitable data into numerical models, which to be used for modelling of the long-term behaviour of the utilized hydrothermal system and occurrences in space and time

- Assessment of the local and regional (natural and operational) resources of waters accumulated in the differentiated hydrothermal systems;
- Assessment of the local and regional resources of hydro-geothermal energy in Struma/Strimon River catchment area;
- Environmental Impact Assessment and determination of sanitary-protected areas;
- Conduct an assessment of the existing and potential key barriers for utilization of geothermal water resources of Struma/Strimon hydrothermal systems;
- Develop of recommendations to mitigate and or barriers removal;
- Carry out market investigations and determination of the possibilities for the sustainable long-term potential utilization of thermal waters for the needs of mineral water bottling, for balneology, sport, recreation, heating, etc.;
- Develop and disseminate lessons learned from the Project in Bulgaria and abroad to facilitate further thermal water utilization;
- Develop a strategy for thermal water utilization including a Draft River Basin Management Plan;
- Preparation of Tender Documents for the implementation of the first three priority investment project(s) for long-term use of thermo-mineral waters based on the approved Draft River Basin Management Plan.

The following activities, under component No 2, will be developed:

Component 2

Supply of equipment for water quality and quantity monitoring

The necessary technical monitoring equipment under this component will be supplied. Indicatively, the supply will include specialized monitoring equipment for water quality control – sampling and analysis and data base establishment as follows:

For groundwater: Sampling Equipment for Groundwater and Surface Water, consisting of: Groundwater sampling pump; Groundwater sampler (baler) combined with level meter; Packer for groundwater sampling pump; Measuring system for controlled groundwater sampling; Measuring Equipment for Groundwater Monitoring consisting of: Multi-sensor probe; Local Control Unit; vehicle, PC station, camera for control of the wells.

The automated monitoring station for ground waters is a mini-station designed for long time unattended operation. The station will be equipped with a local data-logger, which collect all data and send it to the Central Control Station through mobile telephone network. The following basic parameters can be measured:

Temperature, oxygen, pH, conductivity, Salinity, Red-ox, Water level.

For surface waters:

The surface waters monitoring equipment consists of Automated Measuring Station(s), which are able to carry out automatically the water sampling and analysis on the specific surface water bodies monitored, and to transmit the relevant data to the receiving Central Control System. The following basic parameters can be measured:

Temperature, oxygen, pH, conductivity, Suspended Solids and Turbidity, Organics.

The proposed Central Control System will have the following functions:

- Bilateral connection and information exchange with the existing Database of the National Automatic System for Environmental Monitoring (NASEM)
- Monitoring Data Base Management System
- Client/Server data exchange functions with remote Access Point.

3.5 Linked Activities:

There are different previous projects with direct impact to the water sector and implementation of the EU WFD:

Phare Twinning project 1998: Transposition of the EU Directives dealing with Urban Wastewater treatment (91/271/EEC), Dangerous Substances discharges into aquatic environment (76/464/EEC) and Permit issuing. This project helped the Ministry of Environment and Water (MOEW) in the process of transposition of the requirements of these Directives and in this connection MOEW has adopted and approved 2 Programs for the implementation of Urban Waste Water Directive and Dangerous Substances Directive. These Programs were presented to the European Commission in March 2004 and became part of the Bulgarian legislation.

Phare CBC project BG9904-04.02.02 – Preliminary survey on the identification of the sensitive areas in the basins of rivers Mesta, Struma, Arda, Tundja and Maritza according to the criteria of Directive 91/271/EEC. Based on the results of this project, the Minister of Environment and Water issued an Order where there was a list with designated sensitive areas of all Bulgarian rivers. The sensitive areas require tertiary treatment in order to reduce the nutrients in the treated wastewater discharged into the rivers.

Phare CBC project BG2002/000-624.04 Integrated Management of Mesta/Nestos River Basin (Phase I) – under implementation. Activities under this project shall build on and detail the overview data and information compiled by the WABD, Blagoevgrad, for the national reporting to the EU Commission; shall enable the identification of specific gaps in data, technical and human resources etc. required for assessment of main management issues concerning water quality and river basin management.

Phare CBC project BG2004/016-728.04 Integrated Management of Mesta/Nestos River Basin (Phase II) – under implementation. The project aims through the technical and institutional support to the Western Aegean Basin Directorate for transboundary and integrated management, to prepare the first Draft River Basin Management Plan for Mesta/Nestos River Basin.

Phare project BG9307-03-01 "Technical and Economic Assessment of Bulgarian Renewable Energy Sources". Here are some conclusions: "The RES theoretical potential in Bulgaria is considerable. According to the PHARE BG 9307-03-01 Project Final Report data, the RES potential is evaluated to 14387 ÒJ/year for geothermal energy; 77156,6 ÒJ/year for solid agricultural waste...". "For the time being the basic difficulties are related to the lack of investments. The increase of foreign investments from the PHARE program and from some World Financial Institutions aimed for the numerous spas in Bulgaria create more favourable conditions for the expansion of the geothermal market. Besides the production of cheap

thermal energy, the geothermal plants contribute to the reduction of the environment pollution, which is of great importance for the country."

Phare CBC project BG2004/016-782.04 "Integrated use of the thermo-mineral waters accumulated in the "Erma reka-Ilidza" geothermal system aims integrated and sustainable long-term use of thermo-mineral waters accumulated in Erma reka - Ilidza geothermal system and continue the implementation of the EU environmental *acquis communautaire* with particular emphasis on water quality and quantity in respect of Directive 2000/EEC for establishing of framework for Community action in the field of water policy and in particular in respect of a new Directive COM(2003)550 for groundwater protection.

Related programmes and donor activities:

The first step of River Basin Management in Bulgaria was conducted with the help of the first **Twinning project between France and Bulgaria BG EN 99 from 1999 to 2002** with institutional establishment of the River Basin Authorities.

The second step was **Twinning project EN 2000** (BG2000EN01A – Institutional strengthening at national and regional level for implementation of the drinking water, fish water and shellfish water, bathing water and dangerous substances discharges directives) by the development of appropriate tools and methodologies for implementation of *acquis communautaire* in the field of drinking water, surface water, bathing, fish and shellfish water and dangerous substances.

Already **completed project of the DANCEE** section of the Danish Environmental Protection Agency (DEPA) is called "Implementation of the Water Framework Directive in Bulgaria - support to the Bulgarian Ministry of Environment and Water and to the Black Sea Basin Directorate". This project aims at providing strategic and technical support to the Ministry of Environment and Water in the Pilot Black Sea Area for the River Basin Overview, undertaking GIS training and institutional strengthening of the Black Sea Basin Directorate.

Another **just finished project is the project of the Italian Ministry of Environment and Territory** called Iskar Pilot Project: Implementation of the Water Framework Directive in the Iskar River Basin and the pre-feasibility study for Integrated Water Monitoring Network in the Iskar River Basin. The Project aims at the elaboration of an Action Plan for the implementation of Water Framework Directive in the most important tributary to the Danube River – Iskar River.

A new **Twinning Project BG 03/IB-EN 02** called "Institutional strengthening of the River Basin Authorities in Bulgaria for Implementation of the EU Water Framework Directive in the Danube River Basin (Pilot River Basin and Sub-River Basin)" will start with the help of key experts from the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, Federal Republic of Germany. The project will support the efforts of Bulgaria in implementing the legislative and technical elements of the Water Framework Directive in accordance with the Bulgarian Environmental legislation, particularly the elaboration of the elements of the first Draft of the River Basin Management Plan for the Bulgarian part of the Danube River Basin

3.6 Lessons learned:

During the last Bulgarian-Greek meetings on Phare CBC/INTERREG IIIA the issue to improve the joint coordination activities at programming and implementation stages has always been present in the discussions. In order to improve the quality of the environmental projects preparation implementation, on the last technical meeting in June 2004, both partners agreed joint coordination bodies to be established. As for the present project, it was agreed the Greek side to be involved in the related Joint meetings and Working Groups.

4. Institutional Framework

The Ministry of Regional Development and Public Works will be acting as a **Contracting Authority** with the overall responsibility for the programme implementation, administrative, technical and financial management of the grant scheme. MRDPW as a co-ordinator for CBC programme is obliged to monitor physical and financial implementation of this project including Phare and co-financing payments, and report to the EC in regularly reports.

For **Component 1** (Service): Water Directorate of the Ministry of Environment and Water as overall responsible for the implementation of WFD 2000/60/EC and Western Aegean Basin Directorate, Blagoevgrad, as responsible for water management in the river basins' level will be responsible for the technical implementation of the project.

For **Component 2** (**Supply**): Water Directorate of the Ministry of Environment and Water, Western Aegean Basin Directorate and Regional Laboratory in Blagoevgrad (to the Executive Environment Agency) will be responsible for the technical implementation of the project.

A Joint Coordination Committee with the participation of the Ministry of Environment and Water, the Ministry of Regional Development and Public Works, the Western Aegean Basin Directorate, Ministry of Foreign Affairs and representatives from the relevant national and local authorities of Greece will be established in order to manage the project activities.

The Beneficiaries of the Project will be the Ministry of Environment and Water (Water Directorate), Western Aegean Basin Directorate and Regional Laboratory, Blagoevgrad, within the EEA.

Mrs. Fatme ILIAZ, Deputy Minister of Environment and Water 67 William Gladstone Str., 1000 Sofia Tel: +359 9406257 Fax: +359 981 66 10

Mr.Nikolay KOUYUMDZHIEV Deputy Minister for Environment and Water 22, Maria Luisa blvd. 1000 Sofia tel.: +359 2 940 6503 fax: + 359 2 980 9641

5. Detailed Budget

Year 2005	Phare support	C	o-financing		Total Cost
	€M	National Public Funds (*)	Other Sources (**)	Total Co- financing of Project	
Component 2	0.600	0.200	-	-	0.800
Supply of equipment for water quality and quantity monitoring	0.600	0.200	-	-	0.800
Investment support – sub-total	0.600	0.200			0.800
% of total public funds	max 75 %	min 25 %		· · · ·	

Year 2005 Institution					
Building support					
Component 1					
Lot 1 - Struma river basin	0.900	-	-	-	0.900
management plan					
Lot 2 - Feasibility study	0.500	-	-	-	0.500
for sustainable long-term					
use of thermomineral					
waters of Struma/Strimon					
hydrothermal systems					
IB support	1.400	-	-	-	1.400

Total project 2005	2.000	0.200		2.200

(*) contributions form National, Regional, Local, Municipal authorities, FIs loans to public entities, funds from public enterprises (**) private funds, FIs loans to private entities

6. Implementation Arrangements

6.1 Implementing Agency

The Bulgaria CBC Implementing Agency (IA) is the Ministry of Regional Development and Public Works (MRDPW), which retain overall responsibility for the implementation of the project (approval of terms of reference, preparation of tender documents, organization of the tender procedures; signature of contracts; financial management of contracts).

PAO Mr. Belin Mollov 17-19 Sv.sv. Kiril i Metodi St, 1202 Sofia Phone: + 359 2 9405 463 Fax: + 359 2 988 12 48 e-mail: bmollov@mrrb.government.bg

The project beneficiary institutions are for Component 1: Ministry of Environment and Water (Water Directorate) and Western Aegean Basin Directorate and for Component 2: Water Directorate of the Ministry of Environment and Water and Western Aegean Basin Directorate, Executive Environmental Agency – Water Department and Blagoevgrad Regional Laboratory.

Beneficiaries are responsible towards the CBC Implementing Agency for the preparation of ToR; participation in Tender evaluation procedures and technical management of the contract in close cooperation with Phare CBC IA.

Overall project monitoring, project co-ordination and final project evaluation will be undertaken within the framework of a Joint Coordination Committee, in which will take part authorized representatives of MoEW, MRDPW, Ministry of Foreign Affairs, Western Aegean Basin Directorate and relevant Greek National and Local Authorities.

6.2 Twinning

N/A

6.3 Non-standard aspects

There are no non-standard contracts or tender procedures envisaged within this project PRAG¹ will be strictly followed.

6.4 Contracts

The expected contracts are as follows:

Service contracts for technical	l assistance - tota	11.400 N	/IEUR,
Service contract 1	-	0.900 N	MEUR,
Service contract 2	-	0.500 N	MEUR,
Supply contract, for supply of	monitoring equi	pment -	0.800 MEUR

7. Implementation Schedule

¹ Practical Guide to Contract Procedures Financed from the EC general Budget in the context of External Actions: http://europa.eu.int/comm/europeaid/tender/gestion/pg/npg_en.doc

- 7.1 Start of tendering/call for proposals
- November 2005 (for Component 1)
- November 2005 (for Component 2)
- 7.2 Start of project activity
- July 2006 (for Component 1)
- September 2006 (for Component 2)
- 7.3 Project completion
- June 2009 (for Component 1)
- March 2007 (for Component 2)

8. Equal Opportunity

Equal opportunity for men and women to participate in all the components of the project will be ensured.

9. Environment

The major environmental effect from the project will be integrated management of the Struma/Strimon River Basin waters, including thermo-mineral waters, in full compliance with Water Framework Directive 2000/60/EU and in particular with Directive for groundwater COM(2003)550.

10. Rates of return

Not applicable

11. Investment criteria

11.1 Catalytic effect

The following catalytic effects are foreseen:

Development of implementation plans, together with financing strategies in order to outline the steps needed to ensure full implementation of the *acquis* in the medium and longer term. These plans should take into account all available resources and institutional training and further on elaborate mechanisms to monitor effective implementation, with particular emphasis on water management.

Strengthening of the administrative structures necessary for the full implementation, monitoring and enforcement of the *acquis* and especially of the EC Water Directives, with special attention on WFD implementation. In particular, reinforcing the Water Directorates, municipalities and other public bodies at the local level, with an emphasis on water quality management.

11.2 Co-financing

The Investment component of the project will be co-financed 25 % by the National Fund.

11.3 Additionality

No other financing sources from the private sector or from IFIs are expected for financing this project

11.4 Project readiness and size

No preliminary studies are needed for this project. Its implementation can start according to the implementation chart (Annex 2).

11.5 Sustainability

The project will be sustainable in the long term. Based on the prepared first Draft River Basin Management Plan for Struma/Strimon, the relevant central and regional/local environment authorities from both sides of the border will successfully apply the EU WFD 2000/60/EC in the future joint management of the Struma/Strimon River Basin.

The Draft River Basin Management Plan for long-term management of water will lead to significant improvement of quality of life of local population in the Struma river catchment area, to sustainable development of the regions from both sides of the Bulgarian-Greek boundary, to fostering cross-border co-operation.

11.6 Compliance with state aids provisions

The project respects the state aids provisions requirements.

12. Conditionality and sequencing

The project activities shall follow the timetable of activities for adoption of the WFD.

Annexes to project Fiche

Annex 1 - Log frame

- Annex 2 Detailed implementation chart
- Annex 3 Contracting and disbursement schedule
- Annex 4 Reference to feasibility/ pre-feasibility studies
- Annex 5 Legislation references

ANNEX 1: LOGFRAME PLANNING MATRIX Integrated Water Management of Struma/Strimon	River Basin	Programme name and number BG-GR 2005	
		Contracting period expires 30 November 2007	Disbursement period expires 30 November 2009
		Total budget: 2.200 MEUR	Phare budget: 2.000 MEUR
Overall objective	Objectively Verifiable Indicators	Sources of Verification	
The overall project objective is to establish transboundary, integrated and sustainable management of water resources of Struma/Strimon River Basin, including thermo-mineral waters, with particular emphasis on water quality and quantity, in compliance with the requirements of the EU Water Framework Directive 2000/60/EC and other EU water directives, and bilateral agreements between Bulgaria and Greece in the field of water management and national legislation through joint cross-border initiatives and actions.	Operational Joint Cooperation Committee established	Annual reports; Website, media, written materials.	
Project purpose	Objectively Verifiable Indicators	Sources of Verification	Assumptions
The project purpose is through the technical and institutional support to the Western Aeagean Basin Directorate and the Joint Cooperation Committee for transboundary and integrated management, to prepare the first Draft River Basin Management Plan for Struma/Strimon River Basin and to carry out a feasibility study for the sustainable long-term use of thermo-mineral waters accumulated in the differentiated river basin hydrothermal basins.	 Biological parameters used in accordance to the requirements of Water Framework Directive for upgrading of the water monitoring system ; Water Management Plan for long-term use of thermo-mineral waters Struma/Strimon hydrothermal systems accepted by the Relevant authorities 	Written materials – IA reports plan, minutes from the meetings of the JSC; monitoring programme, Tender documents for investment projects, etc. Website, media. Assessment reports	 Public awareness campaigns; All stakeholders and competent authorities to be involved in the process of identification of the main water management issues in the Struma river basin
Results	Objectively Verifiable Indicators	Sources of Verification	Assumptions
 <u>Lot 1 – Technical Assistance for preparation of</u> <i>First Draft of Struma/Strimon River Basin</i> <i>Management Plan</i> The natural environment in the border region protected; Long-term cross-border partnership between Bulgarian and Greek authorities 	 Increase number of monitoring stations – minimum 1 station per 1000 sq.km catchment area; Minimum 5 monitoring points' equipment (for surface and ground waters) in accordance with the monitoring requirements of the Water Framework Directive; Minimum 2 public awareness' 	 Programmes of measures in the River basin management plan for Struma/Strimon; Project implementation reports including water quality and quantity; First Draft of Water Management Plan 	 Monitoring results are used for decision-making process. The knowledge for EU water management standards are implemented in practice.

approved; for the integrated water management of campaigns; Struma/Stirmon river established: • Minimum 50 participants; Final MRDPW report; . The technical and institutional Water Management Plan for Ready Tender Dossier • requirements necessary for preparation of sustainable long-term use of for the investment the Draft River Basin Management Plan thermo-mineral waters issued: projects (Annex VII of Directive 2000/60/EC) • Ready Tender Documents for finalized; investment projects; First draft of integrated management plan • • Ready projects for sanitary-protected for the Struma/Strimon River basin ready; zones; Monitoring networks and programmes ٠ elaborated and adopted to meet the requirements of Water Framework Directive: The main water and transboundary • management issues about the Struma/Strimon River Basin identified and presented to the competent authorities and public Information network database on the water • status in the Struma/Strimon River and website providing an Internet forum created; Public awareness campaigns provided; • Common management methods and measures in compliance with Annex VII of WFD applied; Lot 2 - Feasibility study for sustainable longterm use of thermo-mineral waters in Struma/Strimon hydrothermal systems Feasibility study of the Struma River ٠ Catchment area hydrothermal systems completed; Geothermal Sources Utilization Strategy ٠ for the Struma River catchment area, incl. Draft River Basin Management Plan ready; • Assessment of local and regional (natural and operational) resources and operational long-term capacity of Struma River Catchment area hydrothermal systems completed;

 Increased public awareness and knowledge about the benefit of thermomineral water application in the border region; Projects for sanitary-protected areas ready; Mature projects for the utilization of thermomineral waters in the Struma/Strimon River basin in full compliance with WFD identified; Tender Documents for the implementation of the investment projects for use of thermomineral waters based on the Draft River Basin Management Plan prepared. Component 2: Specialized water quality monitoring equipment delivered; Regional Laboratory within EEA and Basin Directorate, Blagoevgrad equipped with the necessary equipment for water quality monitoring; 			
Activities	Means	Sources of Verification	Assumptions
 <u>Component 1 – Technical assistance</u>: <u>Lot 1 - TA for preparation of First Draft of Struma/Strimon River Basin Management Plan:</u> Ensure a common approach to river basin management (approved by the CBC Joint Cooperation Committee) in accordance with the requirements of WFD, of national legislation and of bilateral agreements, to be adopted in the preparation of RBMPs for the Bulgarian part of Struma River Basin as well as for the preparation of the Transboundary River Basin Management Plans for Struma/Strimon; Foster trans-boundary co-operation for the Struma/Strimon River basin management and provide support for involving and making aware the public; 	Two Service contracts – 1.400 MEUR Supply contract: Phare – 0.600 MEUR National co-financing – 0.200 MEUR	Contracts signed	 Co-ordination between the different structures of MoEW in the implementation of the planned activities; Linked activities of other donors' programmes in the field

• Produce technical, socio-economic and other		
required assessments for preparation of the		
Draft River Basin Management Plan		
(according to Annex VII of WFD);		
• Assist in the implementation of the		
monitoring requirements related to the		
planning of monitoring networks and		
programmes in accordance with WFD:		
• Assist in the creation and in organising the		
maintenance of an information network		
database on the water status in the		
Struma/Strimon River, as well as of a		
website providing an Internet forum.		
Enhance technical and institutional capacities		
of the Western Aegean Basin Directorate's		
for the preparation of the Working Plan		
(art 14 of WFD) and of the Bulgarian		
authorities for the Struma/Strimon River		
Basin Management Plan:		
Provide support to public awareness		
campaigns.		
f 8		
Lot 2 – Technical Assistance for feasibility		
study for the sustainable long-term use of		
thermo-mineral waters in Struma/Strimon		
hydro-geothermal systems:		
• Preparation of feasibility study covering:		
Identification and description of the existing		
situation:		
- Review of all existing records related to the		
the hydro-geological hydro chemical and		
geothermal conditions of the hydrothermal		
basins and occurrences, technical data of		
every single well, etc;		
- Collection of data necessary for complete		

	determination of the conditions of the		
	hydrothermal basins and occurrences		
	including: geological, tectonic, hydro-		
	geological, hydro-chemical and geothermal		
	characteristics;		
-	Analysis of the background information;		
	<u>Field works</u> - in order to verify the data and		
	findings in the background information,		
	field explorations including: water quality		
	and quantity monitoring of natural thermal		
	springs and wens,		
	Modelling - incorporation of the most		
	suitable data into numerical models. which		
	to be used for modelling of the long-term		
	behaviour of the utilized hydrothermal		
	system and occurrences in space and time		
	• Assessment of the local and regional (natural		
	and operational) resources of waters		
	accumulated in the differentiated		
	hydrothermal systems;		
	 Assessment of the local and regional 		
	resources of hydro-geothermal energy in		
	Struma/Strimon River catchment area;		
	• Environmental Impact Assessment and		
	determination of sanitary-protected areas:		
	• Conduct an assessment of the existing and		
	potential key barriers for utilization of		
	geothermal water resources of		
	Struma/Strimon hydrothermal systems:		
	• Develop of recommendations to mitigate and		
	or barriers removal:		
•	Carry out market investigations and		
	determination of the possibilities for the		
	sustainable long-term potential utilization		
	of thermal waters for the needs of mineral		
	water bottling for balneology sport		
	muter counting, for cumeeting y, short.		

recreation, heating, etc.:		
• Develop and disseminate lessons learned		
from the Project in Bulgaria and abroad to		
facilitate further thermal water utilization;		
• Develop a strategy for thermal water		
utilization including a Draft River Basin		
Management Plan;		
Preparation of Tender Documents for the		
implementation of the first three priority investment		
project(s) for long-term use of thermo-mineral waters		
based on the approved Draft River Basin Management		
Plan		
Component 2		
• Supply of equipment for water quality and		
quantity monitoring		

ANNEX 2: Detailed implementation chart

			2	00	5								20)06											2	007	7										20)08	;				
Contracts	J	A	S	() [N	D	J	F	N	A	N	J	J	A	S	0	N	D	J	F	N	A	N	4 J	J	A	S	C	N	D	J	F	N	1 A	N	IJ	J	Α	S	0	Ν	D
Service contract					۲.	ΓΪ	Т	Т	Т	Т	Т	Т	С	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι
Supply contract					۲.	ΓΪ	Т	Т	Т	Т	Т	Т	Т	Т	С	Ι	Ι	Ι	Ι	Ι	Ι	Ι																					

						2	009)										20)10					
Contracts	J	F	Μ	Α	Μ	J	J	Α	S	0	Ν	D	J	F	Μ	Α	Μ	J	J	Α	S	0	Ν	D
Service contract	Ι	Ι	Ι	Ι	Ι	Ι																		1
Supply contract																								1

ANNEX 3: Contracting and disbursement schedule by quarter

Project title: Integrated	roject title: Integrated Water Management of the Struma/Strimon River Basin																
				Cun	nulative	contra	cting sch	edule by	quarter	in MEU	U R (pro	ovisiona	al)				Total
Contracting													I				ļ
		200)6				2007			200	8			200	9		
	Ι	II	III	IV	Ι	II	III	IV	Ι	II	III	IV	Ι	II	III	IV	
Service contract			1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4			1.4
Supply contract			0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6			
Total PHARE			2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0			2.0
National co-financing			0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2			0.2
Total contracting:			2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2			2.2

	Cumulative disbursement schedule by quarter in MEUR (provisional)														Total
Disbursement	2006		2007				2008				2009]
	III	IV	Ι	II	III	IV	Ι	II	III	IV	Ι	II	III	IV	
Service contract	0.42	0.42	0.60	0.70	0.95	1.00	1.05	1.10	1.20	1.30	1.35	1.40			1.40
Supply contract	0.36	0.36	0.36	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60			0.60
Total PHARE	0.78	0.78	0.96	1.30	1.55	1.60	1.65	1.70	1.80	1.90	1.95	2.00			2.00
National co-financing	0.12	0.12	0.12	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20			0.20
Total disbursement:	0.90	0.90	1.08	1.50	1.75	1.80	1.85	1.90	2.00	2.10	2.15	2.20			2.20

ANNEX 4 - Reference to feasibility / pre-feasibility studies

Following studies and documents are prepared:

- Phare project BG 9307-03-01 "Technical and Economical Assessment of Bulgarian Renewable Energy Sources";
- Final Report of re-evaluation of hydrothermal resources in Bulgaria, MoEW, 1998;
- Final Report of project BG9904-04.02.02 Preliminary survey on the identification of the sensitive areas in the basins of rivers Mesta, Struma, Arda, Tundja and Maritza according to the criteria of Directive 91/271/EEC, MoEW, MRDPW, 2002.

ANNEX 5: Legislation references

Integrated Water Management as a ruling Principle of the EU WFD was introduced into Bulgarian legislation through the Water Act (1999, come into force in January 2000) and its implementing Regulations:

- Regulation on the way and order of industrial waste water discharge in the urban sewerage systems (Dir. 76/464/EEC; 91/271/EEC);
- Regulation on the quality of the water intended for humane consumption (Dir. 98/83/EEC);
- Regulation on the quality requirements to surface water intended for drinking purposes (75/440/EEC);
- Regulation on the prevention of the waters from nitrates pollution caused by agriculture (Dir. 91/676/EC);
- Regulation on the quality of bathing water (Dir. 76/160/EC);
- Regulation on the quality of fish and shellfish water (Dir. 78/659/EEC and 79/923/EEC);
- Regulation on the quality of coastal sea water (Dir. 79/923/EEC; 76/464/EEC; 91/271/EC and 76/160/EEC);
- Regulation on the emission limit values of dangerous and hazardous substances in the discharged waste water (Dir. 76/464/EEC;
- Regulation on the way and order of the development of the networks and National Water Monitoring System activity ;
- Regulation on the research, use and prevention of the ground water (Dir. 80/68/EEC and 76/464/EEC);
- Regulation on the sanitary protected areas (Dir. 75/440/EEC; 80/68/EEC; 91/676/EEC);
- Regulation on the wastewater discharge permits issue and individual emission limit values for point sources of pollution (Dir. 80/68/EEC; 76/464/EEC and 91/271/EC).