PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: Full-sized Project
THE GEF TRUST FUND

Submission Date: July 21, 2008
Re-submission Date:

PART I: PROJECT IDENTIFICATION

GEFSEC PROJECT ID[1]:
GEF AGENCY PROJECT ID: P102395
COUNTRY(IES): Croatia
PROJECT TITLE: Coastal Cities Pollution Control (APL 2)
GEF AGENCY(IES): World Bank,
OTHER EXECUTING PARTNER(S): Hrvatske Vode
GEF FOCAL AREA (S): IW
GEF-4 STRATEGIC PROGRAM(S): SP2 – Reducing Nutrient Over-enrichment and Oxygen Depletion form Land-Based Pollution of Coastal Waters in LMEs consistent with the GPA
NAME OF PARENT PROGRAM/UMBRELLA PROJECT: WB-GEF Investment Fund for the Mediterranean Sea LME Partnership

INDICATIVE CALENDAR	
Milestones	**Expected Dates**
Work Program (for FSP)	
CEO Endorsement/Approval	August 2008
GEF Agency Approval	October 2008
Implementation Start	January 2009
Mid-term Review (if planned)	January 2011
Implementation Completion	January 2013

A. PROJECT FRAMEWORK (Expand table as necessary)

Project Objective: Reduce Nutrient loads entering the Adriatic and pilot/demonstrate innovative treatment solutions

Project Components	Indicate whether Investment, TA, or STA**	Expected Outcomes	Expected Outputs	Indicative GEF Financing*		Indicative Co-financing*		Total ($)
				($)	%	($)	%	
1. Essential treatment and disposal	Investment	Reduction in nutrient loads of 25% in four medium-size municipal discharges	Construction of four treatment plants and submarine outfalls	-	0	25	100	25
2. Advanced Treatment options	Investment	Reduction in nutrient loads of 50% in three/four medium-sized municipal discharges	Construction of three/four advanced/pilot treatment plants and submarine outfalls	5.7	34	11	66	16.7
3. Monitoring, evaluation and dissemination	TA	Increased knowledge on the relative advantages, costs and impact of alternative treatment technologies	Scientific data on the ecological impact on receiving waters and biota Dissemination activities (workshops, publications)	0.5	20	2	80	2.5

[1] Project ID number will be assigned initially by GEFSEC.

			Management plan for marine areas receiving the discharge of treated effluents					
4. Project management				0.2	14	1.5	86	1.7
Total project costs				6.4	14	39.5	86	45.9

* List the $ by project components. The percentage is the share of GEF and Co-financing respectively to the total amount for the component.
** TA = Technical Assistance; STA = Scientific & technical analysis.

B. INDICATIVE FINANCING PLAN SUMMARY FOR THE PROJECT ($)

	Project Preparation*	Project	Agency Fee	Total
GEF		6.40**	0.576**	7.02
Co-financing	0.40	39.50		39.90
Total	0.40	45.90	0.576	46.92

* Please include the previously approved PDFs and planned request for new PPG, if any. Indicate the amount already approved as footnote here and if the GEF funding is from GEF-3.

** US$ 2 million under GEF-3 (available from first installment of first tranche of the Med. Inv, Fund approved in August 2006) and US$4.4 million under GEF-4 (second installment of first tranche approved in Dec 2006). Agency fee calculated as follows: $0.180 (9% of 2M) + $0.396 (9% of 4.4M)

C. INDICATIVE CO-FINANCING FOR THE PROJECT (including project preparation amount**) BY SOURCE and BY NAME (**in parenthesis**) if available, ($)**

Sources of Co-financing	Type of Co-financing	Amount
Government Contribution	cash	10
GEF Agency(ies)	Loan	20
Bilateral Aid Agency(ies)	(select)	
Multilateral Agency(ies)		
Private Sector	(select)	
NGO	(select)	
Others	Grant	10
Total co-financing		40

D. GEF RESOURCES REQUESTED BY FOCAL AREA(S), AGENCY (IES) SHARE AND COUNTRY(IES)*

GEF Agency	Focal Area	Country Name/ Global	(in $)			
			Project Preparation	Project	Agency Fee	Total
(select)	(select)					
(select)	(select)					
(select)	(select)					
(select)	(select)					
(select)	(select)					
Total GEF Resources						

* No need to provide information for this table if it is a single focal area, single country and single GEF Agency project.

PART II: PROJECT JUSTIFICATION

A. STATE THE ISSUE, HOW THE PROJECT SEEKS TO ADDRESS IT, AND THE EXPECTED GLOBAL ENVIRONMENTAL BENEFITS TO BE DELIVERED: The Project addresses two main issues: (i) the increase in nutrients in the Adriatic Sea and the impact these nutrients have on environmentally sensitive areas and (ii) the efficiency, cost and impact of

alternative treatment technologies on the discharge of untreated or only partially treated discharges. The proposed GEF Project would build upon the experience and work to be carried out under the second phase of the Croatia Coastal Cities Pollution Control Program (the Program) to be financed by an adaptable program loan (APL) from the World Bank, a grant contribution from the government of Croatia ($10 million equivalent) and direct tariff contributions from participating Municipal Water and Sewerage Companies (MWSC) ($10 million equivalent). The proposed Project will support the addition of alternative advanced forms of treatment in three/four pilot medium-size towns located in areas of special environmental characteristics. Such treatment would add to what the Program would support for pollution control (mechanical treatment and discharge through deep submarine outfalls, baseline investments), using three different technologies. The selection of the technologies will be made during the first phase of project implementation through a Feasibility Study that would review and compare alternative treatment technologies on a uniform and unambiguous basis. At present there is very little to no practical experience at all available in Croatia on different technologies for enhanced nutrient removal (not even on rather conventional ones such as activated sludge systems). The Feasibility Study will therefore consider all technologies that are innovative and promising in the Croatian context and could likely include: (i) membrane filtration or chemically enhanced flotation; (ii) extended aeration (EA); (iii) trickling filters (TF); (iv) 2-stage Constructed Treatment Wetlands: (2-stage CW systems can reduce the land requirement by 50% as compared to the conventional 1-stage CW systems) and (v) conventional activated sludge with nitrification / denitrification, combined with enhanced biological phosphorus removal (bio-P). Additional modifications and supplements to basic processes may also be considered, for example: Imhoff tanks for primary sedimentation and cold digestion of all sludges; enhanced biological phosphorus removal (bio-P); ultraviolet (UV disinfection; co-generation of electricity and heat energy from biogas; potential to re-use waste water for irrigation purposes. Technologies will be selected on the basis of their innovation, proven efficiency in reducing nutrients, cost effectiveness and on the special characteristics of the localities selected to participate in the Project. The selection of the sites for project implementation (or the criteria for selection of those sites not yet identified) will be confirmed at the time of CEO endorsement. Selection will be based on the level of nutrient load, the suitability for implementation of the different technologies, the potential for demonstration impact and readiness of the MWSC to implement the project. In the latest discussions with government on the readiness of individual investments identified the following 4 sites as most promising: Cres, Porec Materada, Opuzen and Metkovic. The criteria for selection included the following: (i) inclusion of the project in APL 2; (ii) municipality gives highest priority to the project and is willing to invest further in WWTP; (iii) awareness and acceptance of investment and O&M cost increase and the need for surcharges and tariff increases: (iv) design size no larger than 30,000 PE (to be able to include different sites with different technologies and to ensure that the GEF grant can cover a significant part of the incremental cost of the nutrient removal). Cres is area of special environmental conditions and has been identified by the EU as an island of special environmental significance; Metkovic and Opuzen are in the Neretva river delta (largest Mediterranean wetland in Croatia and globally significant bird habitat. Porec Materada is one of the major tourist destinations in Croatia and water quality therefore is of particular importance not only for the local municipality but for the national economy in general. The last 3 sites are all located in areas where the maritime waters are most likely to be classified as sensitive (according to EU standards). The larger towns on the coast (Rijeka, Split, Zadar, Pula etc.) clearly have higher nutrient loads; however, these have already been addressed in the Program in the first phase.

Global Environmental Benefits: Thanks to the extensive monitoring system the Program includes (during Phase 1 of the Program, a comprehensive system to monitoring the seawater quality in the Adriatic has been established), complemented with specific scientific investigations on the ecological impact of these discharges supported by the GEF grant, the Project would not only result in a reduction of nutrient discharges in these localities and additional protection of these ecologically significant areas, but most important, would help leverage additional financing and provide a valuable demonstration instrument, for use in Croatia and other Mediterranean countries. . The Project would thus significantly contribute to the knowledge and dissemination of the most appropriate options for treatment and disposal into the sea of land-based wastewaters from medium-size localities. A strategy that identifies opportunities for replication and scale-up of the technologies tested under the project will be developed during project implementation. Replication in-country will likely be supported through the third tranche of the IBRD loan (APL 3). Replication within the Mediterranean basin will be supported through the dissemination and replication component of the UNEP-MAP regional project that is part of the Mediterranean Partnership.

B. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH NATIONAL PRIORITIES/PLANS: The proposed Project is fully consistent with the Program adopted by the Croatian government for the improvement of treatment and disposal3

of municipal wastewaters on the Adriatic coast. The Project follows the same approach adopted by the Program, based on a gradual implementation of treatment technologies decided upon by an asessment of the efficiency and impact on the absorbtion capacity of the receiving waters. Sustainability of the proposed investments is also guaranteed through the use of the same mix of financing formula used throughout the program and the adoption of program surcharges and fees by the corresponding municipalities, as a condition of eligibility to participate in the Program. The proposed incremental investments from GEF are consistent with Croatia's National Action Plan (NAP) for Mitigation of Pollutant Emission and also consistent with the Strategic Action Plan for the Reduction of Pollution of the Mediterranean from Land-based Sources (SAP-MED) prepared by the contracting parties to the Barcelona Convention. More details on how the project supports the Mediterranean SAP targets will be provided at CEO endorsement. The town of Cres is highlighted in the NAP as urban areas where wastewater is disposed of after mechanical pre-treatment and through submarine outfalls. However, the pre-treatment facility is largely dysfuncional and clearly in inadequate to meet required discharge standards. The towns identified by the project for GEF support, while not the largest on the Adriatic Coast, would provide valuable lessons for the other smaller towns on the Adriatic and the Mediterranean shores.

C. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH GEF STRATEGIES AND STRATEGIC PROGRAMS: The proposed Project is fully consistent with GEF's Strategic Program 2 "Reducing Nutrient Over-enrichment from Land Based Sources" under GEF's International Water (IW) focal area. The Project follows an ecosystem-based approach to assessment and management of land-based pollution and the resulting eutrophication of coastal areas. The Project will help build capacity and collective adoption of higher treatment options through its support for national/local actions to reduce land-based inputs of nitrogen and other pollutants, consistent with agreed transboundary action programs (the Mediterranean Action Plan, the SAP MED, and other regional initiatives to which Croatia has adhered, under which policy actions such as reduction of phosphates in detergents have already been adopted). The Project is being developed within the GEF Strategic Partnership for the Mediterranean Sea Large Marine Ecosystem supported by GEF, UNEP and the World Bank, and is proposed for funding under the GEF-WB Mediterranean Partnership Investment Fund. The project is consistent with and support the Partnership goals. These include incorporation of nutrient reduction into national and local strategies, support of innovative investments and financing of municipal sector pollution reduction . and the uses of a comprehensive approach to strengthen the knowledge of innovative treatment alternatives. The project is fully consistent with the nine eligibility criteria for funding from the Investment Fund for the Mediterranean Sea Large Marine Ecosystem Partnership, i.e., : (i) the project focuses on hot spots and sensitive areas and responds to priorities identified by the Mediterranean Sea TDA and the two SAPs; (ii) the project responds to the priorities identified in the National Action Plan (NAP) or equivalent strategic documents endorsed by the requesting country; (iii) the project has secured adequate co-financing for non-incremental components; (iv) the project adheres to the principles of the GEF International Waters and/or Biodiversity Strategies, Operational Programs and Strategic Priorities and is formally endorsed by the country's GEF Focal Point; (v) the project includes piloting and testing alternative methodologies and approaches that are innovative in the country context; (vi) the project can demonstrate on-the-ground impact and includes provisions and adequate financial resources for monitoring and evaluation activities, and specific indicators consistent with International Waters and Biodiversity frameworks; (vii) the project demonstrates high potential for replication within the country and the Mediterranean basin; (viii) the requesting country commits to the policy, legal and institutional reforms related to transboundary pollution reduction and coastal-marine ecosystem conservation supported by the project [request from Croatian Government has still to be received]; and (ix) the requesting country is up-to-date on contributions to the Barcelona convention. A detailed description of how the project supports the targets of the Mediterranean Partnership Investment Fund will be provided by CEO endorsement.

D. OUTLINE THE COORDINATION WITH OTHER RELATED INITIATIVES: The coordination mechanism established under the GEF Mediterranean Partnership between the Bank-managed Investment Fund and the UNEP-managed regional technical assistance component is the vehicle for dissemination and knowledge sharing of the project progress and results with MAP, UNEP, the many partner agencies active in the Mediterranean region and the basin countries. The project will also participate in initiatives supported by the Partnership, MAP and/or GEF, such as IW:LEARN and regional events and conferences. The project will also be closely coordinated with the Neretva river basin management project, also funded by the GEF, that supports the joint management of the water resources between Bosnia and Croatia, and the Bosnia water quality project that addresses waste water pollution in the Bosnian watershed draining in the Mediterranean sea..

E. DISCUSS THE VOLUE-ADDED OF GEF INVOLVEMENT IN THE PROJECT DEMONSTRATED THROUGH INCREMENTAL REASONING : Base line investments and monitoring will be provided by the Program already under implementation and by its second phase to which the proposed Project is linked. Base line investments include not only those investments in the mechanical treatment and the construction of the outfalls in the towns where the GEF project will provide support (counterpart financing of Component 2), but also those investments in other localities where the Program will finance essential treatment and disposal infrastructure which represents the simple treatment base line option needed for comparison (Component 1). The GEF grant would support only incremental levels of treatment, beyond those for which Government financing is planned. The GEF grant would also support specific activities aimed at measuring ecological impacts, and dissemination activities, all incremental over the monitoring and assessment work the Program already supports (Component 3). The Project would have a significant leveraging impact as shown in the financing mix presented above. Such leveraging would be even higher should the financing mix also include the operating and maintenance costs, which will all be borne by the participating water utilities.

F. INDICATE RISKS, INCLUDING CLIMATE CHANGE RISKS, THAT MIGHT PREVENT THE PROJECT OBJECTIVE(S) FROM BEING ACHIEVED, AND IF POSSIBLE INCLUDING RISK MEASURES THAT WILL BE TAKEN: The Project has two major implementation risks: (i) technological risk related to the efficiency of the proposed investments to reduce nutrient discharges when operated in the limited capacity environment of medium-size localities; and (ii) financial risk associated to the potentially high operating cost of these treatment options when compared with simpler options used elsewhere under the Program. The first risk will be mitigated through the detailed study of options using experiences already in place as well as by the monitoring and measurement activities the Program and Project include, which would allow for a rapid reaction and assistance to the corresponding water utilities in case of operational problems. The second risk will be mitigated through the guarantee mechanisms the Program includes to secure adequate operation and maintenance of constructed infrastructure and through the public information campaign the program supports to rally public support to the investments. Risks associated with climate change during the life of the project are considered negligible. On the other hand, in the long term, climate change may impact the availability and quality of water resources. By supporting waste water treatment and more efficient use of water the project will contribute to mitigate some of the long-term climate change risks in the water sector.

G. DESCRIBE, IF POSSIBLE, THE EXPECTED COST-EFFECTIVENESS OF THE PROJECT: The cost effectivenes of the Project will be calculated based on the unit cost of a kg of nutrient removed, as demonstrated by data from other countries. The three treatment technologies that would be piloted under the Project are those with higher cost-efficiency in the removal of nutrients from domestic wastewaters.

H. JUSTIFY THE COMPARATIVE ADVANTAGE OF GEF AGENCY: The World Bank has inherent comparative advantage in the implementation of the proposed Project given the linkages between the Project and the Program the Bank finances through its loan to Croatia. The Bank brings to the Project the implementation and supervision capacity already in place for the implementation of the Program, as well as the fiscal and financial discipline and political support it leverages as part of the Program execution. The GEF is also implementing two other initiatives related to nutrient reduction in Croatia: the Karst Ecosystem Conservation Project and the Neretva and Trebisnjica River Basin Management Project

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):
(Please attach the country endorsement letter(s) or regional endorsement letter(s) with this template).

Ms. Gordana Rijklik *GEF Operational Focal Point, Croatia* *Expert Advisor* *Ministry of Environmental Protection, Physical Planning and Construction* *Government of Croatia*	Date*: March 17, 2008*

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies and procedures and meets the GEF criteria for project identification and preparation.	
 *Steve Gorman* GEF Executive Coordinator The World Bank	Emilia Battaglini, GEF Regional Coordinator Tel. and Email: (202) 473 3232 ebattaglini@worldbank.org Michael Webster, Task Team Leader Tel. and Email: (202) 473 4146 mwebster@worldbank.org
Date: *July 21, 2008*	

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