

ISPA Measure No:  
2002 BG 16 P PE 009  
**doc. no. 02/ISPA/MC/029**

**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**

**Bourgas - Meden Rudnik Wastewater Collection and Treatment  
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 Commissioner for Regional Policy, Mr. Michel Barnier, 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 009

Title: Bourgas - Meden Rudnik Wastewater Collection and Treatment

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

**End date:** 31 December 2007

Location: Bourgas - Meden Rudnik

Group: Black sea 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 € 10 206 220;
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 € 7 654 665;
4. An amount of € 6 123 732 is committed from the 2002 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 the 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 2007. 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 € 1 530 933, which shall be transferred as follows:
  - An amount of € 765 467 is paid out after signature of this memorandum by the beneficiary;
  - The remainder is paid out after signature of the first substantial works contract to be agreed between the beneficiary and the Commission and the fulfilment of the other conditions specified in the 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 the authorities concerned making available sufficient resources in order to ensure the effective operation and maintenance of the assets.

3. The final payment shall be subject to:

- a) the presentation of evidence that:
  - (i) The industrial wastewater is pre-treated in compliance with EC Directives and/or recycled as appropriate.
  - (ii) The pre-treatment and/or the recycling is monitored and enforced by the appropriate environmental authorities.
  - (iii) The industrial loads are not harmful to the designed technology of the treatment plant.
  - (iv) an appropriate charge will be introduced for industries, that is acceptable to the Commission, based on the quantity and quality of effluent produced and on the cost of treatment.
- b) the presentation of a final programme for the treatment, reuse and disposal of the sludge under terms acceptable to the Commission.
- c) the presentation of an updated masterplan for water management under terms acceptable to the Commission.

*Article 9*

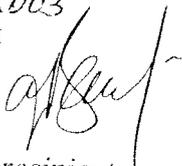
The implementation provisions described in the Annexes to this financing memorandum form an integral part of it.

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.

21 01 2003  
Done at



For the recipient  
National ISPA  
Co-ordinator  
National Authorising  
Officer

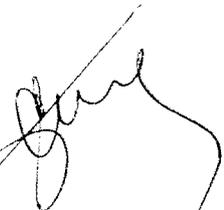
16 -12- 2002

Done at Brussels,



For the Community

M. Barnier  
Commissioner



## **List of Annexes**

- Annex I Description of measure
- Annex II Financing plan

**Description of measure**  
**Bourgas - Meden Rudnik Wastewater Collection and Treatment**

**Commission code No: 2002 BG 16 P PE 009**

**1. MEASURE TITLE**

Bourgas - Meden Rudnik Wastewater Collection and Treatment

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

2.1. Name: "ISPA Co-ordination" within Directorate "Management of EU Funds, Ministry of Finance

2.2. Address: 102 Rakovski Str., 1000 Sofia, Bulgaria

2.3 E-mail: D.Krasteva@minfin.government.bg

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

3.1. Name: Strategy, Accession Programmes and Projects (SAPP), Ministry of Environment and Waters (Moew)

3.2. Address: 67, William Gladstone St., 1000 Sofia

3.3 E-mail: [Marianasir@moew.government.bg](mailto: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 Bourgas

4.2 Address: 26, Alexandrovska St., 8000, Bourgas, Bulgaria

4.3 Contact: Mayor – Joan Kostandinov

4.4 Telephone: + 359 56 841 313

4.5 Telex/Fax: + 359 56 841 314

**5. LOCATION**

5.1. Beneficiary country: Bulgaria

5.2. Region: Black sea river basin

## **6. DESCRIPTION**

### **6.1. Background**

The district of Meden Rudnik has currently, a population of approximately 49.000 and this is a part of the Bourgas region which has currently a population of approximately 426.000. Meden Rudnik is a residential district with an existing wastewater treatment plant consisting of screens, grid channel and primary settlement tanks constructed in 1965 and extended in 1981. The existing preliminary plant is in a poor condition with the result that domestic wastewaters arising from the Meden Rudnik are currently discharged into a lagoon below the Mandra lake with only limited treatment in a mixture with storm-water flows. The wastewater which will be treated by the new plant will be exclusively domestic waters since Meden Rudnik is a residential district.

The rest of the wastewaters of Bourgas are conveyed to a large WWTP on the northern shore of Bourgas lake, but analysis shows that it is not economically feasible to transfer the flows from Meden Rudnik to this plant due to the high investment and O&M costs needed for the necessary new sewer and rising main.

The measure is one of the set of measures approved or under preparation for ISPA which will affect the Black Sea basin in Bulgaria.

### **6.2. Description**

The overall project comprises the construction of a wastewater treatment plant for the treatment of wastewater generated in Meden Rudnik, which will eliminate the discharge of untreated sewage into the Black sea plus additional works on the existing sewerage network and on the connection to the future WWTP.

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 items:

- Replacement of part of the existing Main Collector;
- Rehabilitation of the pumping station at the existing preliminary treatment plant;
- Construction of a new urban wastewater treatment plant (WWTP) in Meden Rudnik.

### ***Component 1: The Wastewater treatment plant***

At present, this district of the Municipality does have a preliminary treatment plant, from which the wastewaters are discharged partially untreated into the Black sea. The plant is in poor condition and only the wastewater pumping station can economically be rehabilitated. All other existing structures and old equipment are to be demolished.

The new wastewater treatment will provide full tertiary treatment in accordance with EC Directives. The process used, after a comparison with other possible alternatives, will be activated sludge method by extended aeration including Nitrogen and Phosphorus removal 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 pumping station;
- (ii) Inlet works (screenings and grit removal);
- (iii) Activated sludge plant including anoxic zones for biological nitrogen removal and equipment for phosphorous removal. Supply of air to tank via blowers and fine bubble diffusers;
- (iv) Settlement of activated sludge in clarifiers;
- (v) Sludge thickening tanks, filter belt press and storage;
- (vi) Pumping station for return of activated sludge;
- (vii) Dewatering to 25% dry solids for future disposal off-site to Municipal waste disposal site in first instance 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 components:

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

The new wastewater treatment plant will serve a population of 56.849 for the year 2022. It will treat a flow of 6.822 m<sup>3</sup>/day and will be designed to meet the following parameters:

**Design parameters for the Bourgas - Meden Rudnik WWTP**

<b>Parameters</b>	<b>Unit</b>	<b>Situation without ISPA measure (Inlet parameters)</b>	<b>Situation with ISPA measure (Outlet paramet.)</b>
Total daily average flow	m3/d	6 822	
Population equivalent		45 483	
BoD	mg/l	400	25
CoD	mg/l	640	125
Suspended solids (SS)	mg/l	400	35
Nitrates - (N total)	mg/l	73	15
Phosphates - (P total)	mg/l	17	2

The new plant will achieve full tertiary treatment to protect the natural habitat of wildlife and the nearby beaches. The water exchange in the lagoons receiving the district wastewater is very limited which means that it is difficult for the lagoons to accommodate polluting load, particularly nitrogen and phosphorous.

***Component 2: The Sewerage network***

The sewerage network is not particularly old, covers; it covers, at present, about 75% of the population living in Meden Rudnik and is 27,1 Km long. The sewerage network in 2022 is expected to cover 90 % of Meden Rudnik.

The sewerage component of the investment will consist of the replacement of a section of the existing Main Collector to the WWTP (concrete pipe of 800 mm diameter over a distance of 646 m). This replacement is necessary due to the inadequate capacity of this collector during peak flows.

For both the WWTP and the sewerage components, there will be only one tender, which will be done according to FIDIC design-build conditions of contract (“Yellow Book”). Accordingly, the final detailed list of the project components will depend on the results of the tender process.

The final beneficiary of the measure will be the Bourgas Municipality.

***Component 3: Technical Assistance***

The technical assistance component will be mainly used to:

- As normal ISPA practice, hire independent technical expertise to participate in

- prepare feasibility studies, application form and tender dossier for an additional intervention which will be needed to cover complementary investments in the drinking water and sewerage network (to be proposed for future ISPA, Bulgarian and IFI co-financing);
- 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**

### **7.1. Overall Objectives**

The overall objective of the measure is to protect the Vrana river and ultimately the Black sea basin, 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 provision of ancillary infrastructures in the collection system.

In particular, the measure will:

- Enable the city of Bourgas 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, including the Black Sea basin;
- 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.

### **7.2. Physical Indicators**

Key indicators, as illustrated in the following table, will be used to monitor physical progress of the construction of the project, but as final design of certain component will be left to the contractor, the figures presented in the table are only indicative.

**Table 1****An indicative set of Physical Indicators for the ISPA Sewerage and Wastewater intervention in Bourgas - Meden Rudnik**

<b>Physical Indicator</b>	<b>Unit value</b>	<b>Volume</b>
<b>New construction works WWTP</b>		
Coarse screen	m <sup>3</sup>	200
Fine screens	m <sup>3</sup>	160
Grit Removal Tank	m <sup>3</sup>	105
Stormwater Balancing Tank	m <sup>3</sup>	855
Selector Tank	m <sup>3</sup>	203
Aeration Tanks (2 no)	m <sup>3</sup>	5,550
Distribution chamber	m <sup>3</sup>	60
Secondary Settling Tank	m <sup>3</sup>	1,026
Sludge Pumping Station	m <sup>3</sup>	120
UV disinfection	m <sup>3</sup>	125
Sludge thickening tank	m <sup>3</sup>	305
Sludge Dewatering Building	m <sup>3</sup>	320
Sludge Storage Area	m <sup>2</sup>	2,000
Blower/centrifuge Building	m <sup>3</sup>	490
Administration/Workshop	No	1
Roads	m <sup>2</sup>	6,000
<b>Mechanical Equipment WWTP</b>		
Coarse Screens	No	2
Fine Screens	No	2
Scraper bridges	No	1
Aeration Tank Blowers	No	3
Pumps	No	19
Centrifuge	No	1
Pugmill	No	1
UV disinfection	No	1
<b>Trunk sewer / main collectors</b>	<b>Diameter</b>	<b>Length</b>
Replacement of collector concrete trunk sewer	800mm	646 m

## 8. WORK SCHEDULE

<i>Category of work</i>	<i>Start date</i>	<i>Completion date</i>
Land acquisition* <sup>(1)</sup> :	Completed	
Feasibility study:	January 2001	June 2001
Economic analysis:	July 2001	September 2001
Financial analysis:	October 2001	September 2002
Environmental impact assessment:	July 2001	October 2001
Design studies:	July 2001	September 2001
Tender documents:	October 2001	March 2003
Construction :	December 2003	January 2006

\*<sup>(1)</sup> Land owned by the Municipality

## 9. 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 full public consultation, was taken in July 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 less 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;
- 8) Water Framework Directive 2000/60 establishing a framework for Community action in the field of water policy.

## 10. COST AND ASSISTANCE (IN €)

### Indicative Cost breakdown

Item	Total eligible cost (Euro)	Expenditures incurred before application (Euro)
Land acquisition* and previous expenditure**		214 841
Works and Equipment	7 219 000	
Technical assistance and Supervision	1 922 220	
Contingencies	1 065 000	
<b>TOTAL (Euro)</b>	<b>10 206 220</b>	<b>214 841</b>

\* Municipal property, no notional value has been attributed to the land owned for the future WWTP.

\*\* Previous expenditure includes technical assistance for the feasibility study, the ISPA application, the preliminary design and contract documentation.

Total cost	Private sector contribution	Non eligible expenditure	Total eligible cost	ISPA grant	Grant Rate %
10 421 061	0	214 841	10 206 220	7 654 665	75

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

**11. INVOLVEMENT OF IFIs**

No International Financial Institution is involved, at this stage, in the co-financing of this measure. However, discussions are ongoing with the EIB for the possible future co-financing of water projects in the target river basin in Bulgaria.

**12. SPECIFIC CONDITIONS RELATED TO THE MEASURE**

See Article 8 of the Financing Memorandum.

**13. PROCUREMENT PLAN**

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

<b>Tender N°</b>	<b>Description of works and services to be tendered</b>	<b>Type of contract</b>	<b>Provisional month of launch of tender</b>	<b>Rate of reimburs. of invoices relating to specific contract</b>
1	Technical assistance	Services	1 <sup>st</sup> Semester 2003	75 %
2	Supervision	Services	1 <sup>st</sup> Semester 2003	75 %
3	Construction of WWTP and sewerage elements according to FIDIC Conditions of Contract	Works	2 <sup>nd</sup> Semester 2003	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.

ANNEX II

FINANCIAL PLAN (based on commitments from EU budget)

Title of measure:

Bourgas - Meden Rudnik Wastewater Collection and Treatment

ISPA No:

2002 BG 16 P PE 009

Year	Total Cost	Non Eligible Cost	Eligible Cost							Loan from IFI		
			Total	ISPA		National authorities			Other*			
	1	2	3	4 (%)	5	6 (%)	7	8	9	10	11	12 (%)
	=2+3		=5+7+8+9+10	=3/1		=5/3						=11/1
2000	-	-	-	-	-	-	-	-	-	-	-	-
2001	-	-	-	-	-	-	-	-	-	-	-	-
2002	8.164.976	-	8.164.976	100	6.123.732	75	2.041.244	-	-	-	-	-
2003	-	-	-	-	-	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-	-	-	-	-	-
2005	1.020.623	-	1.020.623	100	765.467	75	255.156	-	-	-	-	-
2006	1.020.621	-	1.020.621	100	765.466	75	255.155	-	-	-	-	-
non annualised	214.841	214.841	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>10.421.061</b>	<b>214.841</b>	<b>10.206.220</b>	<b>98</b>	<b>7.654.665</b>	<b>75</b>	<b>2.551.555</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>