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ISPA Measure No:
2002 BG 16 P PE 013

FINANCING MEMORANDUM

**Agreed between the European Commission and
the Republic of Bulgaria**

**Concerning the grant of assistance from the Instrument for Structural Policies for
Pre-accession to the Following Measure**

Smolian Integrated Water Project in Bulgaria

FINANCING MEMORANDUM

The European Commission, hereinafter referred to as "the Commission", acting for and on behalf of the European Community, hereinafter referred to as "the Community" represented by the Acting Director General for Regional Policy, Mr Graham Meadows, for the Commission

on the one part, and

The Government of Bulgaria, hereinafter referred to as "the beneficiary"

on the other part,

HAVE AGREED AS FOLLOWS:

Article 1

The measure referred to in Article 2 below shall be implemented and financed out of the budgetary resources of the Community in accordance with the provisions set out in this Memorandum. The measure referred to in Article 2 below shall be implemented in line with the General Conditions annexed to the Framework Agreement signed between the Commission and the beneficiary and supplemented by the terms of this Memorandum and the provisions annexed hereto.

Article 2

Identification of the Measure

The Instrument for Structural Policies for Pre-accession shall contribute, by way of a grant, towards the financing of the following measure as described in Annex I:

Measure number: 2002 BG 16 P PE 013

Title: Smolian Integrated Water Project

Duration: **Start date:** The date of signature of the financing memorandum by the Commission

End date: 31 December 2008

Location: Smolian

Group: Arda River Basin

Article 3

Commitment

1. The maximum public or equivalent expenditure which may be taken into account for the purpose of calculating assistance shall be € 24 471 021;
2. The rate of Community assistance granted to the measure is fixed at 75 % of total public or equivalent expenditure as indicated in the financing plan in Annex II;
3. The maximum amount of assistance from the Instrument for Structural Policies for Pre-accession is fixed at € 18 353 266;
4. An amount of € 14 682 612 is committed from the 2003 budget under budgetary line B7-020. Commitments in respect of subsequent instalments shall be based on the initial or revised financing plan for the measure, subject to the state of implementation of the measure and to budgetary availability.

Article 4

Payments

1. Community assistance shall cover payments on the measure for which legally binding commitments have been made by the beneficiary and for which the requisite finance has been specifically allocated. These payments must relate to the works described in Annex I.
2. Payments made before the date of signature of financing memorandum by the Commission shall not be eligible for assistance from the Instrument for Structural Policies for Pre-accession.
3. The measure described in Annex I and payments by the body responsible for the implementation of the measure shall be completed no later than 31 December 2008.

The report required for the payment of the final balance should be submitted not later than 6 months after this date.

4. The advance payment is fixed at € 3 670 653 which shall be transferred as follows:
 - amount of € 1 835 327 is paid out after signature of this memorandum by the beneficiary;
 - remainder is paid out after signature of the first substantial works contract to be agreed between the beneficiary and the Commission and after the fulfilment of the other conditions specified in Article 8 (3) hereunder.
5. In accordance with Annex III. 1, Section III, point 5, the Commission will accept for this measure a total amount of advance and intermediate payments of 90 % of the total assistance granted.

Article 5

Respect of Community Law and Policies

The measure shall be carried out in compliance with the relevant provisions set out in the Europe Agreements and shall contribute to the achievement of Community policies, in particular those concerning environmental protection and improvement;

Article 6

Intellectual Property

The Beneficiary and the authority responsible for implementation mentioned in Annex I point 3 shall ensure that they acquire all necessary intellectual property rights to studies, drawings, plans, publicity and other material made in conjunction with planning, implementation, monitoring and evaluation of the project. They shall guarantee that the Commission, or any body or person delegated by the Commission shall have access and the right to use such material. The Commission will only use such material for its own purpose.

Article 7


Permits and Authorisations

Any type of permits and or authorisations required for the implementation of the measure must be provided by the competent authorities of the Beneficiary in due time and in accordance with national law.

Article 8

Specific Conditions Related to the Measure

Without prejudice to the general provisions specified in Annex III the Community grant for the measure is subject to the following conditions:

1.  Condition on the assumptions and the status of the assets:

The Commission reserves the right to revise the amount of the assistance for ISPA set out in Article 3 if, within five years of the date of the completion of works, the operating conditions (tariffs, revenues, etc.) vary significantly relative to the original assumptions made in determining the level of the grant and/or there is a substantial modification:

- a) Affecting the nature of the operation or its implementing conditions, or giving to a private or public body an undue advantage; and
- b) Resulting either from a change in the nature of the ownership of any part of the financed infrastructure, or a cessation or material change in the operating arrangements.

The beneficiary country shall inform the Commission of any such change, and shall seek the ex-ante agreement of the Commission to these changes.

2. Condition on viability:

The Community grant for the measure is subject to authorities concerned making available sufficient resources in order to ensure the effective operation and maintenance of the assets.



The second advance payment shall be subject to:

a) the appointment for the measure of a project manager and a project implementation unit under terms acceptable to the Commission to be located in the regional water company and assisted by a technical assistant financed by the measure;

b) evidence that the mitigation measures foreseen in the development consent (EIA resolution N° 3-2/2002 as amended by EIA decision N°11-7/2002 from the Regional Inspectorate Smolian) have been addressed.



The final payment shall be subject to:



The presentation of evidence that:

- (i) Industrial wastewater is pre-treated and/or recycled as appropriate.
- (ii) The pre-treatment and/or recycling of industrial wastewater is monitored and enforced by the appropriate environmental authorities.
- (iii) The industrial loads are not harmful to the designed technology of the treatment plant.



The presentation of a final programme for the treatment, reuse and disposal of the sludge under terms acceptable to the Commission.



The presentation of an updated master plan for water management in compliance with the relevant EC water legislation. The master plan will duly have to address solutions reducing the impact from rainwater on the sewerage system and wastewater treatment process.”

Article 9

The implementation provisions described in the Annexes to this financing memorandum form an integral part of it.

Non-compliance with the conditions and implementation provisions shall be dealt with by the Commission according to the procedure stipulated in Annex III.1. Section VIII.

Article 10

The authentic text of this financing memorandum is the present document as signed hereunder.

Done at 16 Dec 2003

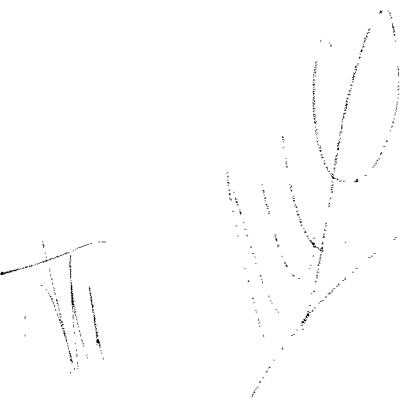
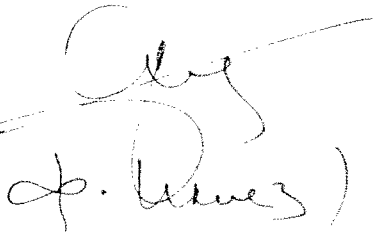


*For the recipient
Mr M. Veltchev
National ISPA Co-ordinator*

Done at Brussels, 16 DEC. 2003



*For the Community
Mr Graham Meadows
Acting Director General*



List of Annexes

Annex I Description of measure

Annex II Financing plan

Annex III

Annex III.1 ISPA Financial Implementation provisions

Annex III.2 Provisions governing eligibility of expenditure for measures assisted by ISPA

Annex III.3 Model for submission to the Monitoring Committee and request for modification

Annex III.4 Management and control systems for assistance granted from ISPA and the procedure for making financial corrections

Annex III.5 Agreement with respect to irregularities and recovery of sums wrongly received under ISPA

Annex III.6 Information and Publicity requirements

**Description of measure
Smolian Integrated Water Project**

Commission code No: 2002 BG 16 P PE 013

1. MEASURE TITLE

Smolian Integrated Water Project

2. AUTHORITY MAKING THE APPLICATION (National ISPA Co-ordinator)

2.1. Name: Ministry of Finance, Mr Lyubomir Datzov, Deputy Minister

2.2. Address: 102, Rakovski Street, 1040 Sofia, Bulgaria

E-mail: l.datzov@minfin.bg

3. AUTHORITY RESPONSIBLE FOR IMPLEMENTATION (as defined at Section II (2) of Annex III.2)

3.1. Name: Ministry of Environment and Water

3.2. Address: 67, William Gladstone St., Sofia, Bulgaria

E-mail: marianasir@moew.government.bg

4. FINAL BENEFICIARY (IN CASE IT IS A DIFFERENT BODY FROM THE AUTHORITY MENTIONED UNDER 3)

4.1. Name: Municipality of Smolian

4.2. Address: 12, Bulgaria Boulevard, 4700 Smolian, Bulgaria

Contact: D. Kiriakov

Telephone: + 359 301 361 00

Telex/Fax: + 359 301 232 15

5. LOCATION

5.1. Beneficiary country: Bulgaria

5.2. Region: East Aegean River Basin

6. DESCRIPTION

The Municipality of Smolian is located in the central part of Rodopi Mountain, in the Central South part of Bulgaria and it borders Greece in the South. Smolian has, currently, a population of approximately 33 000. Domestic and industrial wastewaters arising from the town are currently discharged without treatment in a mixture with infiltration water, and when applicable storm-water flows, to the Cherna river that runs through the centre of the town.

The river Cherna is the largest tributary of the cross border river Arda. The Arda river flows south and enters the Kardjali dam after which it enters the territory of Greece and later in Turkey joins the Maritsa River. Therefore, the measure will have a positive trans-border impact through a decrease of wastewater contamination and protection of the surface waters within the Arda river valley. There are current plans to construct a new dam 'Gorna Arda' on the Bulgarian side of the Arda river.

The overall project comprises the construction of a wastewater treatment plant for the treatment of wastewater generated in the city of Smolian, which will eliminate the discharge of untreated sewage into the cross border river Arda, plus additional works relating to the existing sewerage and drinking water network .


The infrastructures are designed to meet effluent standards of the EC Directive 91/271 concerning Urban Wastewater treatment which has been transposed into Bulgarian legislation with the adoption of Ordinance No 6/09.11.2000.

Project preparation was carried out by an international consultant firm using PHARE funds for Bulgaria.

The measure will consist of the following main components:

- Refurbishment and extension of the existing main collector of the sewerage system and connection of all the existing forty-five wastewater outfalls to the new/existing main collectors so that the collected wastewater passes to the new Urban Wastewater Treatment Plant (UWWTP);
- Refurbishment of part of the existing drinking water system;
- Construction of a new urban wastewater treatment plant (WWTP);
- Technical assistance during implementation;
- Supervision.

6.1. Component 1: The Wastewater Treatment Plant

 wastewater treatment plant will be constructed for full secondary treatment, with biological nitrification/de-nitrification included in the process via the stabilisation of sludge in the activated sludge tanks. Provision for biological Phosphorus removal will be made so that full tertiary treatment can be introduced in a cost-effective manner.



The plant will be operated to provide treatment of wastewater to full secondary level inclusive nitrogen reduction on commissioning and for an appropriate period (three years recommended). Full tertiary level treatment (meaning biological reduction of Phosphorus compounds) will be introduced after this period, if required, and if the operator demonstrates sufficient technical and financial capacity.

The process used, after a comparison with other possible alternatives, will be the activated sludge method incorporating anoxic zones for nitrogen removal and an aerobic sludge stabilisation stage and associated sludge thickening and dewatering equipment. This technological option has been used to elaborate the conceptual design. The new plant will be built based on the flows and loads projected in the target year 2022.

The design of the WWTP proposed is, in an indicative way, the following:

- (i) Inlet works (screenings and grit removal);
- (ii) Activated sludge plant with aeration including anoxic zones for biological nitrogen removal. Supply of air to tank via blowers and fine bubble diffusers;
- (iii) Settlement of activated sludge in clarifiers;
- (iv) Pump station for return of settled activated sludge treatment;
- (v) Aerobic sludge stabilization in the activated sludge plant. Supply of air via blowers and fine aeration;
- (vi) Post thickening of stable sludge and intermediate storage;
- (vii) Dewatering to minimum 20 % dry solids for future disposal off-site to the Municipal waste disposal site in first years of operation until the quality and suitability of the sludge for other uses is established;

The new wastewater treatment plant is expected to consist of the following main sub-components:

- Inlet and effluent discharge works;
- Wastewater treatment facilities including biological treatment;
- Sludge treatment facilities;
- Temporary sludge storage facilities;
- Treatment and administrative buildings;
- Ancillary works.

The new wastewater treatment plant, which today serves a population approximately 33 000, will serve a population of 44 260 for the year 2022. It will treat a 2022 flow of approximately 10 173 m³/day and will be designed to meet the following parameters:

Design Parameters for the Smolian WWTP

Parameters	Unit	Situation Before ISPA Measure	
		2022 (Inlet Parameters)	2022 (Outlet Parameters)
Total daily average flow	m ³ /d	10 173	
Population equivalent	PE	55 550	
BoD	mg/l	328	25
CoD	mg/l	655	125
Suspended solids (SS)	mg/l	336	35
Nitrates - (N total)	mg/l	56	15
Phosphates - (P total)	mg/l	9	2*

* The phosphorous value will be achieved only in the future when the plant will be upgraded with a second intervention, but the WWTP will be designed for the full tertiary upgrading (but not constructed) with the current measure.

6.2. Component 2: The Sewerage Network

The main aim of this component is to tackle the important infiltration problems occurring in the network which covers, at present, about 83 % of the population living in the town of Smolian and is 26 km long. The sewerage network in 2022 is expected to cover 96 % of the town.

The major part of the Main Collector, which will intercept all the existing sewer river outfalls, has been constructed. This collector, when extended as planned in this project, shall ensure interception and transport of the town's wastewater to the WWTP site.

The sewerage component of the investment will consist of the following sub-components:

6.2.1. Main Collector completion including:

- a) 50 m extension of main collector (3 sections of 407 m, diam. 300; 678 m, diam. 400; 465 m, 500 diam.);
- b) connection of 45 Outfalls to the Main Collector;
- c) construction of 37 storm overflows plus related pipe work.

6.2.2. Replacement of 10 515 m of diameter 300-400 mm of the existing sewers network in 7 districts due to very high infiltration;

6.2.3. Extension of the sewerage network to two districts, in total 5 120 m of new sewers with sections of diameter 300-400 mm.

6.3. Component 3: The drinking water system

The existing drinking water network is in a very bad shape, so this part of the measure will consist of the following main sub-components:

6.3.1. Refurbishment of the existing network

The ISPA component will include the replacement 44 900 m of current asbestos cement supply pipes in order to reduce the exfiltration affecting a population of approximately 19 200 people. With this investment, the drinking water network will have no more asbestos cement pipes.

6.3.2. Reconstruction of water supply devices (15 water retention tanks)

6.3.3. Construction of the pumping stations: this part will include the reconstruction of pump units (15 units), electrical drivers (10 units), of starting apparatus and of the automation system.

6.4. Component 4: Technical Assistance

The technical assistance component will be mainly used to:

- As normal ISPA practice, hire independent technical expertise to participate in the international tendering process for supervision and works;
- Provide management support to the project implementation unit created in the Smolian Regional water company (RWC) to assist in the implementation of the measure and to improve the financial and operational performance of the RWC;
- Prepare an in depth review of the drinking water system;
- Provide the RWC with the necessary equipment to monitor the entire water system and to improve the maintenance of the assets built (ie. equipment for leakage detection);

- Execution of additional sewer surveys, digital mapping, modelling the sewer network model (including rainwater facilities), detailed design of the sewer rehabilitation component addressing solutions for reducing the impact of rainwater on the waste water treatment cycle and advice to the water company on the further development/maintenance of the system;
- Review of the hydraulic design and pollution load for the WWTP (installation of an on-line registration flow to the WWTP, installation of automatic sampling equipment and proper analysing facilities of the wastewater samples, inventory of industrial wastewater flows, inventory of rainwater flows);
- Carry out the necessary information and publicity activities for the measure;
- Prepare any other necessary studies to complement the implementation of the present measure.

7. OBJECTIVES

The overall objective of the measure is to protect the Cherna river and ultimately the Arda river, from pollution from discharges of untreated sewage and industrial wastewater, by the provision of a wastewater treatment plant to treat the wastewater to acceptable effluent quality standards and by the provision of ancillary infrastructures in the collection system.

In particular, the measure will:

- Enable the city of Smolian to achieve compliance with Urban Waste Water Directive;
- Reduce the risks to human health for the population living in the target areas served by the new WWTP;
- Reduce the pollution in the trans-border region;
- Reduce the potential risk of groundwater contamination;
- Reduce the potential risk of soil contamination;
- Improve the protection of the environment of the river basin waters;
- Improve the state of the flora/fauna of the riverine environment;
- Build-up an effective ecological infrastructure to facilitate economic activity;
- Improve the conditions for the development of key sectors of the economy - tourism and agriculture;
- Improve the quality and quantity range of services for the population in the targeted area;
- Create new employment opportunities - temporary and permanent and stimulate local and regional development.



8. WORK SCHEDULE

Category of Work	Start Date	Completion Date
Land acquisition ¹	Completed	
Feasibility study	January 2001	June 2001
Economic analysis	July 2001	September 2003
Financial analysis	October 2001	September 2003
Environmental impact assessment	July 2001	October 2001
Design studies	July 2001	June 2004
Tender documents	October 2001	June 2004
Construction	December 2004	December 2007

9. ECONOMIC AND SOCIAL COST-BENEFIT ANALYSIS

An economic internal rate of return has not been calculated due to the difficulties in quantifying many of the economic benefits of the project. However, these benefits are significant and include in particular: (i) environmental benefits resulting from improved water quality in the receiving waters; (ii) health impacts resulting from reduction of diseases, (iii) the long term commercial implications of improved wastewater treatment facilities related to development of tourism industry.

10. MAIN ELEMENTS OF FINANCIAL ANALYSIS

A financial analysis of the measure has been carried out to ensure its viability and affordability. This shows that the investment is able to meet the projected operating and maintenance costs over its expected lifespan. Without ISPA grant at the proposed 75 % the measure would not be viable and would not be able to proceed.


An overall assessment of the ability of the area concerned to support this project and other related investments in the water sector was also undertaken. The results of this global analysis demonstrate that the project is affordable to the local population under agreed assumptions relating to tariffs, likely income growth and the impact of other essential investments.

¹ Land Purchase completed by the Municipality

11. ENVIRONMENTAL IMPACT ANALYSIS

The type of infrastructure investment falls within the scope of Annex II of the Directive 85/337. The competent authority is the Ministry of Environment and Water. The resolution on EIA, including the results of full public consultation, was published in April 2002 with a set of recommendations which will have to be followed before the start, during the construction and during the operation period of the plant. All parties involved in the implementation and operation of the plant are obliged to ensure that the EIA recommendations are carried out.

The measure will meet the requirements of the following EC Directives:

- 1) EC Directive 91/271 on Urban Wastewater Treatment by ensuring that the wastewater discharges will comply with the requirements for discharges into sensitive waters, for agglomerations exceeding 10 000 p.e.;
 - 2) EC Directive 78/659 on Freshwater Fish needing protection or improvement in order to support fish life as amended by EC Directive 91/692; by treating the wastewater discharges, the measure will contribute to the improvement of the river basin waters and thus the conditions for the support of fish life;
 - 3) EC Directive 80/68 on Groundwater Directive as amended by EC Directive 91/692;
 - 4) EC Directive 76/464 on the pollution caused by certain dangerous substances discharged into the aquatic environment;
 - 5) EC Directive 76/160 concerning the quality of bathing water;
 - 6) EC Directive 75/440 concerning the quality required of surface water intended for the abstraction of drinking water;
 - 7) EC Directive 80/778 relating to the quality of water intended for human consumption;
-  Water Framework Directive 2000/60 establishing a framework for Community action in the field of water policy.

12. COST AND ASSISTANCE (IN €)

INDICATIVE COST BREAKDOWN

Item	Total Eligible Cost (Euro)	Expenditures Incurred Before Application (Euro)
Land acquisition* and previous expenditure		150 000
Works and Equipment:	19 812 998	
WWTP	10 036 840	
Sewerage	3 972 158	
Drinking water	5 804 000	
Technical assistance (TA) for implementation support in Smolian RWC	450 000	
TA for monitoring equipments	512 500	
TA for water survey and tender evaluation support	300 000	
Contingencies for civil works and mechanical equipments	1 810 483	
Supervision	1 585 040	
TOTAL (Euro)	24 471 021	150 000

The WWTP land has been given to the Municipality of Smolian free of charge by the Committee of Land through the Land Division Plan .

Total Cost	Private Sector Contribution	Non Eligible Expenditure	Total Eligible Cost	ISPA grant	Grant Rate %
24 621 021	-	150 000	24 471 021	18 353 266	75

The national counterpart financing will be provided by the State Budget, National Fund.

13. INVOLVEMENT OF IFIS

No International Financial Institution is involved in the co-financing of this measure.

14. SPECIFIC CONDITIONS RELATED TO THE MEASURE

See Article 8 of the Financing Memorandum.

15. PROCUREMENT PLAN

The indicative procurement strategy is as follows:

- For the new Smolian WWTP and the main collector (component 6.2.1 above) there will be one tender according to FIDIC design-build conditions of contract (“Yellow Book”);
- For the drinking water and the sewerage components, there will be one tender, which will be done according to FIDIC conditions of contract for construction (“Red Book”);
- For the other sub-components, there will be separate service tenders and a supply tender for the monitoring equipments.

The activities included in the measure will be implemented according to the procurement plan appended as annex I.a

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Provisional Procurement Plan

Tender N°	Description of Works and Services to be Tendered	Type of Contract	Provisional Month of Launch of Tender	Rate of Reimburs. of Invoices Relating to Specific Contract
1	Technical assistance for implementation support in the Smolian RWC	Services	1 st Semester 2004	75 %
2	Other TA elements	Services	1 st Semester 2004	75 %
3	Supervision during implementation	Services	1 st Semester 2004	75 %
4	Construction of WWTP and completion of main collector elements according to Yellow FIDIC design and build Conditions of Contract	Works	2 nd Semester 2004	75 %
5	Construction of the drinking water and the other sewerage elements according to Red FIDIC Conditions of Contract for construction	Works	1 st trimester 2005	75 %
6	Monitoring equipments for the Smolian RWC	Supplies	1 st trimester 2004	75 %

The specific terms for the award of contracts will be made available in the Official Journal of the European Communities and/or the Internet.

FINANCIAL PLAN (based on commitments from EU budget)

Title of measure: Smolian Integrated Water Project

ISPA No: 2002 BG 16 P PE 013

Year	Total Cost	Non Eligible Cost	Eligible Cost							Loan from IFI*		
			Total		ISPA		National authorities					
			3	4 (%)	5	6 (%)	7	8	9		10	
	1	2									11	12 (%)
	=2+3	=5+7+8+9+10		=3/1		=5/3						=11/1
2000	-	-	-	-	-	-	-	-	-	-	-	-
2001	-	-	-	-	-	-	-	-	-	-	-	-
2002	-	-	-	-	-	-	-	-	-	-	-	-
2003	19.576.817	-	19.576.817	100%	14.682.612	75%	4.894.204	-	-	-	-	-
2004	-	-	-	-	-	-	-	-	-	-	-	-
2005	2.447.102	-	2.447.102	100%	1.835.327	75%	611.776	-	-	-	-	-
2006	2.447.102	-	2.447.102	100%	1.835.327	75%	611.776	-	-	-	-	-
non annualised	150.000	150.000	-	-	-	-	-	-	-	-	-	-
Total	24.621.021	150.000	24.471.021	100%	18.353.266	75%	6.117.755	-	-	-	-	-

* to be specified