



Global Environment Facility

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November 05, 2008

Dear Council Member,

The World Bank as the Implementing Agency for the project entitled: *Croatia: Coastal Cities Pollution Control (APL2)* under the *WB-GEF Investment Fund for the Mediterranean Sea LME Partnership*, has submitted the attached proposed project document for CEO endorsement prior to final Agency approval of the project document in accordance with the World Bank procedures.

The Secretariat has reviewed the project document. It is consistent with the project concept approved by the Council in August 2006 and the proposed project remains consistent with the Instrument and GEF policies and procedures. The attached explanation prepared by the World Bank satisfactorily details how Council's comments and those of the STAP have been addressed.

If by December 03, 2008, I have not received requests from at least four Council Members to have the proposed project reviewed at a Council meeting because in the Member's view the project is not consistent with the Instrument or GEF policies and procedures, I will complete the Secretariat's assessment with a view to endorsing the proposed project document.

We have today posted the proposed project document on the GEF website at www.TheGEF.org. If you do not have access to the Web, you may request the local field office of UNDP or the World Bank to download the document for you. Alternatively, you may request a copy of the document from the Secretariat. If you make such a request, please confirm for us your current mailing address.

Sincerely,

A handwritten signature in black ink, appearing to read "Monique Barbut", is written over a printed name and title. The signature is fluid and cursive, with a long horizontal stroke at the end.

Monique Barbut
Chief Executive Officer and Chairperson

Attachment: Project Document

cc: Alternates, GEF Agencies, STAP, Trustee



REQUEST FOR CEO ENDORSEMENT/APPROVAL

PROJECT TYPE: Full-sized Project

THE GEF TRUST FUND

Submission Date: 08/21/08

Re-submission Date: 10/24/08

PART I: PROJECT INFORMATION

GEFSEC PROJECT ID:

GEF AGENCY PROJECT ID: P102395

COUNTRY(IES): Croatia

PROJECT TITLE: Coastal Cities Pollution Control (APL2)

GEF AGENCY(IES): World Bank,

OTHER EXECUTING PARTNER(S): Hrvatske Vode (HV)

GEF FOCAL AREA(S): International Waters,

GEF-4 STRATEGIC PROGRAM(S): SP2 - Reducing Nutrient Over-enrichment and oxygen depletion from 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

Expected Calendar	
Milestones	Dates
Work Program (for FSP)	N/A
GEF Agency Approval	12/2008
Implementation Start	01/2009
Mid-term Review (if planned)	06/2011
Implementation Completion	12/2013

A. PROJECT FRAMEWORK (Expand table as necessary)

Project Objective: Improve the provision of efficient and sustainable wastewater services in participating coastal municipalities and reduce the nutrient load entering Croatia coastal waters (Adriatic Sea) from, and pilot innovative wastewater treatment solutions in, selected municipalities.								
Project Components	Indicate whether Investment, TA, or STA**	Expected Outcomes	Expected Outputs	GEF Financing*		Co-financing*		Total (\$M) 1/
				(\$M)	%	(\$M)	%	
1. Wastewater investments	Investment	Investments in wastewater collection, treatment and disposal systems in participating cities Reduction in nutrient loads of 50% in four medium-size municipal discharges	Construction, expansion and rehabilitation of waste water collection treatment and disposal systems in 30 coastal medium-size municipalities Construction enhanced nutrient reduction plants and submarine outfalls in four pilot sites	5.55	3	174.4	97	179.95
2. Institutional Strengthening	TA	HV develop a comprehensive plan for improving wastewater services HV is able to better target TA to poor performing MWSCs	Technical assistance for the implementation of the Water Management Strategy Improved financial and operating efficiency of MWSCs	0.35	2	8.1	98	8.45

3. Seawater quality monitoring	Investment and TA	Seawater quality monitoring system in HV and MEPPC is improved and expanded to participating cities 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, including knowledge management and IW:LEARN activities) Management plan for marine areas receiving the discharge of treated effluents	0.4	5	8	95	8.4
4. Project management and M&E ***			Annual reporting on key indicators using the GEF4 IW Tracking Tool	0.10	3	1.5	97	1.6
Total Project Costs				6.4		192		198.4

* 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.

*** In the Project Document, these costs are included in Component 2. Approximately \$300,000 is budgeted for M&E activities, of which \$100,000 from GEF.

B. FINANCING PLAN SUMMARY FOR THE PROJECT (\$ M)

	<i>Project Preparation*</i>	<i>Project</i>	<i>Agency Fee</i>	<i>Total at CEO Endorsement</i>	<i>For the record: Total at PIF</i>
GEF	0	6.40**	0.576	6.976	6.976
Co-financing	0.40	192		192.40	39.90
Total	0.40	198.40	0.576	199.376	46.92

* Please include the previously approved PDFs and PPG, if any. Indicate the amount already approved as footnote here and if the GEF funding is from GEF-3. Provide the status of implementation and use of fund for the project preparation grant in Annex D.

** 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. SOURCES OF CONFIRMED CO-FINANCING, including co-financing for project preparation for both the PDFs and PPG. (expand the table line items as necessary)

<i>Name of co-financier (source)</i>	<i>Classification</i>	<i>Type</i>	<i>Amount (\$M)</i>	<i>%*</i>
Government Contribution	Nat'l Gov't	Cash	96.0	50
IBRD	Implementing Agency	Loan	96.0	50
Total Co-financing			192.0	100%

* Percentage of each co-financier's contribution at CEO endorsement to total co-financing.

D. GEF RESOURCES REQUESTED BY FOCAL AREA(S), AGENCY(IES) OR COUNTRY(IES)

<i>GEF Agency</i>	<i>Focal Area</i>	<i>Country Name/ Global</i>	<i>(in \$)</i>			
			<i>Project Preparation</i>	<i>Project</i>	<i>Agency Fee</i>	<i>Total</i>
(select)	(select)					
(select)	(select)					

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

E. PROJECT MANAGEMENT BUDGET/COST

<i>Cost Items</i>	<i>Total Estimated person weeks</i>	<i>GEF (\$)</i>	<i>Other sources (\$)</i>	<i>Project total (\$)</i>
<i>Local consultants*</i>	740	100,000	1,250,000	1,350,000
<i>International consultants*</i>	66		250,000	250,000
<i>Office facilities, equipment, vehicles and communications**</i>				
<i>Travel**</i>				
Total		100,000	1,500,000	1,600,000

* Provide detailed information regarding the consultants in Annex C.

** Provide detailed information and justification for these line items.

F. CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:

<i>Component</i>	<i>Estimated person weeks</i>	<i>GEF(\$)</i>	<i>Other sources (\$)</i>	<i>Project total (\$)</i>
<i>Local consultants*</i>	1150	560,000	2,240,000	2,800,000
<i>International consultants*</i>	300	240,000	960,000	1,200,000
Total	1450	800,000	3,200,000	4,000,000

* Provide detailed information regarding the consultants in Annex C.

G. DESCRIBE THE BUDGETED M&E PLAN: Hrvatske Vode (HV) or Croatia Waters will continue to be responsible for monitoring the progress of APL2 sub-projects and the overall Program. The detailed arrangements for M&E including indicators are included in the Project Document Annex 3, and in the Operational Manual of the project management unit. HV will continue its reporting to the Bank in semi-annual progress reports. Based on experience in Phase I, monitoring and evaluation by HVJP will be strengthened to include the annual financial and operational monitoring of the municipal and water sewerage companies (MWSCs) and the impact of the project, in addition to the monitoring of physical progress. Cooperation with municipalities to monitor the progress on sewerage connections will be strengthened. The monitoring and benchmarking system to be developed in HV will provide more systematic data on MWSC performance and on the performance of sub-projects. The total budget for M&E activities is estimated at \$300,000 1/3 of which would be financed by GEF (\$100,000). The budget would cover the cost of one international consultant for 15 weeks (\$56,000) and one local consultant for 140 weeks (\$245,000) to carry out lab tests, data collection, evaluation and reporting of key monitoring indicators. The breakdown by co-financier is as follows:

Key Outcome Indicators	GEF	Co-financing
Waste water treatment indicators (first 5 outcome indicators in the monitoring arrangements table in Annex 3 of the Project Document)		100%
Pollution and nutrient loads indicators	50%	50%
Knowledge sharing and dissemination of nutrient reduction treatment technologies	100%	

PART II: PROJECT JUSTIFICATION

A. DESCRIBE THE PROJECT RATIONALE AND THE EXPECTED MEASURABLE GLOBAL ENVIRONMENTAL BENEFITS: The proposed Project is fully consistent with the Global Environment Facilities (GEF) Strategic Program "Reducing Nutrient Over-enrichment from Land Based Sources" under GEF's International Water (IW) focal area. The Project will help build capacity and collective adoption of higher treatment options – for a limited number of sites (4) – through its support for national/local actions to reduce land-based inputs of nitrogen and other pollutants and is consistent with agreed transboundary action programs (such as

the Mediterranean Action Plan). The Project is being developed within the Investment Fund of the Mediterranean Partnership supported by GEF, UNEP and the World Bank, and is thus consistent with the strategy the Partnership supports. This includes the incorporation of nutrient reduction into national and local strategies. The project is also fully consistent with the nine eligibility criteria for funding from the Investment Fund for the Mediterranean Sea Large Marine Ecosystem Partnership. In addition, the rationale for involvement relates to the Bank's continuing presence in the wastewater sector in Croatia and more generally in the ECA region and beyond. The GEF builds on the second phase of the APL and adds the tertiary level treatment component which otherwise would not be done. The core rationale for choosing the 4 project towns are:

- A very strong local willingness to invest into wastewater treatment, mainly driven by the expectation that this investment will assist a positive local economic development;
- The GEF investment is only incremental to Bank loan and local / government finance, with the main burden of investment into the project wastewater treatment plants (WWTPs) still being covered by Croatia;
- The project will include different process technologies for the enhanced removal of nutrients from wastewater. Thus it can have a many-sided demonstration effect in Croatia and elsewhere in the Balkans;
- By combining WWTPs of different size it becomes possible to develop a project with relatively low overall abatement cost for the reduction of nutrients;
- Rounding off and further support of other on-going GEF activities in the Neretva region.

The selection criteria for the technologies to be tested/implemented under the project are:

- efficiency of technology in meeting pollution reduction targets (BOD, SS, P, N), i.e., average expected removal efficiency
- cost of technology to meet target, and cost/kg nutrient removed. This will also be calculated both on the capital costs, operation and maintenance costs, and the entire lifecycle costs
- ability of MWSC to finance counterparts funds (for debt service) and O&M costs;
- capacity of MWSC to operate the WWTP
- availability of public land, and ability, and cost, of purchasing private land;
- sludge disposal options;
- In as much as possible, we would like all 4 WWTP to use different technologies.

The full rationale for GEF intervention and the global environmental significance of the project are detailed in Annex 15 of the Project Document.

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 disposal 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 assessment of the efficiency and impact on the absorption 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. The town of Cres is highlighted in the NAP as an urban area where wastewater is disposed of after mechanical pre-treatment and through submarine outfalls. However, the pre-treatment facility is largely dysfunctional and clearly 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 is being developed within the GEF Strategic Partnership for the Mediterranean Sea Large Marine4

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; and (ix) the requesting country is up-to-date on contributions to the Barcelona convention. The strategic relevance of the proposed project is further described in Annex 15 of the project document.

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. Approximately 1% of the GEF grant has been set aside for knowledge management activities (under Component 3 of the project) including the establishment of a project website in accordance with the IW:LEARN guidelines and participation in GEF biennial international waters 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. DESCRIBE THE INCREMENTAL REASONING OF THE PROJECT: Baseline investments and monitoring will be provided by the Program already under implementation and by the APL2 to which the proposed Project is linked. Baseline 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. The incremental reasoning is further detailed in Annex 15 of the Project Document.

F. INDICATE RISKS, INCLUDING CLIMATE CHANGE RISKS, THAT MIGHT PREVENT THE PROJECT OBJECTIVE(S) FROM BEING ACHIEVED AND OUTLINE RISK MANAGEMENT MEASURES: 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. EXPLAIN HOW COST-EFFECTIVENESS IS REFLECTED IN THE PROJECT DESIGN: The cost effectiveness 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. In addition, financial analysis was undertaken of five sub-projects: Cres, Hvar, Mali Losinj, Metkovic and Supetar. Cres is representative of the GEF project sites. For smaller subprojects, the financial rates of return of the investments are not high, which is to be expected in wastewater projects, given that they provide public services with considerable public good benefit. Financial Rates of Return range from 5% to 6% and the project is designed such that the financing arrangements aim to ensure that the investment will cover the costs. Sub-Loan and/or Sub-grant agreements are expected to be signed with about 30 MWSCs for wastewater investments and these agreements will include provisions that utility companies will raise the base tariff within socially affordable levels, to meet the increased operating and maintenance costs. Adding the investment surcharge, and the assumed tariff increases due to increased O&M costs, the combined costs for water and sewerage are in the range of 1.7% and 2.4% of the available per-capita household income, which is below the EU affordability norm of 3.5%. Therefore, the tariffs including the investment surcharge are affordable, based on EU norms. Further details are in Section IV and Annex 9 of the PAD.


PART III: INSTITUTIONAL COORDINATION AND SUPPORT

A. PROJECT IMPLEMENTATION ARRANGEMENT: Hrvatske Vode (HV) will be responsible for implementing the GEF co-financing. A Grant Agreement will be signed with MoF and project funds will be on-granted to HV for project implementation. The GEF financing will be fully integrated into the Project and be implemented by HVJP. In the sub-loan agreements, the grant allocation for MWSCs nominated for GEF financing will be detailed. The implementation arrangements for the Project are very similar to APL1 except for one significant change. The responsible agency for component 1, 2 and 3a was HV; however the project was implemented by a Special Purpose Subsidiary Company within HV called HV Jadranski Projekt (HV Adriatic Project, or HVJP). During preparation of APL1 HVJP was envisaged to become an autonomous agency that could become a financial intermediary for both public and private funds to MWSCs. During the implementation of APL1, while the performance of HVJP was satisfactory (as confirmed by an Independent Assessment commissioned by the Bank), HVJP did not become an intermediary for funds outside of HV. During the preparation of APL2, HV informed that Bank that APL2 would be implemented by a Project Implementation Unit (PIU) within HV, but retain the name of HVJP. However, it would no longer be a limited liability company.

PART IV: EXPLAIN THE ALIGNMENT OF PROJECT DESIGN WITH THE ORIGINAL PIF:

The project design remains fully consistent with the original PIF.

PART V: AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies and procedures and meets the GEF criteria for CEO Endorsement.	
 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: October 24, 2008	
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ANNEX A: PROJECT RESULTS FRAMEWORK

Program Objectives	Program Outcome Indicators	Use of Program Outcome Information
<p>The objective of the Program is to maintain the quality of Croatia's coastal waters to meet the applicable EU/national standards in participating cities.</p>	<ul style="list-style-type: none"> Percentage of samples from bathing areas in participating towns complying with applicable seawater quality standards. 	<ul style="list-style-type: none"> Increase the potential for tourism by ensuring that high standards of seawater quality are monitored and adhered to.
Project Development Objectives	Project Outcome Indicators	Use of Project Outcome Information
<p>The objective of the Project is to improve the provision of efficient and sustainable wastewater services in participating coastal cities.</p> <p>The global environmental Project objective is to reduce the nutrient load entering Croatia's coastal waters from participating municipalities and pilot innovative wastewater treatment solutions.</p>	<ul style="list-style-type: none"> % of households in participating cities able to connect to wastewater services % of wastewater collected that is treated as per applicable legislation Performance of participating MWSCs as measured by operating ratio, collection rate and debt service ratio Reduction in pollution and nutrient load in cities with enhanced nutrient reduction facilities. Increased knowledge of alternative nutrient reduction wastewater treatment technologies 	<ul style="list-style-type: none"> Assess progress towards achievement of Program Objectives Assess achievement of Project Objectives to improve provision of wastewater services. Assess achievement of sustainability of MWSCs. Strengthen Croatia's position in EU negotiations in terms of level of treatment required
Intermediate Outcomes	Intermediate Outcome Indicators	Use of Intermediate Outcome Monitoring
<p><u>Component 1</u> Investments in wastewater collection, treatment and disposal systems in participating cities.</p>	<ul style="list-style-type: none"> Number of sub-loan agreements signed in participating cities Km of wastewater collection systems constructed Number of wastewater treatment plants commissioned Number of enhanced nutrient reduction plants commissioned 	<ul style="list-style-type: none"> Assess progress in physical investments implemented under Project
<p><u>Component 2</u> HV develop a comprehensive plan for improving wastewater services on the coast.</p> <p>HV is able to better target technical assistance to poor performing MWSCs</p>	<ul style="list-style-type: none"> HV and municipalities submit projects to EU for financing Monitoring and benchmarking system is designed and operational Participating MWSCs analyzed and training tailored. By end of Program, show improvements of MWSCs on indicators above 	<ul style="list-style-type: none"> Advise government on Water Management Strategy and EU accession Strengthen Croatia's potential to absorb EU funds in the sector and meet EU criteria. Improve the performance of MWSCs and learn from each other.
<p><u>Component 3</u> Seawater quality monitoring system in HV and MEPPPC is improved and expanded to participating cities</p>	<ul style="list-style-type: none"> Number of participating cities in which seawater quality monitoring system operational and baseline indicators in place prior to completion of construction 	<ul style="list-style-type: none"> Assess achievement towards Program objective and start measuring environmental impact on bathing waters

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF)

STAP review and World Bank response

Introduction

The GEF proposal relates to a valuable add-on to a larger Bank Loan funded proposal. The proposed GEF-funded activities are sound and address a longer term goal of reducing nutrient and organic pollution of Croatian marine waters by introducing enhanced nutrient removal wastewater treatment plants. These should have immediate local benefits and provide experience and demonstration sites for longer term extension of such technologies to all marine discharge sewage treatment works.

The PAD addresses the Bank loan and the GEF components together. It is useful to be able to understand the GEF component in the broader context but in this case the GEF component being reviewed only becomes clear in the section on incremental cost analysis. The PAD discussed five sites in some detail but only 2 of these Cres and Metrovik are GEF sites. The other 2 GEF sites Porec and Opuzen are listed in several tables but not discussed in any detail outside the GEF Incremental cost paper.

***WB Response:** The PAD was revised to integrate further the GEF intervention into the project. The sites discussed in the PAD are those 4 appraised out of 30 sites in the project. The remaining sites, including Opuzen and Porec will be appraised and documented during implementation.*

Scientific and technical soundness

The scientific and technical basis of the project is simple and sound. It builds on an existing project that is working effectively. The GEF component proposes to apply and demonstrate appropriate existing technologies that have good potential for widespread application to reduce nutrient and organic pollution of Croatian marine waters. The broader PAD focuses on waste treatment from the perspective of bathing water standards. These address human pathogen and health issues which are an obvious immediate priority and first step for a tourism based economy. From the environmental and quality tourism perspective it would be appropriate for the combined PAD to articulate more clearly a medium to longer term strategy to move all treatment plants towards enhanced nutrient removal. The major implication in this would probably be treatment plant site planning to allow a footprint for introduction of future treatment technologies.

***WB Response:** The Government of Croatia is developing the longer term strategy for wastewater treatment as a step toward integration with the EU. The proposed sites for GEF financing can provide a demonstrative effect in developing the strategy.*

The social study reported in the PAD provides a sound basis for site selection on a robust assessment of community support and preparedness to engage. This should support the role of the selected sites in demonstrating an advocating broader adoption of advanced nutrient treatment.

Global environment benefits and costs

The project proposes incremental investments from GEF that address objectives of Strategic Action Plan for the Reduction of Pollution of the Mediterranean from Land-based Sources (SAP-MED) prepared under the Barcelona Convention. It is an important step towards delivering clear global benefits by addressing a key element in a major source and potentially growing sources of nutrient pollution of the Adriatic and Mediterranean marine basins. Marine pollution by nutrients and organic wastes that do not pose a threat to human health has been identified as an environmental issue of global significance. In the Croatian context where tourism and related coastal residential and commercial development are major national economic drivers, national compliance with at least EU requirements in relation to nutrient and organic pollution is an important strategic national priority. It will take some years to address this but the GEF demonstration sites should be an important demonstration and basis for extension within the next decade to all waste systems discharging to the Adriatic.

The context of GEF goals and guidelines

The proposal clearly addresses the objectives of the reduction of nutrient pollution of the marine environment of the Croatian Adriatic

Regional Context

The project and the related loan program have high priority in the context of national legislation and obligations under the environment acquis as a member of the European Union. As noted earlier the proposal concerns incremental investments from GEF that address objectives of Strategic Action Plan for the Reduction of Pollution of the Mediterranean from Land-based Sources (SAP-MED) prepared under the Barcelona Convention.

Replicability

The project is based on application and demonstration of waste water treatment methods that address nutrient pollution of marine ecosystems. In the short term the key issue for replication of the GEF component is understanding and acceptance by communities of the economic benefits – particularly in the context of tourism and associated development as major economic drivers - of reducing nutrient pollution from in order to maintain the natural amenity of the coastal marine environment. The project design addresses the issues of public awareness, promotion of good practice and developing willingness to pay for environmental economic outcomes.

Sustainability

The project is an important part of a larger context. By providing demonstrations and contributing to public awareness, it should contribute materially to the development of the national program for prevention of pollution of Adriatic coastal waters.

Contribution to future strategies and policies

Success with this project will contribute to the broader adoption of waste management practices and to meeting Croatia's commitments under the environmental acquis of the European Union.

Secondary Issues

Linkages to other programmes and action plans are adequately identified.

Involvement of stakeholders

The proposal builds on the experience of the first phase (APL 1) which includes a substantial social study and public engagement program. The sites selected for the GEF component of the proposal were selected substantially on the basis of public awareness and willingness to engage in and pay for waste treatment to reduce coastal marine pollution.

Risk assessments

I am not familiar with the field operating situation but note that the GEF component is part of a much larger package. The risks seem to be reasonably discussed and I concur with the assessments

Costs

Subject to the qualification above, the amounts and relativities of funding proposed for the various components appear reasonable.

Conclusion

This is a soundly designed and important catalytic project. The GEF components of the proposal address the important issue of reducing nutrient pollution of coastal waters. They are based on the solid experience of APL1 and sites selected substantially on the basis of a good understanding of public awareness and support for program objectives. They are directly linked government policy and legislation and to national commitments in relation to the environmental acquis of the European Union. I recommend that it should proceed.

R A Kenchington
4 July 2008

Comments from UNIDO and World Bank response

UNIDO is currently implementing the project "Transfer of Environmental Sound Technology in the South Mediterranean Region" (MED-TEST) as part of a larger scale UNEP GEF project "Strategic Partnership for the Mediterranean Large Marine Ecosystem" (GEF Project ID: 2600). MED-TEST is a replication of the GEF-funded project "Transfer of Environmentally-sound Technology (TEST) to Reduce Transboundary Pollution in the Danube River Basin", designed and executed by UNIDO between 2001 and 2004 in five countries of the Danube River Basin (Bulgaria, Croatia, Czech Republic, Hungary, Romania) (GEF Project ID: 867). We believe that there are strong potential links/synergies between component 3 of this proposed WB project and the UNIDO MED-TEST components. We therefore suggest that some formal operational links between these components of the two projects should be established.

WB Response: *Linkages between the UNIDO TEST project and investment projects under the WB-GEF Mediterranean Sea Investment Fund are ensured through the coordination and replication mechanism established under the UNEP GEF Regional Component of the Strategic Partnership for the Mediterranean Sea LME of which the World Bank is a key partner. Specifically to the proposed Croatia Coastal Cities Pollution project it should be noted that while the TEST project focuses on industrial pollution, the WB-GEF project deals solely with municipal sources of water. Moreover, the size of municipalities that serve as demonstration sites is relatively small, therefore very limited if no industrial pollution will be targeted under the proposed project.*

Comments from GEFSEC at CEO endorsement and World Bank Response

29th of August 2008 (C.Severin):

The 1% budget line for learning issues, including indicators, have not yet been included in the project framework in the Request for CEO Endorsement. The indicators included in the project framework are very broad and not easy to roll up, but this is compensated in Annex A to the Request for CEO Endorsement. This information is very useful and will facilitate that the project will be able to roll up its impacts. Still, please include wording supporting that the project will not only reduce nutrients, but more specifically N, P and BOD reduction), that will enable rolling up these results of the project.

WB Response: *Under component 3, budget provision has been made for dissemination, learning and knowledge management activities including IW:LEARN (please see Part I, Section A of the CEO endorsement request). The learning activities will be tracked under the project M&E via the 5th project outcome indicator (please see Annex A, Project Results Framework).*

As per Annex 3 of the PAD, the arrangements for results monitoring includes a reduction of 50% of N and P. The WB team will propose to include BOD as an indicator during project negotiations with the government.

September 4, 2008 (I.Zavadsky):

Although in Part II, chapter G three treatment technologies are mentioned, the criteria for selection of them at demo sites are missing.

WB Response: *The core rationales for choosing the suggested four project towns are described in Part II A. of the CEO endorsement request and in paragraph 185 of the as follows:*

- *A very strong local willingness to invest into wastewater treatment, mainly driven by the expectation that this investment will assist a positive local economic development;*
- *The GEF investment is only incremental to Bank loan and local/government finance, with the main burden of investment into the project WWTPs still being covered by Croatia;*
- *The Project will include different process technologies for the enhanced removal of nutrients from wastewater – thus it can have a many-sided demonstration effect in Croatia and elsewhere in the Balkans;*
- *By combining WWTPs of different size it becomes possible to develop a project with relatively low overall abatement cost for the reduction of nutrients; and*

- *Rounding-off of other on-going GEF activities in the Neretva region*

29th of August 2008 (C.Severin):

The section on cost effectiveness describes how the project will measure the cost of removing Kilograms of nutrients. It does not really touch upon how and why the project design is cost effective.

WB Response: *As per Section IV A. Economic and Financial Analysis of the Appraisal Summary of the PAD, financial analysis was undertaken of five sub-projects: Cres, Hvar, Mali Losinj, Metkovic and Supetar. Cres is representative of the GEF project sites. Summaries of the financial analyses are in Annex 9 of the PAD. For smaller subprojects, the financial rates of return of the investments are not high, which is to be expected in wastewater projects, given that they provide public services with considerable public good benefit. Financial Rates of Return range from 5% to 6% and the financing arrangements aim to ensure that the investment will cover the costs.*

The overall tariff for water and wastewater is currently in the range of 1.6% to 2.0% of the available per-capita household income in Croatia. For the purposes of this project, the level of the investment surcharge has been determined and agreed among the Government, HV and the municipalities (up to a maximum 4 HRK/m³), to support the project financing. Sub-Loan and/or Sub-grant agreements are expected to be signed with about 30 MWSCs for wastewater investments and these agreements will include provisions that utility companies will raise the base tariff within socially affordable levels, to meet the increased operating and maintenance costs. Adding the investment surcharge, and the assumed tariff increases due to increased O&M costs, the combined costs for water and sewerage are in the range of 1.7% and 2.4% of the available per-capita household income, which is below the EU affordability norm of 3.5%. Therefore, the tariffs including the investment surcharge are affordable, based on EU norms.

Part II, Section G has been revised to include this information.

29th of August 2008 (C.Severin):

Yes, the funding levels according to the Request for CEO Endorsement is appropriate. Annex C however, outlines weekly amounts up to \$5000 which is higher than the allowed maximum per week to be funded by GEF.

WB Response: *These amounts have been rationalized. However it is important to note that for international consultants and consulting firms, it is expected that the majority will be paid in Euros, which could account for the slightly higher estimated weekly rate quoted in US\$. (Please see Annex C).*

29th of August 2008 (C.Severin):

Annex A of the Request for CEO Endorsement and Annex 3 in PAD outlines a detailed set of indicators to be used in the process of monitoring and evaluating on the project performance. However, a budget M&E plan can not be found and should be included.

WB Response: *The GEF contribution of US\$100,000 to the project management budget line will be dedicated specifically to funding the M&E for the project. Part I, Sections A, G and E have been revised to incorporate this budget allocation.*

14th of October (C. Severin)

The selection criteria for the technologies to be tested/implemented is missing.

WB Response: *Selection criteria were added in the endorsement memo (Part II:A) and in Annex 15 of the PAD as follows:*

The selection criteria for the technologies to be tested/implemented under the project are:

- efficiency of technology in meeting pollution reduction targets (BOD, SS, P, N), i.e., average expected removal efficiency
- cost of technology to meet target, and cost/kg nutrient removed. This will also be calculated both on the capital costs, operation and maintenance costs, and the entire life cycle costs
- ability of MWSC to finance counterparts funds (for debt service) and O&M costs;
- capacity of MWSC to operate the WWTP

- availability of public land, and ability, and cost, of purchasing private land;
 - sludge disposal options;
- In as much as possible, we would like all 4 WWTP to use different technologies.

Further, please include wording (on pp 27, 28 in the PAD) supporting that the project will not only reduce nutrients (as a percentage), but more specifically N, P and BOD reduction in Kg or Ton, that will enable rolling up these results of the project and make them comparable to other project results.

WB Response: *Pollution reduction was added as key outcome indicator in the result framework (endorsement memo Annex A and (page 27 of PAD) and specific indicators for BOD, N and P were added to the monitoring arrangement table (page 30. As the reduction in pollution loads in absolute terms will be confirmed only once the feasibility study has been completed and the technology chosen, the PAD is now providing only estimates as follows (see Table 20 page 83):*

Main parameters	Avg. expected daily pollution load		Avg. expected annual flow [m3/y]	Avg. expected annual load reduction [tons/y]
	Influent to 4 WWTP [kg/d]	Effluent from 4 WWTP [kg/d]		
BOD ₅	1,944	20	1,773,900	702
Suspended Solids (SS)	2,268	13		823
Nitrogen total (TN)	356	80		101
Phosphorus total (TP)	58	10		18

Please be a little more specific in the wording on the IWLEARN issues and include wording such as: "the project will set up a website in accordance with the IWLEARN guidelines". Thank you.

WB Response: *Suggested wording has been added in the endorsement memo (Part 2 D)*

The Project framework now includes funds \$100K for the M&E plan. But the actual budgetted M&E plan can still not be found. Please include this.

WB Response: *Additional information is provided as a footnote to the Project Framework and in Part 1: G of the endorsement memo.*

[...] pay specifically attention to making sure that the project logframe includes a schedule for annual reporting on the GEF 4 IW Tracking Tool.

WB Response: *Annual reporting using the GEF 4 IW tracking tool has been added as output of M&E activities in the Part 1: A Project Framework of the endorsement memo.*

ANNEX C: CONSULTANTS TO BE HIRED FOR THE PROJECT

<i>Position Titles</i>	<i>\$/ person week</i>	<i>Estimated person weeks</i>	<i>Tasks to be performed</i>
For Project Management			
Local			
Procurement/engineering	1750	540	Draft bidding documents, review technical specification to ensure GEF issues are included, participate in bid evaluation, award of contract and supervision
Financial Management	1750	200	Disbursement, financial management, payments to contractors with separate accounting for GEF, loan, and local funds
International			
Engineer/Technical/ Environmental Specialist	3750	66	Review and advice on technical design and environmental impact
For Technical Assistance			
Local			
Engineering firm	2500	400	Project preparation, feasibility studies, final design and preparation of bidding documents, supervision
Public Information Firm	2000	150	Dissemination, information and knowledge sharing, design and implementation of public information campaigns, including special purpose gatherings and information
Environmental Monitoring Specialists	2500	600	Preparation of environmental monitoring studies, implementation and supervision
International			
Engineering Firm	4000*	130	Project preparation, feasibility studies, final design and preparation of bidding documents, supervision
Public Information Firm	4000*	45	Dissemination, information and knowledge sharing, design and implementation of public information campaigns, including special purpose gatherings and information
Environmental Monitoring Specialists	4000*	125	Preparation of environmental monitoring studies, implementation and supervision

* For international consultants and consulting firms, it is expected that the majority will be paid in Euros, which could account for the slightly higher estimated weekly rate quoted in US\$.

ANNEX D: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS

No PPG was used for this project.

- A. EXPLAIN IF THE PPG OBJECTIVE HAS BEEN ACHIEVED THROUGH THE PPG ACTIVITIES UNDERTAKEN.**
- B. DESCRIBE IF ANY FINDINGS THAT MIGHT AFFECT THE PROJECT DESIGN OR ANY CONCERNS ON PROJECT IMPLEMENTATION.**
- C. PROVIDE DETAILED FUNDING AMOUNT OF THE PPG ACTIVITIES AND THEIR IMPLEMENTATION STATUS IN THE TABLE BELOW:**

<i>Project Preparation Activities Approved</i>	<i>Implementation Status</i>	<i>GEF Amount (\$)</i>				<i>Co- financing (\$)</i>
		<i>Amount Approved</i>	<i>Amount Spent To- date</i>	<i>Amount Committed</i>	<i>Uncommitted Amount*</i>	
	(Select)					
	(Select)					
	(Select)					
	(Select)					
	(Select)					
	(Select)					
	(Select)					
	(Select)					
Total						

* Uncommitted amount should be returned to the GEF Trust Fund. Please indicate expected date of refund transaction to Trustee.

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Report No: 44537-HR

PROJECT DOCUMENT

ON A

PROPOSED ADAPTABLE PROGRAM LOAN

IN THE AMOUNT OF [US\$ EQUIVALENT]
EURO 60 MILLION

AND A

PROPOSED GRANT FROM THE
GLOBAL ENVIRONMENT FACILITY TRUST FUND

IN THE AMOUNT OF US\$6.4 MILLION

TO THE

REPUBLIC OF CROATIA

FOR A

COASTAL CITIES POLLUTION CONTROL PROJECT 2

IN SUPPORT OF THE SECOND PHASE OF THE
COASTAL CITIES POLLUTION CONTROL PROGRAM

October 13, 2008

Sustainable Development Department
Europe and Central Asia Region
World Bank

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CURRENCY EQUIVALENTS

(Exchange Rate Effective July 1, 2008)

Currency Unit

Currency Unit	=	Croatian Kuna (HRK)
€1	=	HRK 7.24
US\$1	=	HRK 4.60
€1	=	US\$1.57

FISCAL YEAR

January 1 – December 31

ABBREVIATIONS AND ACRONYMS

APL	Adaptable Program Lending	MEPPPC	Ministry of Environmental Protection, Physical Planning and Construction
CAS	Country Assistance Strategy	MoF	Ministry of Finance
CPS	Country Partnership Strategy	MRDFWM	Ministry of Regional Development, Forestry and Water Management
EF	Environmental Framework	MWSC	Municipal Water and Sewerage Company
EIA	Environmental Impact Assessment	NPV	Net Present Value
EMP	Environmental Management Plan	O&M	Operation and Maintenance
EU	European Union	OM	Operations Manual
FMS	Financial Management System	PAD	Project Appraisal Document
GA	Grant Agreement	PE	Population Equivalent
GEF	Global Environment Facility	PIE	Project Implementing Entity
HRK	Croatian Kuna	PIU	Project Implementation Unit
HV	Hrvatske Vode (Croatian Waters)	PP	Procurement Plan
HVJP	Hrvatske Vode Jadranski Projekt (HV Adriatic Project)	SA	Social Assessment
IBRD	International Bank for Reconstruction and Development	SEA	Strategic Environmental Assessment
IFR	Interim Financial Reports	SLA	Sub-Loan Agreement
LA	Loan Agreement	SOE	Statements of Expenditure
LARAP	Land Acquisition and Resettlement Action Plan	SPSC	Special Purpose Subsidiary Company
LARPF	Land Acquisition and Resettlement Policy Framework	STAP	Scientific and Technical Advisory Panel
		WWTP	Wastewater Treatment Plant

Vice President:	Shigeo Katsu
Country Director:	Orsalia Kalantzopoulos
Country Manager:	Andras Horvai
Sector Manager:	Wael Zakout
Task Team Leader:	Michael John Webster

**CROATIA:
Coastal Cities Pollution Control Project 2**

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CROATIA

COASTAL CITIES POLLUTION CONTROL PROJECT 2

PROJECT DOCUMENT

EUROPE AND CENTRAL ASIA

ECSSD

IBRD:

Date: October 13, 2008	Team Leader: Michael John Webster
Country Director: Orsalia Kalantzopoulos	Sectors: Sewerage (70%); General water, sanitation and flood protection sector (30%)
Sector Manager: Wael Zakout	Themes: Pollution management and environmental health (P); Other environment and natural resources management (P)
Project ID: P102732	
Environmental Assessment: Financial Intermediary Assessment	
Lending Instrument: Adaptable Program Loan	

GEF:

Global Supplemental ID: P102395	Team Leader: Michael John Webster
Lending Instrument: Adaptable Program Loan	Sectors: Sewerage (70%); General water, sanitation and flood protection sector (30%)
Focal Area: I-International waters	Themes: Pollution management and environmental health (P); Other environment and natural resources management (P)
Environmental Assessment: Financial Intermediary Assessment	
Supplement Fully Blended?: Yes	

Program Financing Data

	IBRD		Government		GEF		Total	Implementation period		
	€m	%	€m	%	€m equiv.	%		€m	Commitment date	Closing date
Phase 1	40	50.0	40	50.0			80	09/01/2004	11/30/2009	5
APL2	60	48.4	60	48.4	4	3.2	124	04/01/2009	03/31/2014	5
APL3	40		40				80	01/01/2011	12/31/2015	5
TOTAL	140		140		4		284	09/01/2004	12/31/2015	11

Project Financing Data

Loan Credit Grant Guarantee Other:

For Loans/Credits/Others:

Total Bank financing: Loan of Euro 60 million [US\$ __million equivalent]
 GEF grant of US\$6.4 million [Euro __million equivalent]

Proposed terms: FSL

Financing Plan (US\$m)			
Source	Local	Foreign	Total
Borrower/Recipient	96.0	0.0	96.0
International Bank for Reconstruction and Development	0.0	96.0	96.0
Global Environment Facility (GEF)	0.0	6.4	6.4
Total:	96.0	102.4	198.4

Borrower:

H.E. Ivan Suker, Minister of Finance
 Katanciceva 5
 Zagreb, Croatia
 Tel: 385-1-4591-258; Fax: 385-1-4922-598

Responsible Agency:

Hrvatske Vode
 Ulica Grada Vukovara 220, Zagreb, Croatia
 Contact Person: Mr. Jadranko Husarić, General Manager
 Tel: +385-1-6155 820; Fax: +385-1-6155910
 and
 Ministry of Environmental Protection, Physical Planning and Construction
 Zagreb, Croatia
 Contact Person: Mr. Nikola Ruzinski, State Secretary
 Tel: +385-1-3782 413; Fax: +385-1-3717 149

Estimated disbursements (Bank FY/US\$m)									
FY	2009	2010	2011	2012	2013	2014			
Annual	5.00	15.00	25.00	25.00	20.00	6.00			
Cumulative	5.00	20.00	45.00	70.00	90.00	96.00			

GEF Estimated disbursements (Bank FY/US\$m)									
FY	2009	2010	2011	2012	2013	2014			
Annual	0.50	0.50	1.50	1.50	1.50	0.90			
Cumulative	0.50	1.00	2.50	4.00	5.50	6.40			

Project implementation period: Start April 1, 2009 End: March 31, 2014
 Expected effectiveness date: April 1, 2009
 Expected closing date: September 30, 2014

Does the project depart from the CAS in content or other significant respects? [] Yes [X] No
Ref. PAD I.C.

Does the project require any exceptions from Bank policies? [] Yes [X] No
Ref. PAD IV.G.

Have these been approved by Bank management? [] Yes [X] No

Is approval for any policy exception sought from the Board? [] Yes [X] No

Does the project include any critical risks rated “substantial” or “high”? [] Yes [X] No
Ref. PAD III.E.

Does the project meet the Regional criteria for readiness for implementation? Yes No
Ref. PAD IV.G.

Project development objective Ref. PAD II.C., Technical Annex 3

To improve the provision of efficient and sustainable wastewater services in participating coastal municipalities; and to reduce the nutrient load entering Croatia's coastal waters from, and pilot innovative wastewater treatment solutions in selected municipalities.

Project description Ref. PAD II.D., Technical Annex 4

Component 1: Wastewater investments. To improve the coverage of wastewater collection, treatment and disposal services.

Component 2: Institutional strengthening. To improve the ability of the sector to meet EU accession requirements; to improve the financial and operational efficiency of the Municipal Water and Sewerage Companies; and to effectively manage the project.

Component 3: Seawater quality monitoring. To improve the seawater quality monitoring systems of Hrvatske Vode (HV) and the Ministry of Environmental Protection, Physical Planning and Construction (MEPPPC) to better assess the impact of the investments in wastewater collection and treatment.

Which safeguard policies are triggered, if any? Ref. PAD IV.F., Technical Annex 10

The project has an environmental classification of Financial Intermediary (FI). The safeguard policies that will apply for the project are: Environmental Assessment, Physical Cultural Resources, Involuntary Resettlement and Projects on International Waterways.

Significant, non-standard conditions, if any, for:

Ref. PAD III.F.

Negotiations:

- (i) HV to demonstrate that HVJP has sufficient staff and technical capacity needed to start the implementation of the project. *Met*
- (ii) Revision of Operations Manual Volume 1, 2, and 3 to the satisfaction of the Bank. *Ongoing*
- (iii) Submission of Audit Report for Component 3b of Phase 1: Seawater monitoring implemented by the MEPPPC. *Ongoing*
- (iv) HV to submit the results of the remaining 9 samples (of 11 sites) on sea water quality to be used as baseline for monitoring. *Ongoing*

Board presentation:

There are no conditions for Board presentation.

Loan/grant effectiveness:

- (i) The Subsidiary Loan and Grant Agreement has been executed on behalf of the Borrower and the Project Implementing Entity (PIE); i.e. HV;

- (ii) At least one (1) Sub-Loan and/or Sub-Grant Agreement, satisfactory to the Bank, has been executed on behalf of the Project Implementing Entity, a Municipality and a MWSC.

Disbursement:

- (i) Attestation on preparation and disclosure of a site-specific Environmental Impact Assessment (EIA), Environmental Management Plan (EMP) or Land Acquisition and Resettlement Action Plan (LARAP), as needed (under works).

Covenants applicable to project implementation:

- (i) HV to establish not later than June 30, 2010, a system to monitor and benchmark the operational, financial and environmental performance of wastewater operations of the MWSCs participating in the Project, and thereafter maintain and update the system.
- (ii) The Borrower and HV shall carry out a mid-term review with the Bank, on or about June 30, 2011.
- (iii) HV shall ensure that adequate staffing, particularly in the engineering, procurement and financial management areas, are promptly available at all times to the PIU during Project implementation.
- (iv) HV shall screen Sub-projects to ensure their consistency with the principles and requirements set forth in the Land Acquisition and Resettlement Policy Framework and the Environmental Safeguard Framework and the satisfaction of any and all applicable requirements for the preparation, disclosure and implementation of a site-specific EIA, EMP and/or LARAP, as the case may be, before the submission of any withdrawal request in respect of any Sub-project necessitating the respective EIA, EMP and/or LARAP.
- (v) HV shall submit to the satisfaction of the Bank the results of a study on cumulative impact of submarine outfalls before issuing to prospective bidders the bidding documents for the construction of the first submarine outfall.

I. STRATEGIC CONTEXT AND RATIONALE

1. This document presents the second phase of an Adaptable Program Loan (APL) for the Croatia Coastal Cities Pollution Control Program (the Program). The APL supports the Government of Croatia's comprehensive strategy to improve wastewater services in Croatia's coastal cities and thus maintain coastal water quality along the Adriatic Coast and fulfill European Union (EU) accession agreements. Phase 2 (or APL2) is processed as a stand-alone project, the Croatia Coastal Cities Pollution Control Project 2 (the Project). The background to the Program, assessment of Phase 1 and assessment of the triggers to move to APL2 is summarized in Annex 1.

A. Country and sector issues

2. Improving wastewater services¹ in Croatia's coastal cities is a key development issue due to the following:

- *Wastewater impacts the environment and tourism.* The Adriatic coastline is one of Croatia's most valuable economic and environmental assets. Disposal of untreated wastewater has a significant impact on the quality of the seawater and is a constraint to tourism development. Tourist revenues in 2008 are expected to reach 25% of GDP (and are even more important for coastal municipalities) and environmental protection of the coast is a key element in the government's tourism strategy to position Croatia as "the Mediterranean as it once was".
- *Croatia's wastewater services are inadequate.* The coverage and quality of wastewater services in Croatia are lower than in recent EU member countries. 44% of the population has adequate wastewater collection systems and only 25% of the collected wastewater is treated². In the project area, coverage is similar: 46% connection rate and 15% of collected wastewater is treated. As part of Croatia's EU accession agreement, the Government intends to meet EU environmental directives, which requires much higher levels of wastewater service than currently exist.
- *Increased investments have potential fiscal impact.* In order to meet EU directives the level of investment in the sector needs to increase. Budgetary funds available for the sector are limited due to the fiscal targets set by the new government (government spending in Croatia, at 49% of GDP in 2007, is higher than the EU average), therefore investments need to be financed as much as possible by users.

3. The level of pollution of Croatia's part of the Adriatic Sea is currently not very high. For example, in 2005, 98% of samples in bathing areas were found to be of adequate quality for bathing (class 1 or class 2). However, with increasing tourism and pollution load, Croatia faces the challenge of maintaining the existing standard. The link between poor wastewater services and the degradation of seawater quality in Croatia's Adriatic coastline is well established. It is estimated that throughout the Mediterranean, 80% of the pollution load entering the sea comes

¹ The collection, treatment and disposal of domestic and industrial wastewater

² Of the treated wastewater about 81% underwent mechanical (primary) treatment, 6% biological (secondary) treatment and 13% was pre-treated industrial discharge. EU environmental directives will require not only more extensive wastewater treatment, but also more intensive treatment, i.e., to a higher level.

from municipal and industrial wastewater. The degradation of seawater quality in some parts of the coastline due to discharges of raw sewage has already resulted in visible problems, including localized eutrophication and phytoplankton blooms, as well as less-visible contamination of the marine life by organic and non organic micro-polluting substances. Seawater pollution has a clear negative effect on ecology, public health, tourism and fishing industries.

4. The Ministry of Regional Development, Forestry and Water Management (MRDFWM) – through its agency for water management, Hrvatske Vode (Croatian Waters or HV) – is implementing the Water Management Strategy that has been adopted by Parliament on July 15, 2008. The Strategy identifies the sector investments and institutional capacity needed to meet EU directives. Two of the main objectives in the Strategy are to: (i) increase sewerage coverage to 60%, with 100% coverage for municipalities with more than 15,000 people (as per EU directives); and (ii) construct and upgrade the existing wastewater treatment plants (WWTP) to meet EU environmental standards with the goal of providing wastewater treatment for all systems that serve more than 15,000 people, 77% of the systems that serve 10,000 to 15,000 people, and 70% of the systems that serve 2,000 to 10,000 people. The investment in wastewater systems needed to meet these goals is Euro 1.6 billion over the next 15 years; however annual budget allocations fall short of the required amount by over 20%.

5. In order to ensure wastewater services are sustainable, the efficiency of the Municipal Water and Sewerage Companies (MWSCs) needs to be improved. The responsibility for wastewater services rests with the 127 municipally-owned MWSCs. Many of the MWSCs are small and have limited institutional capacity. The Water Management Strategy proposes reforms aimed at increasing the efficiency of the MWSCs through measures such as creating regional utilities to better exploit economies of scale, and developing regulations to better link tariffs to costs.

6. On October 3, 2005, Croatia began negotiations with the European Union (EU) to be an EU member country. As part of the EU accession agreement, Croatia needs to increase the coverage and quality of wastewater services. One of the most onerous EU directives in terms of cost implication is the Urban Wastewater Directive that aims to protect the environment from the adverse effects of wastewater discharges from households and industries. As an outcome of the ongoing negotiations with the EU, the compliance period to meet these directives and the details of the compliance cost and the financing plan will be known. However, even before the negotiation ends, Croatia has identified areas where legislative changes would have to be made and has developed a list of priority investments for the wastewater sector. The list of priority investments has been prepared by HV and this project will finance some of them. The Urban Wastewater Directive dictates the level of wastewater treatment (primary, secondary or tertiary) by the size of agglomeration and the sensitivity of the receiving water (sensitive, normal or less sensitive). Under Phase 1 the project financed a study to be used to define the level of sensitivity of the entire coastline, and hence the level of treatment necessary and the required investment.

7. Croatia can receive grant funding from the EU toward meeting EU environmental directives. Experience from other countries shows that the lack of well-prepared projects has been a key bottleneck for effective absorption of EU funds. To overcome this issue, Croatia has identified investments that will be prepared and made available for possible financing by EU

grants or other sources. This project, through the Institutional Strengthening component, will help prepare such investments.

B. Rationale for Bank and GEF involvement

8. The 2004 Country Assistance Strategy (CAS) focuses on assisting Croatia in its EU accession efforts. The project supports this objective by financing investments and technical assistance directly intended to meet commitments in the *acquis communautaire*. The Bank's recent Public Finance Review concludes that while the cost of compliance with EU environmental directives is high, the benefits of compliance are commensurately high and are greatest in the water/wastewater sector due to the potential impact on public health, tourism and competitiveness. Therefore, it recommends that investments in the water/wastewater sector should be a priority of government. The Bank has substantial knowledge of the sector due to five previous investment operations. The project is also in line with a key theme in the new Country Partnership Strategy (CPS, FY09-FY12) to support Croatia's EU accession and its sustainable development, particularly the environment, through investments in wastewater and protection of coastal waters.

9. The Project is fully consistent with the Global Environment Facility (GEF) 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 the 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 – for a limited number of sites (4) – through its support for national/local actions to reduce land-based inputs of nitrogen and other pollutants and is consistent with agreed transboundary action programs (such as the Mediterranean Action Plan).

10. The Project is being developed within the Investment Fund of the Mediterranean Partnership supported by GEF, United Nations Environment Programme (UNEP) and the World Bank, and is thus consistent with the strategy this Partnership supports. This includes the incorporation of nutrient reduction into national and local strategies. In addition, UNIDO is currently implementing the project "Transfer of Environmental Sound Technology in the South Mediterranean Region" (MED-TEST) as part of a larger scale UNEP GEF project "Strategic Partnership for the Mediterranean Large Marine Ecosystem". There are potential links/synergies between this project and the UNIDO MED-TEST components.

11. The project is also fully consistent with the nine eligibility criteria for funding from the Investment Fund for the Mediterranean Sea Large Marine Ecosystem Partnership. Annex 15 provides details on the GEF portion of the project.

C. Higher level objectives to which the project contributes

12. The Project will contribute to the objective of the Coastal Cities Pollution Control Program, which is to maintain the quality of the Adriatic Sea. This will be done through investments and technical assistance to improve wastewater services. The Project will contribute to meeting the requirements of EU accession both through investments financed under the Project, and through the Institutional Strengthening component. The Institutional Strengthening

component will help to: (a) prepare projects that will enable the country to absorb EU funds and meet EU directives; and (b) strengthen the beneficiary MWSCs which, in turn, will promote better management for the provision of water and wastewater services.

13. The Project will contribute to higher level objectives outlined in the Government program of 2008-2011, and the Strategic Development Framework 2006-2013, which focus on full membership in EU and address a key reform agenda to enhance the effectiveness of public spending by increasing the level of cost recovery from local governments and consumers. While the impact on public spending may be small, it sets a new trend in public service delivery in Croatia.

II. PROJECT DESCRIPTION

A. Lending instrument

14. The project is the second phase of a three-phase APL operation. The Government chose to use an APL to provide a framework for a medium-term investment program to assist HV to comply with requirements for EU accession. An APL allows HV to take a phased approach to identifying funding sources, while building the necessary regulatory, monitoring and management capacity. The Project is supported by an IBRD loan for Euro 60 million and a GEF grant of US\$6.4 million. The Project will continue with the same loan terms as in Phase 1, i.e., 15-year maturity (5 years' grace period, 10 years maturity), with commitment-linked repayment.

B. Program objective and Phases

15. The objective of the Program is to maintain the quality of Croatia's coastal waters to meet the applicable EU/national standards in participating municipalities. The objective will be achieved through technical assistance and investments in wastewater collection, treatment and disposal systems in municipalities participating in the project. The key performance indicator of the Program is the percentage of samples from bathing areas in participating municipalities complying with applicable seawater quality standards.

16. By the end of the Program³, the following will be in place: (i) a policy reform consolidated and in compliance with the EU *aquis*; (ii) 476,000 people (1.22 million population equivalent including tourists⁴) with improved wastewater services. Table 4 in Annex 1 summarizes all 47 sub-projects to be financed in the Program; (iii) the percentage of population in the project area with access to wastewater services to increase from 45% to 78%; (vi) the percentage of collected wastewater that is treated to applicable EU/national standard to increase from 15% to 80% in participating municipalities; and (v) MWSCs supported by the Program meet minimum operational and financial performance criteria (as measured by operating ratio, collection ratio and debt-service ratio).

³ The Bank-financed Program (APL) is a sub-set of a larger Government program. The 47 sub-projects to be financed under the Program, were selected from the 170 sub-projects identified in the Government program..

⁴ Wastewater investments are designed to handle the full load from domestic, industrial and tourist facilities. These different loads are converted into "population equivalents" (PEs) for design purposes. In Croatia, wastewater facilities need to be designed to handle 2 to 3 times the size of the regular load due to the high number of tourists.

17. The Program has three phases. Phase 1 set up the institutional framework for the Program by: (i) revising legislation necessary to comply with EU directives; (ii) improving the monitoring system to identify Program impacts and determine priority investments; (iii) set-up an innovative financing mechanism to finance sub-projects; and (iv) piloting investments in 11 sub-projects that reach about 223,000 people (winter population). Phase 1 was supported by an IBRD loan of Euro 40 million (for a total project cost of Euro 80 million) that was approved by the Board on June 1, 2004 – the original closing date of November 30, 2008 has been extended by one year and it is currently due to close on November 30, 2009.

18. APL2 will scale-up Phase 1 and consolidate the institutional and regulatory structure. The number of municipalities participating in the project will increase from 11 to 30, thus benefiting a population of 326,000 (population equivalent (PE) of 664,000). The institutional strengthening component will be enhanced to improve the efficiency of MWSCs, implement the Government's Water Management Strategy, strengthen the monitoring of MWSCs and further Croatia's EU accession process. The GEF component is significant in piloting the medium-term strategy that addresses the marine nutrient and organic pollution. The seawater quality monitoring component will be expanded to all participating municipalities. Phase 3 will cover all of the 47 sub-projects originally identified to be included in the Program and consolidate the alignment to EU directives, monitoring and financing. APL2 will continue to monitor the impact of the investments of Phase 1, and will follow up on the Strategic Environmental Assessment Study, which was submitted as one of the Triggers under Phase 1. The study will be updated with a results section on the cumulative impact of all submarine outfalls as a condition for starting the work on submarine outfalls in APL2.

C. Project development objective and key indicators

19. The project development objective is to improve the provision of efficient and sustainable wastewater services in participating coastal municipalities; and to reduce the nutrient load entering Croatia's coastal waters from, and pilot innovative wastewater treatment solutions in selected municipalities..

20. The indicators to be used to assess progress are:

- percentage of households in participating cities able to connect to wastewater services;
- percentage of wastewater collected that is treated as per applicable legislation;
- performance of participating MWSCs as measured by operating ratio, collection rate and debt service ratio is above a minimum threshold;
- reduction in nutrient load in municipalities with enhanced nutrient reduction facilities; and
- increased knowledge of alternative nutrient reduction wastewater treatment technologies

D. Project components

21. The Project will have the same three components as Phase 1: Wastewater Investments; Institutional Strengthening and Seawater Quality Monitoring.

22. **Component 1: Wastewater investments** (Euro 112.5 million, of which Euro 54.5 million from IBRD and Euro 3.5 million equivalent (US\$5.6 million) from GEF) will finance investments and engineering design and construction supervision for the construction, expansion and rehabilitation of wastewater collection, treatment and disposal systems. APL2 will scale-up the number of cities participating in the project from 11 to 30 using the same financing structure as Phase 1. The sub-projects to be financed in the Project are listed in Annex 4. Sub-projects have been selected based on eligibility criteria detailed in Annex 1. HV is responsible for appraising each sub-project prior to signing the sub-loan agreement with the MWSC and the municipality. GEF resources will be used to finance enhanced nutrient reduction facilities in WWTPs (which are financed out of the loan/government funds) in areas of high nutrient load. The proposed GEF investments are detailed in Annex 15.

23. **Component 2: Institutional strengthening** (Euro 6.25 million, of which Euro 3 million from IBRD and Euro 0.25 million equivalent (US\$0.4 million) from GEF) to finance equipment, technical assistance, training and studies in three sub-components: (a) sector development to assist MRDFWM and HV implement the Water Management Strategy and further align the sector to EU accession priorities; (b) institutional strengthening of MWSCs to improve their financial and operating efficiency; and (c) project management to support the Implementing Unit, HVJP, to implement the project.

24. **Component 3: Seawater quality monitoring** (Euro 5.25 million, Euro 2.5 million from IBRD, Euro 0.25 million equivalent (US\$0.4 million) from GEF) to finance equipment, civil works and technical assistance to strengthen the HV monitoring systems; and the seawater quality monitoring systems of the Ministry of Environmental Protection, Physical Planning and Construction (MEPPPC). The component will have two sub-components: (a) to strengthen HV's monitoring of the effluent from WWTP to assess the impact of the program on the quality of coastal waters. Under this sub-component, the enhanced nutrient reduction WWTP (financed out of the GEF co-financing) will be monitored for their impact on the receiving waters, and the impact of each different treatment technology on nutrient reduction; and (b) to strengthen MEPPPC's monitoring activities to extend the monitoring activities financed in Phase 1 to all MWSCs in APL2, and increase the focus on EU compliance.

E. Lessons learned and reflected in the project design

25. The key lessons incorporated into the design of APL2 are the lessons resulting from the implementation of Phase 1. As informed by assessments of the implementation of Phase 1, the key lessons are summarized below:

- The financing package requiring local contribution to project capital investments and loan repayment has been successful and will be replicated. However the expanded role of HVJP, d.o.o as a financial arm for the sector envisaged in Phase 1 is reconsidered given the limited opportunity that HVJP, d.o.o had to play this role, and given the new implementation structure;
- The institutional strengthening component was overly ambitious in Phase 1 and was not fully integrated into the Project. APL2 will redesign the component – with the participation of MWSCs – for more relevant technical assistance focused on wastewater services;

- Fiduciary responsibilities were handled in a satisfactory manner. However, HVJP must increase its capacity in procurement and financial management in order to be able to continue good and timely performance for the increased scope of the second phase;
- Land acquisition, environment and physical cultural property safeguards were handled in a highly satisfactory manner thanks to adequate Croatian legislation. Environmental monitoring will be enhanced in APL2 to ensure compliance and to better establish timely baseline indicators for future monitoring; and
- Overall Project and Program Monitoring and Evaluation by HVJP needs to be strengthened, including setting baseline indicators at the start of sub-projects, preferably with in-house capacity, to ensure program sustainability and contribute to lessons learned in the sector for future investments.

F. Alternatives considered and reasons for rejection

26. The Project Appraisal Document (PAD) for Phase 1 provides a full discussion on the alternative considered and reasons for the rejection. Given the successful implementation of the first phase, the government and the Bank agreed to continue with the same implementation arrangements. Additional staffing is required to handle the larger and more dispersed number of sub-projects. Technical issues remain similar and are adjusted for smaller sized municipalities.

III. IMPLEMENTATION

A. Partnership arrangements

27. The Project continues to strengthen the roles and responsibilities of the main actors in the wastewater sector in Croatia. It also aims to strengthen inter-agency relationships with the common aim of reaching EU requirements and strengthening Croatia's EU position. The GEF funds are co-financing the project. Project processing of the IBRD loan and GEF grant are in parallel. The GEF funds will enhance the project – and the overall APL – by providing relevant local analysis of enhanced wastewater treatment technologies in areas of high nutrient loads.

B. Institutional and implementation arrangements

28. The Republic of Croatia, represented by the Ministry of Finance (MoF), will be the Borrower of the IBRD loan, and the recipient of the GEF grant. The loan and grant proceeds will be on-lent/granted to HV, a state agency for Components 1, 2 and 3a, and to MEPPPC for Component 3b. The institutional arrangements under the Project are very similar to Phase 1. The institutional arrangements are based on long and strong traditions in Croatia in implementing Bank- or government-financed projects which involve the principal institutions in the wastewater sector. HV will be the Project Implementing Entity (PIE), and remains the main institution responsible for policy and implementation of projects in the wastewater sector. The following legal agreements will be in place:

- Loan Agreement between IBRD and the Republic of Croatia, represented by MoF;
- Grant Agreement between IBRD and the Republic of Croatia, represented by MoF;
- Project Agreement between IBRD and HV that will outline the role HV will play in implementing the Project;

- Subsidiary loan and grant agreement between the MoF and HV passing the IBRD loan and GEF funds and outlining the responsibilities of HV;
- Sub-loan and/or Sub-grants agreements between HV and the relevant MWSCs and Municipalities to implement sub-projects. Such agreement would reflect: (a) the financing terms of the sub-project; (b) financial aspects including the tariffs necessary to recover operation and maintenance costs and the investment surcharge levied to service the loan; and (c) the technical aspects of the project, including aspects relating to implementation of the project, monitoring and reporting responsibilities. In municipalities which receive the GEF grant, the sub-loan agreement will reflect the grant element of the GEF funding.

29. The MEPPPC is implementing Component 3b. The MEPPPC will receive loan funds towards the financing of the Component 3b and will allocated co-financing from the Ministry budget. The responsibility for repayment of the portion of the loan allocated to MEPPPC will remain with the MoF. MEPPPC will also be responsible for procurement and supervision of the work for Component 3b. MEPPPC will prepare the required annual report for this component. MEPPPC will provide the HVJP with a copy of semi-annual reports. It will also provide copies of invoices and withdrawal applications for HVJP to include in its files, financial management reports and audits for the purpose of ensuring completeness of project accounts and records.

30. The implementation arrangements have one significant change from Phase 1. The responsible agency for Components 1, 2 and 3a was HV; however the project was implemented by a Special Purpose Subsidiary Company within HV called HV Jadranski Projekt (HV Adriatic Project, or HVJP d.o.o). During preparation of Phase 1, HVJP was envisaged to become an autonomous limited liability (d.o.o) agency that could become a financial intermediary for both public and private funds to MWSCs. During the implementation of Phase 1, HVJP did not become an intermediary for funds outside of the project, due to lack of support from HV and the government as a whole. HVJP d.o.o staff were those of HV which also provided the premises and other facilities for HVJP d.o.o. During the preparation of APL2, HV informed the Bank that APL2 would be implemented by a Project Implementation Unit (PIU) within HV, but retain the name of HVJP and some of the core staff. However, it would no longer be a limited liability company. The important factor in the institutional arrangements is to increase the staff of HVJP, particularly in the engineering, procurement and financial management areas, given the increased number of participating MWSCs.

31. HVJP as the PIU is now established and will be responsible for overall management including coordination with local governments and MWSCs. HVJP will assist in the evaluation of sub-projects, and prepares the financial package and on-lending arrangements. HVJP has well-trained procurement and financial management staff knowledgeable and experienced in Bank procedures and has high technical skills in the sector. HVJP draws from two HV regional branches (Rijeka and Split) that deal at closer proximity with the details of sub-projects. Sub-projects originate at the local level and are submitted to HV regional offices for review and finalization. HVJP evaluates the sub-projects based on a procedure detailed in the operational manual. The evaluation includes all aspects of the project including technical, financial and safeguard issues to ensure adherence to Croatian and Bank requirements. HVJP will be responsible for overall preparation and management of the contracting procedures. HVJP will ensure that work contracts will incorporate provisions for Environmental Management Plans.

32. Annex 6 provides a diagram for the flow of funds to MWSCs during implementation and the flow of funds during debt servicing. For Components 1 and 2b, HV will on-lend Project funds to participating MWSCs, which are the final beneficiaries of the Project. MWSCs and Municipalities will remain responsible for investing in and managing local wastewater systems. As such, they are responsible for all aspects of local wastewater management, including tariff setting, billing and collection. As indicated above, HVJP will ensure that (a) subprojects are economically and financially sound based on an agreed-upon methodology for technical, financial and economic assessment; (b) the MWSCs are technically, financially, and institutionally capable of managing subproject implementation and repayment; (c) financial arrangements, including any tariff changes which might be applicable, are agreed-upon prior to subproject appraisal; and (d) all safeguard approaches are followed as defined in the Operational Manual. In addition, HV will contract an escrow agent (a commercial bank) for all aspects of fiduciary management, including the establishment of sub-loan accounts for Project repayment.

33. HV will be responsible for implementing the GEF co-financing. A Grant Agreement will be signed with MoF and project funds will be on-granted to HV for project implementation. The GEF financing will be fully integrated into the Project and be implemented by HVJP. In the sub-loan agreements, the grant allocation for MWSCs nominated for GEF financing will be detailed.

34. The Operations Manual (OM) (Volumes 1, 2 and 3) defines all policies and procedures for implementing the Project. The eligibility for sub-project selection and the appraisal of sub-projects is detailed in the OM. The Bank will review the appraisal of sub-projects – other than the five sub-projects included in this document – during supervision, but will assess at a minimum two sub-projects per year.

C. Monitoring and evaluation of outcomes/results

35. HV, through HVJP, will continue to be responsible for monitoring the progress of APL2 sub-projects and the overall Program. It will continue reporting to the Bank in semi-annual progress reports. Based on experience in Phase 1, monitoring and evaluation by HVJP will be strengthened to include the annual financial and operational monitoring of the MWSCs and the impact of the project, in addition to the monitoring of physical, fiduciary and safeguard processes and outcomes. Cooperation with municipalities to monitor the progress on sewerage connections will be strengthened. The monitoring and benchmarking system to be developed in HV will provide more systematic data on MWSC performance and on the performance of sub-projects. For Component 3b, MEPPPC will monitor and report the performance of this component. MEPPPC will provide its reports on a timely basis to HVJP in order for this component to be included in the comprehensive progress reporting to the Bank.

36. The following triggers are agreed for the Project to move to APL3. These triggers should be met by appraisal of APL3:

- (i) Disbursement and commitments reach 40% and 70% of the loan respectively;
- (ii) An agreed monitoring and benchmarking system of the MWSCs participating in the project is established at HV;
- (iii) All WWTPs financed in Phase 1 are commissioned and effluent meets the appropriate discharge standards;

- (iv) HV and MEPPPC seawater quality monitoring programs establish baseline indicators for APL2 sub-projects and continue to monitor bathing water quality in Phase 1 and APL2 sub-projects.

D. Sustainability and Replicability

37. The sustainability of the project is strong given the technical quality of the investments, high capacity for implementation, and commitment from all levels of government and stakeholders. This is evidenced by the strong demand for the project and the willingness to contribute financially to the investments, particularly from local government, local utilities and citizens. Sustainability is also strengthened by the programmatic approach of the Program and the coverage of a cohesive area of the Adriatic Sea, with a long-term view that is shared by local participants to improve their own environments and health, coupled with the objective to protect and enhance the local tourism industry and economy. In addition, the long-term objective is supported at higher levels with the ambition to meet agreed EU directives on the quality of Adriatic Sea.

38. The Project will facilitate participation of national and local representatives in the GEF's International Waters Learning Exchange and Resource Network (IW LEARN) programs and in relevant GEF International Waters conferences. Collaboration with the Regional Component of the Mediterranean Strategic Partnership will be done to allow for broader dissemination of project results and to assist with replication of best practices.

39. In Phase 1, HVJP acquired the capacity to solicit and prepare sub-projects and implement them in accordance with Croatian and Bank requirements. APL2 will take advantage of this experience, but also improve on project preparation and monitoring. In Phase 1, problems that emerged were solved rapidly and no major concerns were raised. Adherence to fiduciary and safeguard requirements were on track and deviations addressed with Bank supervision. Experience acquired in Phase 1 strengthens the sustainability for APL2 and the overall Program. Mid-term and final assessments of Phase 1 were undertaken and lessons learned were incorporated into the design of APL2. Assessments were largely positive, but recommended improvements that are incorporated in APL2 and are likely to be replicated in APL3. This Project has also pioneered increased financial and operational awareness and participation by local governments and their MWSCs to decrease reliance on central government funding. This contributes to increased sustainability and could be replicated in other projects.

E. Critical risks and possible controversial aspects

40. HV has successfully implemented other Bank-financed projects and is familiar with Bank procedures and policies. As a national public institution, HV oversees the development of the water and wastewater sector and is in regular contact with the MWSC and municipalities on technical and financial matters. Some risks outlined below remain, particularly given the larger scope of this project and based on the experience of Phase 1. Nevertheless, HV's accumulated experience combined with project measures, mitigate the risks to project implementation. There are no controversial aspects to the project.

Risk factors	Description of risk	Rating of risk	Mitigation measures	Rating of residual risk
Technical/Design	Individual project designs are not appropriate or over designed. Future development and other sources of pollution might diminish the impact of proposed investments (e.g. ballast waters, agriculture-based pollution etc.).	Moderate	Project design to meet affordability criteria. Full reviews of the first year of investment program will be undertaken by independent specialists. A regional approach to the design of the project is undertaken to include all existing and potential future discharges, and the impact will be assessed using strengthened monitoring network.	Low
Implementation Capacity and Sustainability	Municipalities are small and unable to support project objectives. HVJP also does not have sufficient capacity to implement scaled up project.	Substantial	HV traditionally supports technical capacities of the municipal utilities through involvement in sub-project preparation, design and supervision. Sufficient HVJP capacity is a condition for negotiations.	Moderate
Financial Management	Project is scattered among several local governments and municipal utilities. Coordination between HVJP and MEPPPC is weak and may impact inclusion of MEPPPC component in project accounts.	Substantial	HVJP has had good experience with implementation of Phase 1. It has experienced FMS staff. Additional staff will be required prior to negotiations. Cooperation between MEPPPC and HVJP to be strengthened. MEPPPC will provide copy of transactions of contract under its implementation to HVJP to ensure inclusion in project audits and reports.	Moderate
Procurement	Project is scattered among several local governments and municipal utilities.	Substantial	HVJP had good experience in Phase 1, and will continue same procedure. Additional staff is to be required prior to negotiations.	Moderate
Social Safeguards	Some sub-projects will have land acquisition issues that may cause delays in implementation.	Moderate	HVJP has good experience in Phase 1. All issues dealt with upfront. LARAPs are ready for investments in first year, and a land acquisition framework is ready before appraisal.	Moderate
Environment Safeguard	Projects will require EMPs or EIAs prior to obtaining a construction permit which may cause delays in implementation.	Moderate	HVJP has good experience in Phase 1. All issues dealt with upfront. Environment framework is ready before appraisal. HVJP and Bank supervision will be strengthened.	Low
Coordination with related municipal investments	Households do not connect to the sewerage system.	Substantial	Municipalities responsible for sewerage connections (required by law to comply). Increased emphasis in Phase 2 to clarify plans and implementation of sewerage connections in project reporting and Bank supervision.	Moderate
Overall Risk		Moderate		Moderate

F. Loan conditions and covenants

41. Conditions for Negotiations.

- (i) HV to demonstrate that HVJP has sufficient staff and technical capacity needed to start the implementation of the project. *Met*
- (ii) Revision of Operations Manual Volume 1, 2, and 3 to the satisfaction of the Bank. *Met*
- (iii) Submission of Audit Report for Component 3b of Phase 1: Seawater monitoring implemented by the Ministry of Environmental Protection, Physical Planning and Construction. *Met*
- (iv) HV to submit the results of the remaining 9 samples (of 11 sites) on sea water quality to be used as baseline for monitoring. *Met*

42. Conditions of Loan and Grant effectiveness.

- (i) The Subsidiary Loan and Grant Agreements have been executed on behalf of the Borrower and the Project Implementing Entity (HV).
- (ii) The Bank has approved the first Sub-Loan and/or Sub-Grant Agreement and a legal opinion has been furnished to the Bank by the PIE, the Municipality and a MWSC stating that such Sub-Loan and/or Sub-Grant Agreement has been duly authorized (for the first withdrawal under works).

43. Conditions of Disbursement.

- (i) Attestation on preparation and disclosure of a site-specific Environmental Impact Assessment (EIA), Environmental Management Plan (EMP) or Land Acquisition and Resettlement Action Plan (LARAP), as needed (under works).
- (ii) HV shall submit to the satisfaction of the Bank the results of a study on cumulative impact of submarine outfalls before issuing to prospective bidders the bidding documents for the construction of the first submarine outfall.

44. Covenants applicable to project implementation.

- (i) HV to establish not later than June 30, 2010, a system to monitor and benchmark the operational, financial and environmental performance of water wastewater operations of the MWSCs participating in the Project, and thereafter maintain and update the system.
- (ii) The Borrower and HV shall carry out a mid-term review with the Bank, on or about June 30, 2011.
- (iii) HV shall ensure that additional staffing, particularly in the engineering, procurement and financial management areas, are promptly available at all times to the PIU during Project implementation.
- (iv) HV shall screen Sub-projects to ensure their consistency with the principles and requirements set forth in the Land Acquisition and Resettlement Policy Framework and the Environmental Framework and the satisfaction of any and all applicable requirements for the preparation, disclosure and implementation of a site-specific EIA, EMP and/or

LARAP, as the case may be, before the submission of any withdrawal request in respect of any Sub-project necessitating the respective EIA, EMP and/or LARAP.

IV. APPRAISAL SUMMARY

A. Economic and financial analyses

45. *Financial Analysis:* The financing arrangements developed and agreed under Phase 1 will continue to be used in APL2. The financing arrangements have been formally approved by the Government in February 2004. The details of the financing arrangements are also included in the project Operations Manual and will be included in the sub-loan agreements (SLAs) between HV and each municipality/MWSC. The Bank will finance 50% of each sub-project, MRDFWM an average of 22%, HV 7% and 21% is financed from MWSCs. The MWSC portion is financed by an investment surcharge levied prior to signing of the sub-loan agreement. The Municipality finances any shortfall of the MWSC portion should consumption be less than the estimate or tariffs not increased sufficiently. The HV portion of the investment is financed out of the water pollution fee (0.9 Kuna/m³) levied on all water/wastewater bills in a participating municipality. The MWSC portion is from the investment surcharge which covers municipal contribution during construction as well as for debt service. The SLAs will include provisions that utility companies will raise the base tariff within socially affordable levels, to meet the increased operating and maintenance costs. MWSCs will submit their financial statements on an annual basis, therefore allowing HV to monitor their financial performance throughout the life of the project. Annex 9 lists the estimated costs and financing shares for each sub-project.

46. Financial analysis was undertaken of five sub-projects: Cres, Hvar, Mali Losinj, Metkovic and Supetar. Summaries of the financial analyses are in Annex 9, and the complete assessments are included in the project files. For smaller subprojects, the financial rates of return of the investments are not high, which is to be expected in wastewater projects, given that they provide public services with considerable public good benefit. Financial Rates of Return range from 5% to 6%. The financing arrangements aim to ensure that the investment will cover the costs.

47. *Economic Analysis.* Wastewater investments have high public good value due to environmental externalities and include benefits that are difficult to quantify and attribute directly to the project. Benefits such as improvements in health of users, convenience, increased real estate values and benefits to the environment are acknowledged by the EU and others, are usually high, but difficult to quantify for each sub-project. Croatia derives about 25% of its GDP from tourism, and the rate is expected to be much higher in the coastal region, and estimates of 50-75% were considered. However, reliable data was not sufficient, and more extensive studies would have been needed to verify the assumptions. For this project, in addition to these local benefits, there are two important economic benefits as related to the objective of the Project/Program: (i) improvements in tourism; and (ii) accession to the EU, both of which are difficult to quantify and attribute directly to the project.

48. *Affordability Analysis.* The overall tariff for water and wastewater is currently in the range of 1.6% to 2.0% of the available per-capita household income in Croatia. For the purposes of this project, the level of the investment surcharge has been determined and agreed among the

Government, HV and the municipalities (up to a maximum 4 HRK/m³), to support the project financing. Adding the investment surcharge, and the assumed tariff increases due to increased O&M costs, the combined costs for water and sewerage are in the range of 1.7% and 2.4% of the available per-capita household income, which is below the EU affordability norm of 3.5%. Therefore, the tariffs including the investment surcharge are affordable, based on EU norms.

B. Technical

49. Sub-Loan and/or Sub-grant agreements are expected to be signed with about 30 MWSCs for wastewater investments. A list of the potential sub-projects, population equivalents (for the design of the WWTP) and investments to be financed is included in Annex 4. In total, sub-projects are expected to include 17 sewerage systems (including pumping stations), 24 WWTP (3 biological and 21 mechanical) and 16 submarine outfalls for a population equivalent of 664,000 (see table in Annex 4). Technical feasibility studies have been completed for 25 sub-projects to be financed by the project. The studies have reviewed existing designs (where they exist) and verified design assumptions, demand calculations and standards.

50. Five of the 30 sub-projects have been fully appraised and are documented. The process of appraisal will be repeated by HVJP for the remaining sub-projects during the implementation period. HVJP will appraise each sub-project before signing the sub-project agreement, and will provide construction supervision during implementation. A description of the five sub-projects is in Annex 4. The five towns selected for appraisal are Cres, Hvar, Mali Losinj, Metkovic and Supetar where feasibility studies are well advanced. All towns are small-to-medium sized, and tourism is a major attraction in all except Metkovic. Only Metkovic is not on the Adriatic Sea, but on the Neretva River which has a high nutrient load – the largest in the Adriatic – and is therefore considered a priority. The GEF component will invest in four towns (Cres, Porec, Opuzen and Metkovic), i.e, two of the same towns as the appraisal, and two additional towns.

C. Fiduciary

51. *Procurement.* HVJP's procurement team resides in three locations: In Zagreb headquarters, the Deputy Director of HVJP unit will supervise the procurement activities with the leader of the procurement team, the procurement/contracts lawyer, and two engineers to review the technical strategy, feasibility options and other similar documents. In each of Rijeka and Split regional branch sub-team locations, one engineer from Phase 1 remains, and HV has now assigned two additional procurement/engineering staff. During the first year, the activity time of these engineers will be broken down as follows: 30% preparation of technical documents (engineering, technical specifications), 60% procurement, and 10% supervision of contracts execution. During the following years, the latter percentage will increase.

52. In view of the specific additional work load, and to reduce one of the two main procurement risks, further procurement capacity has been added through assignment of five procurement officers, experienced in the procurement of Works under Bank-financed projects, one lawyer (for procurement/contracts review), and two engineers also qualified for procurement activities. This will help reduce delays given the large number of consultants and works contracts.

53. The overall Project risk for procurement has been rated initially as substantial, and would evolve to moderate after implementation of the mitigation measures and training. The Bank will maintain close oversight using its staff in the Washington and the Zagreb Offices. Prior review of all major contracts in agreement with the thresholds given in Annex 8 will be carried out by the Bank team. Post reviews will be carried out with a minimum sampling of one in ten.

54. *Financial Management.* The financial management functions of the project will be handled by HVJP, a PIU of Hrvatske Vode. HVJP will be responsible for the flow of funds, accounting, reporting, and auditing. The financial management arrangements of Phase 1 have been reviewed periodically as part of previous project supervisions and have been found to be satisfactory. For the project financial statements relating to HVJP, d.o.o for the year ended December 31, 2007, the auditors opinion was unqualified and there were several internal control issues in the management letter, which have already been addressed by HVJP, d.o.o, or an action plan has been developed to address them. The audit report for the calendar year 2007 for the Phase 1 for components relating to HVJP has been submitted to the Bank in time.

55. The financial management supervision mission (February 2008) noted that there is lack of coverage in the Interim Un-audited Financial Reports (IFR) and audit reports of the sub-component managed by MEPPPC. The HVJP was alerted to include expenditures under this component in the IFRs and the audit. The audit of component 3b implemented by MEPPPC will be conducted by the same auditor and submitted to the Bank shortly. Based on the experience of Phase 1, the existence of a financial management system, the financial management arrangements for the project are satisfactory. Yet, given the increase in the number of sub-projects, for full acceptance by the Bank of the FMS arrangements, an additional staff will be required.

D. Social

56. The project does not raise any unusual or divisive social development issues. It has used social analysis to develop the program and improve performance in APL2. The demand for the project was very clear during the preparation of Phase 1, but attention to the topic of clean water has increased significantly as tourism continues to grow. The high number of municipalities wanting to participate in APL2 is perhaps the most salient indicator of demand and confidence in the project's ability to produce results.

57. In 2007, Social Assessments (SAs) were undertaken in 29 municipalities that expressed an interest in participating in APL2. The results are similar to the findings in Phase 1 SAs, but also revealed differences among stakeholders and communities regarding their support for investments in wastewater management, their knowledge about the project, and trust in officials and agencies. As expected, people without connections to public systems have the greatest levels of interest, although they may be apprehensive about investment, operations and connection costs. Those who are already connected support improvements, but less strongly.

58. The level of trust in institutions varied considerably between municipalities, with national institutions rated higher than local ones. Overall, however, where the level of trust was high, it applied to all institutions, and vice versa, when trust is low. The biggest factor in trust appears to

be the extent to which people feel that they are informed about government activities, especially the cost implications of investments.

59. The SAs in the latest round were more successful in identifying areas of concern, as well as articulating the ways people prefer to obtain public information, than the earlier ones. Consequently, each of the SA reports has more practical advice regarding how to develop targeted public awareness and information campaigns in each of the different municipalities. Not surprisingly, among the most important stakeholder groups – municipality and water company officials, HV officials, connected residents and not-connected residents – officials have the most positive view of their roles and the results of their efforts. This discrepancy argues that they need to make greater efforts to increase public awareness of their plans and activities, particularly the cost implications for each household.

60. While Phase 1 targeted relatively large wastewater systems, APL2 will be more inclusive, targeting smaller municipalities, systems joining two or more municipalities, and poorer areas. HVJP will be able to offer more support to communities that cannot afford the immediate investments, but all municipalities will have to demonstrate that they can generate the revenue needed to operate and maintain their systems.

61. Land acquisition can be a difficult issue, particularly regarding wastewater treatment sites near urban and peri-urban areas, and problems were expected in Phase 1. Contrary to expectations, however, there was very little private land acquisition (two plots in 10 of the 11 systems in Phase 1), and only one incidence of expropriation. Most of the delays in construction were the result of the lengthy process required to establish rights in the maritime domain or to transfer land from one government unit to another. Most of the Phase 1 municipalities had some experience in dealing with land issues, but some of the APL2 municipalities may not have the experience. During Phase 1, the project obtained the services of a lawyer to assist municipalities with land issues, as well as to provide documentation regarding compliance with OP 4.12 (Involuntary Resettlement). APL2 will continue and expand this service to ensure that municipalities fully understand official procedures and are able to proceed efficiently and effectively to resolve issues. The lawyer's mandate will be more proactive in APL2. Each municipality will be contacted early in its association with the project to introduce the lawyer and services available, as well as to clarify land acquisition reporting requirements. These early contacts are expected to generate demand for services, as well as call attention to the importance of land issues. SAs also identified land problems and the summary report recommends early intervention to assist municipalities and affected persons.

62. Finally, communication (transparency) is the most prominent theme that arose from the Bank's early experience in wastewater management in Croatia. It also emerged from early SAs and was very evident in the latest round of SAs and in field visits. HVJP hired a local public relations firm to help it develop a practical communications program for the project as a whole, and to assist municipalities that request advice and assistance. This support will be more evident and proactive in APL2. Communications consultants developed materials that draw attention to Adriatic issues, highlight project activities and illustrate successes. The outputs range from a web site to brochures, videos and educational packages. The materials were disseminated in various media, where they have been well received, and were presented in press conferences, roundtables and the like. In addition, consultants are preparing a brief publication targeted to

municipal and MWSC officials to stimulate their interest in planning public awareness and public information campaigns. This document will identify project activities that affect the general public, ranging from surcharges to construction schedules and traffic patterns, and illustrate both how they can be addressed through a communications program and what would be salient elements of such a program.

63. Once a municipality's participation in the Project is confirmed, HVJP plans to send an SA/Communications team to the municipality to stimulate communications awareness and offer support. Ideally, the team would consist of a member of the regional HV staff, imminent members of the local community, project staff and communications and SA specialists. The purpose of the municipality visit is to help municipal and MWSC officials and other community leaders understand the findings of their SA and explore the need and possible content of public awareness and communications assistance. In most municipalities, the relevant issues are willingness to pay, public trust, connection plans, information flows, and communication patterns. If there are local interests, the consultants will follow up and jointly tailor a communications strategy for the municipality, as well as a monitoring and evaluation program to assess results and report.

E. Environment

64. The Program is expected to generate significant positive environmental benefits by improving wastewater collection, treatment and disposal systems for the municipalities participating in the project. These would primarily improve the quality of bathing waters in the Adriatic Sea. Potential negative environmental impacts are marginal and are typically linked to construction and operation of the wastewater treatment plants. Indirect impacts include the odors and unsightliness of WWTP, which may hinder economic development nearby. In the medium to longer term the issues of nutrient discharge in sewage and industrial wastes will need to be factored into the treatment strategy. In the short term, it is reasonable to address bathing water quality due to its impact on public health.

65. To address safeguard issues in the project, HV prepared an Operations Manual for Phase 1 which contains a separate volume (3) on guidelines for the environmental assessments (EA), i.e. Environmental Framework (EF). For APL2, HVJP updated the OM by reflecting changes in the national environmental legislation, by strengthening the capacity of the PIU to comply with the environmental provisions, by introducing the screening process for the environmental assessment of all sub-projects and by strengthening the reporting on the implementation of the same. The updated Manual calls for the preparation of Environmental Impact Assessments (EIAs) for all wastewater treatment plants regardless of capacity and is calling for the preparation of the Environmental Management Plan (EMP) as a separate document. The EF serves as a tool to ensure that the proposed investments implemented through the project comply with the existing environmental protection laws, regulations, and standards in Croatia, and with World Bank Operation Policies and Practices. The EF calls for preparation and implementation of EA and EMP for each sub project. Before project appraisal, 24 EIAs were prepared, of which already 13 obtained the decision of the MEPPPC which defines mitigation measures and monitoring programs. Nevertheless, experience under Phase 1 revealed the need for better monitoring including collection of baseline data and the costs of environmental monitoring.

APL2 introduces the requirement for regular reporting on compliance with environmental provisions.

66. Croatia has been implementing EIAs since 1990. The system of approval of the EIA is linked to and precedes construction activities. The location and construction permits can be issued only after the MEPPPC has approved the EIA by setting up the decision on the mandatory mitigation measures and monitoring plan. The MEPPPC inspection monitors implementation of the decision. Croatian legislation requires an EIA Study when the sewerage system with wastewater treatment is designed for 50,000 Person Equivalent (PE) or more. In that case, MEPPPC conducts the public disclosure as well as the assessment of the quality of the study as a regular procedure. For sewerage systems with waste water treatment plants designed for 10,000-50,000 PE, the investor is required to request the opinion of the MEPPPC on the need and the scope of EIA. The Project EF calls for the preparation of EIA studies no matter the capacity of the WWTP. The assessment of quality will be done at the county level if the MEPPPC decides that an EIA is not required. The PIU launched a website (<http://www.hvjp.hr>) where the status of implementation can be followed.

67. APL2 will continue to include, studies and consulting services to monitor the environmental impact of the sub-projects on the quality of wastewater effluent, bathing water and the coastal waters by supporting HV and MEPPPC in improving their monitoring capacities.

F. Safeguard policies

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment (OP/BP 4.01)	[X]	[]
Natural Habitats (OP/BP 4.04)	[]	[X]
Pest Management (OP 4.09)	[]	[X]
Physical Cultural Resources (OP/BP 4.11)	[X]	[]
Involuntary Resettlement (OP/BP 4.12)	[X]	[]
Indigenous Peoples (OP/BP 4.10)	[]	[X]
Forests (OP/BP 4.36)	[]	[X]
Safety of Dams (OP/BP 4.37)	[]	[X]
Projects in Disputed Areas (OP/BP 7.60)*	[]	[X]
Projects on International Waterways (OP/BP 7.50)	[X]	[]

68. *Environmental Assessment.* The project is classified as Category Financial Intermediary (FI). The Operations Manual (OM) Volume 3 contains the Environmental Framework that addresses all environmental issues. The updated version of Volume 3 was publicly disclosed on the website of the PIU on July 09, 2008. EIA studies for sub-projects will be done in accordance with guidelines in the OM. In addition to the EF, the Bank approved a sample EIA with the EMP for the city of Vodice. The executive summary of the EIA and the EMP for the city of Vodice together with the two additional EIA executive summaries (Sukosan- Bibinje and Metkovic) were disclosed for public comment on the PIU website on July 9, 2008.

* *By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas*

69. *Involuntary Resettlement and Physical Cultural Resources.* Both safeguards were triggered in Phase 1. A Land Acquisition and Resettlement Policy Framework (LARPF) was prepared and approved by the Bank prior to appraisal (July 9, 2008) and the Operations Manual in its Volume 3 contains provisions for managing chance finds. The LARPF has been updated for APL2, disclosed and accepted by the Bank. In addition, Volume 3 has detailed provisions to assure compliance with both of the policies during implementation. In practice, there was very little acquisition of private land and only one instance of expropriation in the Phase 1 investments and very little acquisition of right of way through private property. Most rights of way were granted without direct compensation, or residential hook-ups were provided in lieu of compensation. HVJP obtained the services of a lawyer to advise municipalities on land acquisition issues, as needed, but this service was not used as much as expected. Many municipalities already had experience with land acquisition and did not need additional support. Many APL2 municipalities are expected to have little experience with land acquisition, thus they will make use of the service and continued compliance is assured.

70. Croatian laws and regulations dealing with physical cultural resources are fully consistent with OP 4.11. County offices of the Ministry of Culture and local archaeological museums investigate and manage chance finds professionally, as demonstrated by their response to discoveries in Pula that triggered the policy. As in Phase 1, the Ministry of Culture identifies possible sites of historical value during the final design stage and oversees construction in those areas. APL2 will therefore continue the precedent of full compliance with Croatian and Bank cultural heritage policies in implementation.

71. *International Waterways.* During the preparation of Phase 1, the government informed riparian countries of the Program and no objections were forthcoming. For APL2 no new notification is needed as (a) the Project area and international waterways are identical to the coastal area in the notification letter; (b) the new activities are identical to the original activities, i.e., investments in wastewater collection and treatment, institutional strengthening, monitoring and improvements to the regulatory and institutional framework; and (c) the project area is within the Program area stipulated in the original notification. The letter refers to 47 sub-projects that could be included in the Program of which all APL2 subprojects are listed.

G. Policy Exceptions and Readiness

72. The Project complies with all applicable Bank policies and no exceptions are required. The Project is ready for implementation.

Annex 1: Country and Sector or Program Background

CROATIA: Coastal Cities Pollution Control Project 2

Program Background

73. The Program was developed out of a comprehensive integrated study in Kastela Bay between 1988 and 1992 that assessed the major pollution problems and ecosystem functioning of seawater pollution in the Adriatic. This allowed the formulation of policies and technical solutions and feasibility studies for the integrated wastewater collection, treatment and disposal system. The following key sector issues were identified:

- *Sector financing and financing framework.* An improved financing framework and additional resources for wastewater collection and treatment investments were needed to improve water quality, despite the expected resources that might become available from EU accession. Because wastewater treatment facilities are in some respect public goods, the key to the sustainable management of Croatia's wastewater sector is to develop coordinated mechanisms at the national and sub-regional level for financing the construction and management of wastewater treatment facilities;
- *Inadequate institutional framework.* The lack of physical infrastructure was matched by an inadequate institutional framework, both to create incentives for investing in wastewater treatment infrastructure and to provide overall policy direction. The sector would need to balance both local needs to combat pollution and manage wastewater treatment infrastructure, particularly in the islands and coastal areas, with national needs to meet minimum effluent standards;
- *Inefficient MWSCs.* Although MWSCs operate reasonably well, the study identified many areas for efficiency gains in terms of better management, improving financial performance, reducing water consumption, making water systems operate more efficiently, and reducing leakage. Reforms and improvements in this area were essential to allow MWSCs to undertake the large investments required in wastewater management and guarantee their sustainability.

74. During the time the Program was being prepared, the Government developed a comprehensive strategy to address these challenges. The core of the strategy was:

- *Investment in wastewater treatment and sewerage expansion in coastal areas.* The Government developed a comprehensive Program for the provision of wastewater treatment facilities to improve the quality of the waters off Croatia's Adriatic coast. The Program foresees the assistance from the Bank and from other donors;
- *Redesign of the institutional arrangements for wastewater management.* The Government initiated an overarching reform of the institutions involved in the management, financing, and oversight of the water supply and wastewater treatment sector in Croatia. This involved the consolidation of the role of HV as the entity responsible for planning and policy setting in the area of wastewater treatment and for assisting in the financing of wastewater treatment infrastructure to municipalities responsible for local water distribution and sewerage networks. It also included the harmonization of national standards and those defined in relevant EU Directives;

- *Addressing the need for a sustainable financing solution for wastewater treatment*, the Government sought to ensure the affordability and sustainability of investment through a combination of up-front capital grants, local contributions, and user supported fees and surcharges. HV, as the entity responsible for the technical and financial management of the sector investment program, set-up the HVJP to implement the Program.

75. The Coastal Cities Pollution Control Program APL was prepared to support the above program. The Government and Bank identified 163 potential sub-projects on the coast that would serve a population of just over 1 million people (and a population equivalent of 3.2 million). Eligibility based on eight criteria including pollution load, sensitivity of receiving water, impact on tourist development, readiness of design documentation etc. were developed and 47 sub-projects were selected for the Program (for a total population of 476,800 and PE of 1.22 million) and total investment value of Euro 260 million. Table 4 at the end of Annex 1 lists all 47 sub-projects, the estimated investment size and the targets for wastewater connections.

Performance of Phase 1

76. As part of the preparation of APL2, two independent assessments of the performance of Phase 1 were conducted. The first, in 2007, assessed the performance of HVJP, d.o.o. and focused on the financial and institutional performance of the project. The second assessment took place in March 2008 and is in response to the Bank's requirement for an assessment before proceeding to next phase. The second assessment focused on (i) meeting the triggers; and (ii) project implementation experience and potential to meet objectives. The following is the summary of the assessments.

77. The achievement of the project development objective is likely given the support of the government, the technical quality of the investments, and the commitment and awareness of local citizens of the need for such a program to improve their lives both through improvements to their own environment and health as well as the impact on their livelihood and economic growth. Project investments are progressing in a satisfactory manner. With a few recommended improvements, implementation should proceed in a similar manner as for Phase 1 on fiduciary and safeguard issues. Increase in the capacity of HVJP is needed in order to enable it to continue good and improved performance in APL2 with almost three times the number of sites. Sustainability is ensured given the strong capacity and a high level of commitment of all stakeholders at all levels; central government ministries, HV, local governments, MWSCs, citizens and consumers, and in the acceptance of the financial scheme requiring significant contribution by local stakeholders. The main recommendations are (a) sustained and adequate capacity of HVJP to take on a wider scope of the program; (b) better coordination with other agencies, particularly MEPPPC, and especially (c) improvements in the monitoring and evaluation approach by re-evaluating and requesting baseline data at earlier stage and strengthening monitoring by HVJP.

78. Another important recommendation is for the Bank and the Government to review the statements of the Program and Phase objectives. The long term objective of the Program is to improve the coastal water quality (now objective of Phase 1). The Project/Phase 1 objective is to improve provision of efficient and sustainable sanitation services in Croatia (now given as secondary objective of Phase 1, and as objective of the Program). APL2 objectives would be to

continue the provision of improved sanitation services with increased emphasis on the financial and operational improvements in the MWSCs and continued efforts to improve and consolidate measures of the environmental impact on the Adriatic Coast. In summary it is recommended to switch the Program and Projects (phases) objectives, given the longer term nature of improving the Adriatic waters vs. the objective of providing better sanitation through the proposed physical investments. Tables 1 and 2 provide a summary of the investments carried out and the performance of the MWSCs.

Table 1: MWSC investments

	Sub-project	Investments (Euro mln)	Sewerage (km)	Pumping stations	WWTP	Submarine outfall (length/depth)
1	Biograd	10.7	19	3	Mechanical (27,500 PE)	3.6 km/30 m
2	Dugi Rat	2.3	2	2	Mechanical (30,000 PE) *	
3	Makarska	1.0	0	0	Mechanical (50,000 PE)	
4	Novigrad	3.7	7	1	Mechanical (33,000 PE)	1.5 km/23 m
5	Omish	1.7	4	5	Mechanical (30,000 PE) *	
6	Opatija	21.5	50	17	Mechanical (50,000 PE)	
7	Opuzen	0.8	2	0	Mechanical (9,000 PE)	
8	Pula	5.6	4	3		
9	Rijeka	5.2	7	3		
10	Rogoznica	2.2	6	4		
11	Zadar	15.2	0	0	Biological (100,000 PE)	3.12 km/31 m
	Total	69.9	101	38	4 WWTP	

should be a total of 7 WWTP

*Durgi Rat and Omish share a WWTP

Table 2: Financial performance of MWSCs

	MWSC	Operating ratio		Current ratio		Debt service		Collection ratio	
		2004	2006	2004	2006	2004	2006	2004	2006
1	Biograd	1.13	0.88	0.12	0.25	4.78	3.75	80%	83%
2	Makarska	1	0.99	3.7	1.72	17.32	21.44	76%	78%
3	Omiš	1	0.97	1.25	1.37	2.19	1.58	77%	78%
4	Opatija	0.98	0.99	1.59	1.76	4.97	21.58	84%	86%
5	Opuzen	0.8	1.08	1.13	1.34	na	na	70%	72%
6	Pula	0.94	0.87	4.31	2.96	4.74	4.51	50%	67%
7	Rijeka	0.89	0.87	1.63	1.61	1.35	1.48	85%	85%
8	Rogoznica (Sibenik MWSC)	1.08	1.04	2.44	1.8	1.12	2.31	51%	62%
9	Novigrad	1.02	1.21	1.25	1.34	1.41	1.25	98%	98%
10	Zadar	1	0.95	3.7	0.6	*	*	98%	103%
	average	0.98	0.99	2.11	1.48	4.74	7.24	77%	81%

79. The project undertook a number of significant environmental studies that will assist with EU accession negotiations. The most salient are: (i) a classification of the sensitivity of the sea to define the level of treatment required as per EU directives; (ii) a Strategic Environmental Assessment to determine the cumulative impact of pollution on the coast; and (iii) both HV and MEPPPC tendered consulting services contract to monitor the seawater quality of the coast, both at the point of discharge from the WWTP and modeling of the pollution in the project sites.

Table 3: Status of triggers to move to APL2

Trigger	Comment	Status
1. 70% commitments and 40% disbursements		Met
2. Improvement targets have been met for wastewater collection and treatment coverage.	Adjust for APL2. Introduce monitoring and evaluation system to enable systematic assessment of progress.	In Progress
3. The upgraded monitoring system is in place and functional.	Amended during mid-term review to: “set the baseline for wastewater discharged for the 11 municipalities participating in Phase 1”	Met
4. The government has adopted legislation concerning the treatment and discharge of municipal wastewaters in coastal areas to the relevant EU directives and issued the declaration of “sensitive” and “less sensitive areas”	Amended during mid-term review to: “HV endorse the sea sensitivity study”	Met
5. A Strategic Environmental Assessment (SEA) that deals with regional cumulative effects has been completed.		Met. Study will be revised by Feb 2009
6. Each MWSC seeking investment under the first year of APL2, complies with similar eligibility conditions as of Phase 1.	Eligibility conditions have been checked and strengthened for APL2. 30 MWCs nominated for APL2 meet initial eligibility conditions.	Met

This table will need to be revised, plus text added, based on the recent comments by ECA-Quality

Assessment of implementation experience

80. *Lessons Learned.* (i) As in all projects, a high level of commitment and capacity is essential for successful progress and sustainability; (ii) APLs are a good tool to reach long term objectives through measurable phased approach; (iii) APLs need extra effort in developing triggers and monitoring indicators; (iv) subsequent phases provide the Bank and the Government with practical experiences to improve performance, focus objectives, and affect the sector.

81. *The Implementing Agency (HVJP).* The PAD envisaged HVJP would become a financial intermediary for financing the water and wastewater sector introducing commercial practices and leading to a larger market role. This approach was successful in increasing the financial contribution of local governments and MWSCs prompting them to improve their financial situation. HVJP, d.o.o did not apply its role as a financing “commercially based” entity or extend it beyond the project. HVJP, d.o.o staff, premises and other facilities were provided by HV. HVJP was successful in promoting the project and ensuring support of the local governments, and in terms of the technical implementation of the project including all Bank fiduciary and safeguard requirements. Sustained adequate capacities in procurement, financial management and monitoring and evaluation would ensure success in future phases.

82. *Fiduciary Performance.* HVJP has competent and well-educated staff with adequate procurement and financial management skills. Procurement plans were updated regularly and provided to the Bank with the progress reports. Post reviews found no serious deviations or issues of concern. Financial management requirements were adhered to, and close reviews were

undertaken by the Bank. HVJP has adequate financial management system. All audits of financial statement reports were unqualified. Better coordination with the MEPPC is required for a comprehensive coverage of the project financial management.

83. In order to provide more focused technical assistance to MWSCs, and to ensure the financial sustainability of the project, HVJP should assess the financial sustainability of particular subproject and performance of MWSC and develop a benchmarking system, to monitor and compare progress among utilities. All safeguards were adequately complied with and are documented in the safeguard section of the PAD.

84. *Sustainability.* Sustainability is highly likely given the technical quality of the investments, high capacity for implementation, and commitment from all levels of government and stakeholders as evidenced by strong demand for the project and willingness to contribute financially to the investments particularly from local government, local utilities and citizens.

Table 4: Indicative investments for APL Program*

Subproject	Populaton		Investments				Estimated sewerage connection rates			
	Populaton (2001)	Populaton + tourists (2001)	APL 1 Euro m	APL 2 Euro m	APL 3 Euro m	GEF Euro m	Baseline	end APL1	end APL2	end APL3
APL 1										
1 Biograd	13,305	16,522	10.1				47%	72%		
2 Dugi Rat	3,507	4,000	2.3	2.3			10%	40%	65%	
3 Makarska	13,033	15,274	1.0				98%	98%		
4 Novigrad	5,004	6,544	3.6				42%	80%		
5 Omis	9,663	10,237	1.7				32%	60%		
6 Opatija	25,088	28,123	26.7	4.1			31%	83%	85%	
7 Opuzen	5,163	5,163	0.8	1.0		0.2	13%	61%		
8 Pula centar	62,984	70,000	5.5				70%	83%		
9 Rijeka-Grobnik	12,000	12,000	5.1	14.6	6.0		0%	0%	50%	85%
10 Rogoznica	2,324	2,823	2.2				10%	65%		
11 Zadar-Centre	71,468	77,969	15.0	5.5			67%	83%		
<i>Subtotal / average</i>	223,539	248,655	74.0	27.5	6.0		38%	66%	67%	85%
APL 2										
12 Betina-Murter	2,849	3,200		2.3			0%		45%	
13 Bol-Brač	1,661	3,086		3.1			99%		99%	
14 Cres	2,959	5,380		4.3		0.9	80%		90%	
15 Crikvenica	11,348	16,438		3.8			71%		80%	
16 Hvar	4,048	6,046		3.2			93%		97%	
17 Korčula	4,834	6,262		1.8			45%		70%	
18 Krk	5,491	7,979		3.0			74%		85%	
19 Mali Lošinj	8,388	15,268		4.1			80%		90%	
20 Malostonski-Duboka-Klek-Ston	1,809	2,457		3.8			0%		80%	
21 Medulin	6,004	11,994		8.2	2.0		7%		65%	85%
22 Metković	15,151	15,171		4.8		0.4	40%		70%	
23 Mljet	352	568		2.6			0%		75%	
24 Nin-Privlaka	6,802	8,000		3.4	2.0		6%		40%	65%
25 Omišalj	1,790	1,988		4.3			61%		70%	
26 Poreč	18,136	41,800		13.7	7.0	1.9	62%		70%	80%
27 Primošten	2,944	3,200		2.3			42%		75%	
28 Pula-sjever	58,594	62,984		5.6			50%		75%	
29 Rab	9,480	15,692		9.7			62%		80%	
30 Rabac	1,472	4,847		2.7			90%		95%	
31 Rovinj	14,234	24,560		5.4			63%		85%	
32 Sukošan-Bibinje	8,333	9,500		4.1			28%		75%	
33 Supetar-Brač	4,093	5,084		2.3			85%		90%	
34 Vela luka	4,401	4,800		1.4			0%		75%	
35 Vodice	7,855	10,596		1.1	5.0		30%		70%	85%
36 Zaton, Rijeka dubrovačka i Elafiti	5,186	7,000		9.6	5.0		30%		60%	80%
37 Župa dubrovačka	6,150	7,338		4.3			60%		80%	
<i>Subtotal / average</i>	214,364	301,238	0.0	115.0	21.0		48%		76%	79%
APL 3										
38 Brijuni	200	408			2.7		0%			
39 Gradac	1,556	3,130			4.1		35%			65%
40 Jelsa-Starigrad-Vrboska	5,799	8,160			6.2		40%			70%
41 Lumbarda	1,200	1,500			2.1		65%			85%
42 Makarska rivijera	8,700	12,000			9.5		90%			95%
43 Malinska- Njivice	3,934	7,476			6.8		39%			75%
44 Orebic	2,737	4,418			3.4		10%			65%
45 Pirovac-Tisno	3,866	4,500			4.8		0%			55%
46 Ploce	8,500	8,500			5.5		59%			80%
47 Vrsar	1,800	6,697			3.0		95%			98%
<i>Subtotal / average</i>	38,292	56,789	0.0	0.0	48.1		43%			76%
Total / average	476,195	606,682	74.0	142.4	75.1	3.4	45%	66%	75%	78%

* The GEF Grant will cofinance investments in Metkovic, Opuzen, Cres and Porec-Materada in parallel with APL2

Annex 2: Major Related Projects Financed by the Bank
CROATIA: Coastal Cities Pollution Control Project 2

Sector issue identified in A1	Project	Project Development Objective	Description	Latest ISR/IEG rating	
				IP	DO
Ongoing Operations					
Wastewater coverage and efficiency of MWSCs	Coastal Cities Pollution Control Project Phase 1 (P065416)	Improve the quality of Croatia's Adriatic coastal waters to meet EU ambient quality standards in the participating municipalities in a financially and operationally sustainable manner.	<i>Approval:</i> Jun 1, 2004 <i>Closing:</i> Nov 30, 2009 <i>Loan Amount:</i> Euro 40.0 million	S	S
Water supply, wastewater and flood protection coverage and MWSC efficiency	Inland Waters Project (P098948)	To improve water supply services, wastewater services, and flood protection measures in municipalities selected from the inland part of Croatia.	<i>Approval:</i> May 30, 2007 <i>Closing:</i> Dec 31, 2012 <i>Loan Amount:</i> Euro 100.0 million	S	S
Environmental protection	Neretva and Trebisnjica River Basin Management Project (P084608)	To ensure the effective and environmentally sound management of the water and land resources of the Neretva and Trebisnjica River Basins. This is a regional project that will benefit Croatia and Bosnia and Herzegovina.	<i>Approval:</i> May 29, 2008 <i>Closing:</i> Dec 31, 2013 <i>GEF:</i> US\$2.0 million	-	-
Closed within last five years					
Improved water supply and wastewater and MWSC efficiency	Municipal Environmental Infrastructure Project (P043444)	(i) Reducing municipal wastewater pollutant discharges into the environmentally sensitive Kastela and Trogir Bays, consistent with applicable Croatian and EU standards; (ii) improving the safety, reliability and delivery of drinking water in the project area, and (iii) improving the operational and financial performance of the Split Water and Sewage Company.	<i>Approval:</i> Jun 18, 1998 <i>Closing:</i> Dec 31, 2007 <i>Loan Amount:</i> DEM 65.0 million (US\$36.3 million equivalent)	MS	S
Reconstruction, water supply and wastewater coverage, environmental protection	Reconstruction Project for Eastern Slavonia, Baranja, and Western Srijem (P048983)	Repair and rebuild war-damaged water sector infrastructure (including the clearing of landmines), critically needed to restart the local economy (and in particular, local agriculture) of Eastern Slavonia, Baranja and Western Srijem while mitigating the negative environmental impact likely to be caused to the adjacent nature park by the restart of local agriculture.	<i>Approval:</i> Jun 18, 1998 <i>Closing:</i> Dec 31, 2004 <i>Loan Amount:</i> DEM 74.0 million (US\$40.6 million equivalent)	HS	HS

Rating: HS (Highly Satisfactory), S (Satisfactory), MS (Moderately Satisfactory)

Annex 3: Results Framework and Monitoring
CROATIA: Coastal Cities Pollution Control Project 2

Program Objectives	Program Outcome Indicators	Use of Program Outcome Information
To maintain the quality of Croatia's coastal waters to meet the applicable EU/national standards in participating municipalities.	<ul style="list-style-type: none"> Percentage of samples from bathing areas in participating municipalities complying with applicable seawater quality standards. 	<ul style="list-style-type: none"> Increase the potential for tourism by ensuring that high standards of seawater quality are monitored and adhered to.
Project Development Objectives	Project Outcome Indicators	Use of Project Outcome Information
To improve the provision of efficient and sustainable wastewater services in participating coastal municipalities; and to reduce the nutrient load entering Croatia's coastal waters from, and pilot innovative wastewater treatment solutions in selected municipalities.	<ul style="list-style-type: none"> Percentage of households in participating cities able to connect to wastewater services Percentage of wastewater collected that is treated as per applicable legislation Performance of participating MWSCs as measured by operating ratio, collection rate and debt service ratio Reduction in pollution and nutrient load in cities with enhanced nutrient reduction facilities. Increased knowledge of alternative nutrient reduction wastewater treatment technologies 	<ul style="list-style-type: none"> Assess progress towards achievement of Program Objectives Assess achievement of Project Objectives to improve provision of wastewater services. Assess achievement of sustainability of MWSCs. Strengthen Croatia's position in EU negotiations in terms of level of treatment required

Intermediate Outcomes	Intermediate Outcome Indicators	Use of Intermediate Outcome Monitoring
Component 1: Wastewater Investments		
Investments in wastewater collection, treatment and disposal systems in participating cities.	<ul style="list-style-type: none"> • Number of sub-loan agreements signed in participating cities • Km of wastewater collection systems constructed • Number of wastewater treatment plants commissioned • Number and Kms. of sea outfalls constructed • Number of enhanced nutrient reduction plants commissioned 	<ul style="list-style-type: none"> • Assess progress in physical investments implemented under Project
Component 2: Institutional Strengthening		
<p>HV develop a comprehensive plan for improving wastewater services on the coast.</p> <p>HV is able to better target technical assistance to poor performing MWSCs</p>	<ul style="list-style-type: none"> • HV and municipalities submit projects to EU for financing • Monitoring and benchmarking system is designed and operational • Participating MWSCs analyzed and training tailored. By end of Program, show improvements of MWSCs on indicators above 	<ul style="list-style-type: none"> • Advise government on Water Management Strategy and EU accession • Strengthen Croatia's potential to absorb EU funds in the sector and meet EU criteria. • Improve the performance of MWSCs and learn from each other.
Component 3: Seawater Quality Monitoring		
Seawater quality monitoring system in HV and MEPPPC is improved and expanded to participating cities	<ul style="list-style-type: none"> • Number of participating cities in which seawater quality monitoring system operational and baseline indicators in place prior to completion of construction 	<ul style="list-style-type: none"> • Assess achievement towards Program objective and start measuring environmental impact on bathing waters

Arrangements for results monitoring

85. Data collection will start with sub-project preparation and would continue during project implementation. Participating MWSCs will provide the baseline data and the target estimates as part of the project proposals. HVJP will collect, tabulate, and analyze the data for annual monitoring. Data will be collected on physical and operational progress of each of the subprojects. Targets or plans may change in the course of implementation. Municipal plans for sewerage connections (which are the responsibility of municipalities) should be discussed during sub-project formulation, monitored and evaluated during implementation. Coordination between the participating municipalities and HVJP will be necessary. During project implementation municipalities should report and HVJP should monitor and discuss progress of implementation including sewerage connections. In this way coordination of all the project activities would be ensured.

86. Critical indicators of the current financial and operational situation of the utilities should also be reported in the feasibility studies and tabulated and analyzed by HVJP. This would help set the benchmarks and would be monitored and analyzed during implementation to assess progress on the institutional and operational front. The mid-term review of the project should

include a comprehensive review and analysis of financial and operational situation of utilities to feed into other institutional support envisaged in the Project. Participating utilities should submit their audited or non-audited financial statements for the last 2-3 years. These statements provide the baseline financial data. In APL2, the MWSCs are required to submit their annual financial statements to HVJP for compilation and as part of establishing the benchmarking system. Some MWSCs are not externally audited annually due to their small size, but are internally audited. Other critical data should be requested, such as the number of staff, number of connections, existing non-revenue water, etc.

87. Data will be collected as sub-projects are being developed and annually as they are implemented. Feasibility studies have been prepared and most participating municipalities are identified. Baseline data can be collected and assembled in a database for future monitoring, evaluation and analysis in a specified format. The monitoring indicators, their interpretation and analysis will be included in the progress reports on the project annually. They will be reviewed and their use evaluated during the mid-term review.

Arrangements for results monitoring

	Baseline	Target Values					Data Collection and Reporting		
		YR1	YR2	YR3	YR4	YR5	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection
Program Outcome Indicators									
<ul style="list-style-type: none"> Percentage of samples from bathing areas in participating towns complying with applicable seawater quality standards 	98%					TBD	Annual	Croatian Environment Agency Annual Report on the State of the Environment (class 1 & 2 bathing waters) Water monitoring laboratories.	Water monitoring laboratories, collated by HVJP and MEPPPC
Project Outcome Indicators									
<ul style="list-style-type: none"> % of households in participating cities able to connect to wastewater services⁵ % of wastewater collected that is treated as per applicable legislation⁴ Operating ratio of participating MWSCs⁶ Collection rate of participating MWSCs Debt service ratio of participating MWSCs Reduction in pollution and nutrient load in cities with enhanced nutrient reduction wastewater treatment facilities (BOD, N, P)⁷ Increased knowledge of alternative nutrient reduction wastewater treatment technologies⁸ 	46%					76%	Annual	HVJP monitoring and progress reports Bank Supervision Reports and reviews MWSC financial statements Bench- marking updates Laboratory Sample Reports	HVJP Bank team
	15%					71%			
	1.13					<1			
	86%					>80%			
	TBD					>1.5			
	0%					50%			
	TBD					TBD			

⁵ Table 5 below provides estimate for each sub-project of connection rates and wastewater treatment rates. These figures are an average for the MWSCs currently planned to enter the project.

⁶ The financial ratios for the five sub-projects appraised are used as the baseline; however, once more sub-projects join, this will change. The breakdown per sub-project is in Annex 9.

⁷ Baseline data for nutrient load in 4 sub-projects to be financed with GEF cofinancing will be determined during the EIA. Indicative annual reduction in pollution loads is estimated in Table 20, however, these will need to be confirmed once the FS has been completed and the technology chosen.

⁸ A measurable indicator for knowledge dissemination will be developed by the consultant that will be hired to design the monitoring system

	Baseline	Target Values					Data Collection and Reporting		
		YR1	YR2	YR3	YR4	YR5	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection
Intermediate Outcome Indicators									
Component 1: Wastewater Investments									
<ul style="list-style-type: none"> • # of sub-loan agreements signed in participating cities 	0	5	10	20	25	30	Semi-annual	Progress reports Bank missions	HVJP Bank
<ul style="list-style-type: none"> • Km of wastewater collection systems constructed 	0	0	0	2	10	24			
<ul style="list-style-type: none"> • # of wastewater treatment plants commissioned 				2		4			
<ul style="list-style-type: none"> • # of enhanced nutrient reduction plants commissioned 									
<ul style="list-style-type: none"> • # and length of deep sea outfalls constructed 						TBD			
Component 2: Institutional Strengthening									
<ul style="list-style-type: none"> • HV and municipalities submit projects to EU for financing 						X	Annual	MWSCs Financial Statements Progress reports Bank Missions	HVJP Bank
<ul style="list-style-type: none"> • Monitoring and benchmarking system is designed and operational 			X						
<ul style="list-style-type: none"> • Participating MWSCs analyzed and training tailored. By end of Program, show improvements of MWSCs on indicators 				X					
Component 3: Seawater Quality Monitoring									
<ul style="list-style-type: none"> • Number of participating cities in Program in which seawater quality monitoring system operational and baseline indicators in place prior to completion of construction 	11					37	Annual	Progress Reports Bank Missions	HVJP Bank HV and MEPPPC laboratories

Notes:

- (i) Most baseline indicators are calculated as a simple average of the 5 appraised municipalities. This will change as new municipalities enter the program;
- (ii) Most annual indicators are a cumulative figure of several municipalities and the trend may reflect a deterioration of the collective indicator, but not necessarily individual municipalities/utilities;
- (iii) The project investments reflect an expansion of infrastructure rather than improvements of existing efficiencies. Therefore, improvements, especially in financial indicators are collected for monitoring purposes. TA provided is not sufficient to make considerable difference, nevertheless an improvement due the knowledge acquired (benchmarking) is expected by the end of the project.

TBD (to be determined)

Table 5: Wastewater collection and treatment targets

	Subproject	Population (2001)		% of population able to connect to sewerage		% of wastewater collected that is treated	
		Winter	Summer	Baseline (2008)	End of APL2*	Baseline (2008)	End of APL2*
1	Betina-Murter	2,849	3,200	0%	45%	0%	45%
2	Bol-Brač	1,661	3,086	99%	99%	0%	99%
3	Cres	2,959	5,380	80%	90%	0%	90%
4	Crikvenica	11,348	16,438	71%	80%	71%	80%
5	Dugi Rat	3,507	4,000	10%	65%	10%	65%
6	Hvar	4,048	6,046	93%	97%	0%	97%
7	Korčula	4,834	6,262	45%	70%	0%	70%
8	Krk	5,491	7,979	74%	85%	0%	85%
9	Mali Lošinj	8,388	15,268	80%	90%	0%	90%
10	Malostonski-Duboka Klek-Ston	1,809	2,457	0%	80%	0%	80%
11	Medulin	6,004	11,994	7%	65%	0%	65%
12	Metković	15,151	15,171	40%	70%	0%	70%
13	Mljet	352	568	0%	75%	0%	75%
14	Nin-Privlaka	6,802	8,000	6%	40%	0%	40%
15	Omišalj	1,790	1,988	61%	70%	0%	70%
16	Opatija	25,088	28,123	31%	90%	31%	90%
17	Poreč	18,136	41,800	62%	70%	62%	70%
18	Primošten	2,944	3,200	42%	75%	0%	0%
19	Pula-sjever	58,594	62,984	50%	75%	50%	75%
20	Rab	9,480	15,692	62%	80%	62%	80%
21	Rabac	1,472	4,847	90%	95%	90%	95%
22	Rijeka-Grobnik	12,000	12,000	0%	50%	0%	50%
23	Rovinj	14,234	24,560	63%	85%	63%	85%
24	Sukošan-Bibinje	8,333	9,500	28%	75%	0%	75%
25	Supetar-Brač	4,093	5,084	85%	90%	0%	90%
26	Vela luka	4,401	4,800	0%	75%	0%	0%
27	Vodice	7,855	10,596	30%	70%	0%	70%
28	Zadar-Centre	71,468	77,969	67%	85%	0%	85%
29	Zaton, Rijeka dubrovačka i Elafiti	5,186	7,000	30%	60%	0%	60%
30	Župa dubrovačka	6,150	7,338	60%	80%	0%	80%
	Total / average	326,427	423,330	46%	76%	15%	71%

*end of project targets are estimates

Annex 4: Detailed Project Description
CROATIA: Coastal Cities Pollution Control Project 2

Component 1: Wastewater investments (Euro 112.5 million, of which Euro 54.5 million from IBRD and Euro 3.5 million equivalent (US\$5.6 million) from GEF)

88. *Sub-component 1a: Wastewater investments* to finance the construction and expansion of sewerage networks, main collectors, pumping stations, wastewater treatment plants (WWTP), enhanced treatment WWTPs, and submarine outfalls. Investments will be financed by HV using a combination of loan proceeds, HVs own resources (collected from the water pollution fee), a specific project investment surcharge levied by the MWSCs and targeted subsidies from Government budgetary transfers. GEF resources will be used to finance enhanced nutrient reduction facilities (expanded biological treatment) in WWTPs to be financed out of the loan/government funds in areas of high nutrient load. The GEF investments are detailed in Annex 15.

89. *Sub-component 1b: Engineering design and construction supervision.* This would include the preparation of feasibility studies, EIAs and other documentation necessary to secure location permits and construction permits, detailed design and final bidding documents.

90. APL2 will scale-up the number of cities participating in the project from 11 to 30 using the same financing structure as Phase 1. The list of sub-projects to be financed in the Project is in Table 7 at the end of this annex. Table 7 is based on feasibility studies completed at various times over the past years, and it is assumed that some of investment estimates need updating. Hence the total investment listed is Euro 142 million, out of which HV will select sub-projects for a total investment of Euro 110 million. For appraisal purposes, a sample of the sub-projects to be included in the Project was chosen, and full technical, financial, institutional, social and environmental appraisal were undertaken. The five towns selected were Cres, Hvar, Mali Losinj, Metkovic and Supetar where feasibility studies are well advanced. The full technical appraisal is in the project files. A summary of the investments to be financed, and the costs, is below.

Table 6: Investments in 5 appraised sub-projects

Sub-project	Population equivalent	Sub-project components	Amount (million Euro)
Cres	14,000	Biological WWTP (with enhanced nutrient reduction)	4.3
		<i>Subtotal</i>	<i>4.3</i>
Hvar	21,000	Mechanical WWTP `Hvar` with submarine outfall	2.7
		Sewerage subsystem `Milna`	0.5
		<i>Subtotal</i>	<i>3.2</i>
Mali Losinj	23,000	Mechanical WWTP with submarine outfall	3.3
		Sewers and pumping stations	0.79
		<i>Subtotal</i>	<i>4.09</i>
Metkovic	10,000	Biological WWTP (with enhanced nutrient reduction)	2.18
		Pumping stations `2` and `Metkovic`	0.79
		Sewers	1.63
		Submarine outfall	0.19
		<i>Subtotal</i>	<i>4.79</i>
Supetar	10,000	Mechanical WWTP	1.2
		Submarine outfall	0.55
		Septic tank collection station	0.55
		<i>Subtotal</i>	<i>2.3</i>
TOTAL	78,000		18.68

Component 2: Institutional strengthening (Euro 6.25 million, Euro 3 million from IBRD, Euro 0.25 million equivalent (US\$0.4 million) from GEF)

91. *Sub-component 2a: Sector development and EU accession support.* MRDFWM and HV will implement all activities related to meeting EU directives and absorption of EU funds. To this end, it will implement the Water Management Strategy that involves strengthening of sector institutions and preparing projects. Eligible expenditures for Bank financing include consulting services and equipment for the following:

- Institutional strengthening of HV and MRDFWM to implement the Water Management Strategy;
- Establishment of a monitoring and benchmarking system in HV to monitor MWSC operational, financial and environmental performance;
- Studies to design and implement sludge and septage treatment and disposal; and an
- In-depth study on investment needs and financing plan for meeting EU requirements, including preparation of feasibility studies and bidding documents for projects eligible for EU financing.

92. *Sub-component 2b: Strengthening MWSCs.* Institutional strengthening of MWSCs to improve their financial and operating efficiency. This is expected to include support to improve billing and collection, reduce non-revenue water, leak detection equipment, establish cost centers in multi-service utilities, purchase of equipment for improving the operational efficiency (cleaning of collectors and emptying of septic tanks, etc), cadastral survey of network conditions and establishment of cadastre of pipes, remote sensing software, staff training and other cost efficiency measures. Eligible expenses financed under this component will be included in the

Sub-Loan Agreements and be on-lent with the same financing terms as Component 1. Eligible expenditures would include civil works, equipment, software, training and consulting services.

93. *Sub-component 2c: Project Management.* Support to HVJP to implement the project, including completing the preparation of sub-projects, auditing, training, public information and communication. Eligible expenditures for Bank financing include consulting services and equipment.

Component 3: Seawater quality monitoring (Euro 5.25 million, Euro 2.5 million from IBRD, Euro 0.25 million equivalent (US\$0.4 million) from GEF)

94. Croatia has developed several networks to monitor the quality of wastewater and seawater following the recommendations of the Mediterranean Action Plan, and to fulfill information requirement on quality of coastal waters upon entrance into the EU. The objectives of this component are to improve the coverage of these networks to provide sufficient and adequate information of Croatia's coastal waters and the discharges from wastewaters and to improve the coordination, comparability and the analytical quality of the results. The Phase 1 PAD provides a detailed description of the existing monitoring systems (including the bathing waters quality network, shellfish growing water quality network; coastal waters quality network; wastewater discharges monitoring network; and open sea water qualities network) in order to focus the seawater quality monitoring activities financed by the Project. These systems are also starting to align with EU accession requirements, and EU institutions, and the Project will promote the further coordination with EU institutions.

95. *Sub-component 3a: Strengthening HV monitoring.* This sub-component will continue to support the improvement and expansion of the capacity of the HV monitoring systems to assess the impact of the program on the quality of coastal waters. This component may extend the monitoring activities to include state-of-the-art technologies. Under this sub-component, the enhanced nutrient reduction WWTP (financed out of the GEF co-financing) will be monitored for their impact on the receiving waters, and the impact of each different treatment technology on nutrient reduction. These sites will be compared to four other sites that do not have the nutrient reduction technology as comparator sites for the assessment of impact. The GEF grant would also support specific research, aimed at measuring ecological impacts, and dissemination activities, all incremental over the monitoring and assessment work the Program already supports. Eligible expenditures for Bank financing include equipment, and technical assistance.

96. *Sub-component 3b: Strengthening MEPPPC monitoring.* This component will extend the monitoring activities financed in the first phase to all MWSCs in the second phase, and increase the focus on EU compliance. It was agreed that while monitoring will be an expansion of the first phase, re-bidding will be required given the size of the contract. Eligible expenditures for Bank financing include: equipment and technical assistance.

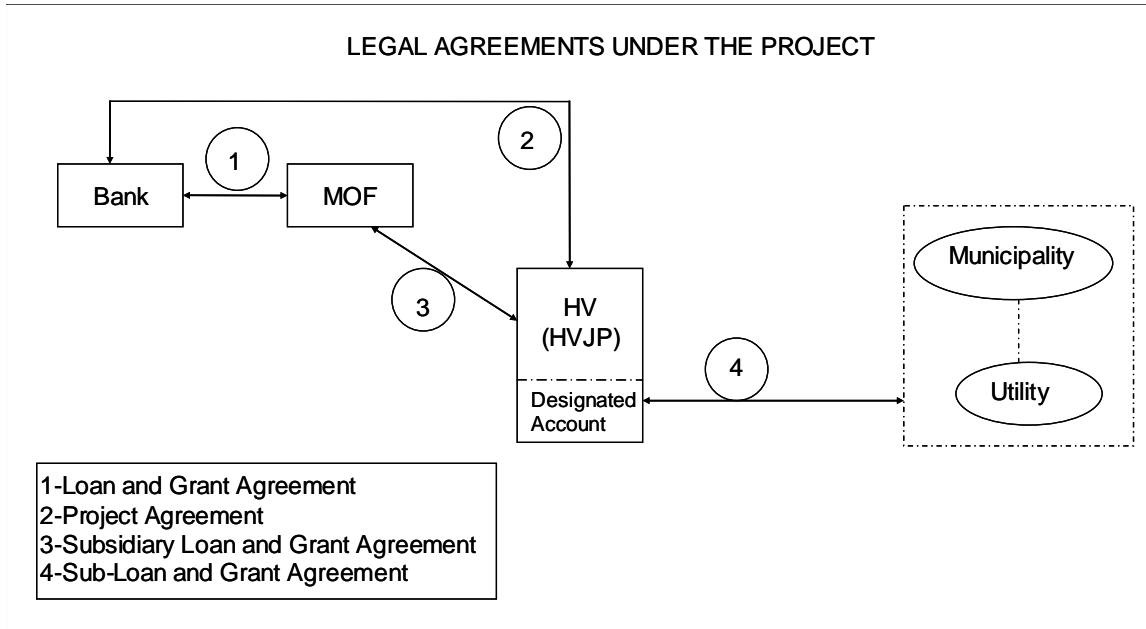
Table 7: Investments in APL2

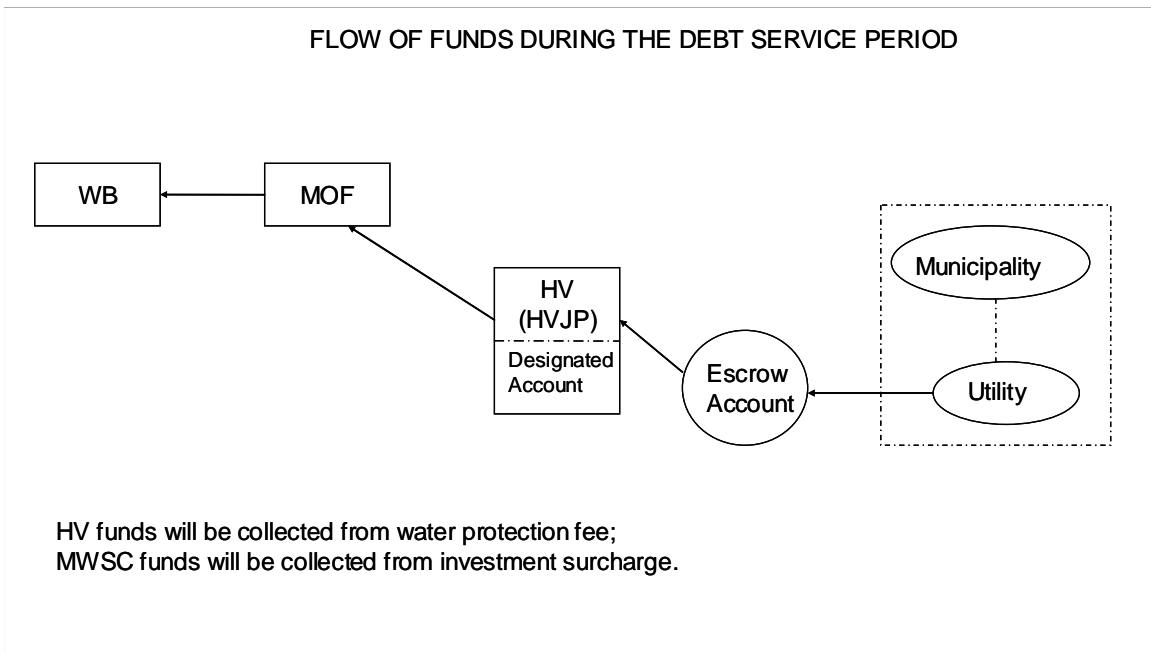
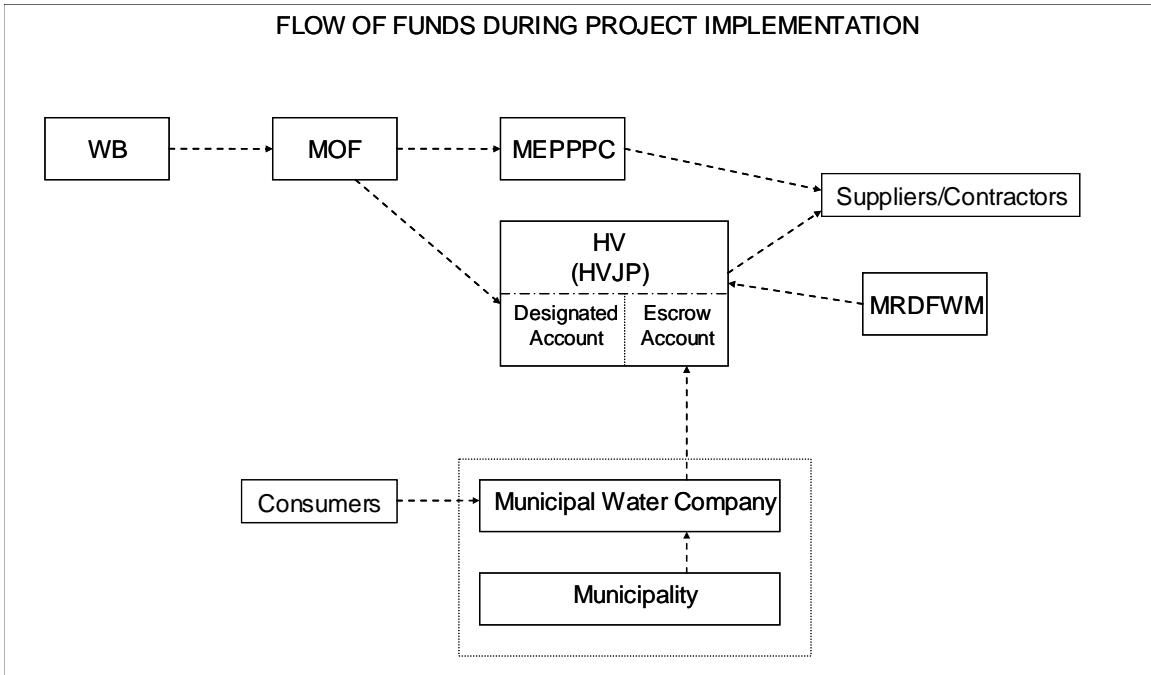
	Subproject	Investments (Euro mln)	Population equivalents (PE)	MWSC (combined water & sewerage or separate)	Sewerage collectors and pumping stations	Submarine outfall	Wastewater treatment plant
1	Betina-Murter	2.26	8,000			Yes	mechanical
2	Bol-Brač	3.07	15,000	S	Yes		mechanical
3	Cres	4.30	14,000	WS-S			biological
4	Crikvenica	3.84	31,000				mechanical
5	Dugi Rat	2.33	9,000		Yes		
6	Hvar	3.22	21,000	S	Yes	Yes	mechanical
7	Korčula	1.79	9,000	S		Yes	mechanical
8	Krk	3.01	23,800			Yes	mechanical
9	Mali Lošinj	4.09	23,000	WS-S	Yes	Yes	mechanical
10	Malostonski-Duboka-Klek-Ston	3.42	5,000		Yes		
11	Medulin	8.22	26,000			Yes	mechanical
12	Metković	4.79	10,000	WS-S	Yes		mechanical
13	Mljet	2.63	1,500		Yes	Yes	mechanical
14	Nin-Privlaka	3.42	10,000		Yes	Yes	mechanical
15	Omišalj	4.25	1,998				mechanical
16	Opatija	4.11	13,200	WS-S			mechanical
17	Poreč	13.70	29,000	S			biological
18	Primošten	2.33	9,000		Yes		
19	Pula-sjever	4.79	62,984	S		Yes	mechanical
20	Rab	9.66	42,000		Yes	Yes	mechanical
21	Rabac	2.74	18,000			Yes	mechanical
22	Rijeka-Grobnik	6.85	13,000	WS-S	Yes		
23	Rovinj	5.41	57,640	S			biological
24	Sukošan-Bibinje	4.11	10,000		Yes	Yes	mechanical
25	Supetar-Brač	2.30	10,000	WS-S		Yes	mechanical
26	Vela luka	1.37	15,000	S	Yes		
27	Vodice	10.96	34,000		Yes	Yes	mechanical
28	Zadar-Centre	5.48	100,000	S	Yes		
29	Zaton, Rijeka dubrovačka i Elafiti	9.59	9,000	WS-S	Yes	Yes	mechanical
30	Župa dubrovačka	4.34	33,300	WS-S	Yes	Yes	mechanical
	Total	142.39	664,422		17	16	3 biological 21 mechanical

Annex 5: Project Costs
CROATIA: Coastal Cities Pollution Control Project 2

Component	IBRD (Euro million)	GEF (Euro million equivalent)	Government (Euro million)	Total (Euro million)
Component 1: Wastewater investments	54.50	3.50	54.50	112.50
1a Wastewater Investments	52.00	3.25	52.00	107.25
1b Engineering design and construction supervision	2.50	0.25	2.50	5.25
Component 2: Institutional Strengthening	3.00	0.25	3.00	6.25
2a Sector development and EU accession support	1.00	0.25	1.00	2.25
2b Strengthening MWSCs	1.00		1.00	2.00
2c Project Management	1.00		1.00	2.00
Component 3: Seawater Quality Monitoring	2.50	0.25	2.50	5.25
3a Strengthening HV monitoring	0.50	0.25	0.50	1.25
3b Strengthening MEPPC monitoring	2.00		2.00	4.00
TOTAL	60.00	4.00	60.00	124.00

Annex 6: Implementation Arrangements
CROATIA: Coastal Cities Pollution Control Project 2





Annex 7: Financial Management and Disbursement Arrangements
CROATIA: Coastal Cities Pollution Control Project 2

97. *Country Issues* The Croatia CFAA report (May 2005) concludes that the level of fiduciary risk to Croatia’s public financial management systems is significant for the legal framework and for the institutional capacity and practices for the core financial control processes such as budgeting, treasury and cash management, accounting, financial reporting, internal control, internal audit, external audit and Parliamentary oversight. Croatia is taking actions to improve the public financial management system. For example, the authorities have, with the help of the European Commission, established internal audit units in all line ministries, central state organizations, and extra-budgetary funds. Their establishment is also underway in local governments. The Law on Financial Management and Control Systems in the Public Sector has been enacted and controllers have been appointed for all line ministries.

98. *Risk Analysis.* The overall financial management risk for the project is substantial before mitigation measures, and with adequate mitigation measures agreed, the financial management residual risk is rated moderate. The table below summarizes the financial management assessment and risk ratings of this project:

Risk	FM Risk	Risk Mitigating Measures	Residual Risk
INHERENT RISKS			
Country level			
Developed Public Financial Management structures.	S	HVJP will maintain financial management system, use private auditors and acceptable commercial bank for designated account.	M
Entity level (HV)			
Project implemented by HV through HVJP. There are many sub-borrowers involved in the projects. Independence of entity’s management, appropriateness of the organizational structure, impact of civil service rules.	S	Procurement will be done by HVJP/PIU which will make payments to suppliers and contractors. Escrow accounts will be (and are already) used to track the debt service deposit of utilities. Any changes to the project financial management staffing in the HVJP will require prior agreement with the Bank.	M
Project level			
Project is medium size and involves multiple beneficiaries.	M	Implementation activities will be monitored during Bank regular supervision missions. HV will prepare the sub-projects with the MWSCs and will have control over the escrow accounts, making payments on behalf of utilities, after making sure that the counterpart funds have been deposited in the right amount.	M
OVERALL INHERENT RISK	S		M

Risk	FM Risk	Risk Mitigating Measures	Residual Risk
CONTROL RISKS			
Budget	M	Budget based on procurement plan agreed with the Bank and subject to HV/HVJP approval together with the entity budget.	M
Accounting	M	Process to be reviewed during regular FM supervision.	M
Internal Controls. Adequate controls over the use of funds by HV and sub-borrowers	S	HVJP/PIU developed an accounting and procedure manual for the project which will be updated as the need arises and as agreed with the Bank. Rigorous assessment and approval process of the investment plans prepared by utilities; centralized procurement and funds transfers; independent supervising engineers to monitor the project implementation and results verification.	M
Funds flow	M	Process part of regular FM supervision. Escrow accounts will be used only for debt service of the utilities.	M
Financial Reporting	S	HVJP/PIU will send semi-annual IFRs to the Bank for review. Any issues will be followed up by the Bank FMS staff.	M
Auditing	S	Annual audit performed by independent auditors acceptable to the Bank and review of audit reports by country FMS.	M
OVERALL CONTROL RISK	S		M
RESIDUAL RISK RATING	S		M

Risk rating: H (High), S (Substantial), M (Modest), N (Negligible or Low)

99. *Strengths.* The significant strengths that provide a basis of reliance on the project's financial management arrangements include:

- (a) The availability of staff at HVJP/PIU with prior experience in the implementation of Bank - financed project (Phase 1);
- (b) Implementing entity (HV) has experience in preparing withdrawal applications, IFRs and annual project financial statements for the previous project; and
- (c) Unqualified audit opinion for the last 3 and 2 years for HV entity financial statements and Phase 1 Project financial statements, respectively.

100. *Weaknesses and Action Plan.* As MEPPPC has a limited FM capacity, HVJP will implement the semi-annual reporting requirements to the Bank and include it in its IFRs. Each of HV and MEPPPC will need to engage one additional staff to be in charge of financial management arrangements of the project: The Bank agreed that engagement of these staff could be done after project initiation given the time lag between procurement action, contract signature and start of payments, recording and reporting.

Actions	Responsibility	Deadline
Engage/assign one additional staff to be in-charge for financial management arrangements of the project, in each of HVJP and MEPPPC	HV/ MEPPPC	December 31, 2008

101. *Project Implementing Entity.* The MoF will be the borrower of the Bank loan and recipient of GEF grant, and will pass on the IBRD loan and GEF grant proceeds to Hrvatske Vode (HV) for all components except Component 3b which is implemented by MEPPPC. HV, through HVJP, will be responsible for the management and implementation of the Project. Funds for Component 3b will be passed directly to MEPPPC. The HVJP would manage and supervise Project implementation, reporting, procurement, and disbursements, in cooperation with the MEPPPC and respective water utilities. It is recommended that HVJP continues with the fiduciary arrangements of Phase 1. The risk associated with implementing entity is moderate after mitigation measures.

102. *Accounting and Staffing.* The project will use existing financial management arrangements in the HVJP used in Phase 1. There are two financial management specialists on the project dealing with disbursement and reporting to the Bank. An additional FM staff member would be engaged/assigned for APL2 in each of HVJP and MEPPPC by December 31, 2008. In the MEPPPC there is one person in-charge of financial management and procurement issues. As the component implemented by MEPPPC is simple and it involves few contracts the project details are kept in excel with separate recording done on the line ministry level and in compliance with the local regulations. The actual overall project accounting and reporting, including the MEPPPC component will be incorporated into the HVJP accounting system. The staff salaries will not be financed from the IBRD loans or GEF grant funds. The risk associated with staffing is assessed as moderate.

103. *Budgeting and Planning.* The project budget is integrated in the Hrvatske Vode (HV) budget for the components under HV control. HV is subject to the state budget law, as it is a second-level budget spender. It has to follow the provisions laid out in the Water Act and the Water Management Financing Act. In addition to the annual approved budget, made public in the Official Gazette, HV prepares a medium-term plan, integrating activities envisaged for the following three years. The budgeting process has a bottom-up approach (integrating proposals from the 33 branch offices) and a top-down approach (annual budget figure for capital expenditure communicated by the MoF via Ministry of Regional Development, Forestry and Water Management). The draft budget proposal, prepared by the technical department of HV is subject to internal analysis and approval from a budgeting committee. Investment proposals and projects financed from foreign loans and grants are given priority. Sources of revenues comprise: charges on water, state budget (for capital expenditure), other sources (loans, grants). The estimation of own sources take into account past year's figures.

104. An internally agreed plan, approved by HV General Manager is submitted to the Management Board (which has seven members appointed by the Government, belonging to different Ministries) and then to Ministry of Finance. After Parliament approval, the final budget is made public in the Official Gazette. The internal plan lays down both financial and physical measures. There is no phasing by month. The annual budget is fixed, in the sense that expenditure cannot exceed the approved figures. The re-allocation between the different budget economic classifications can take place twice a year, integrated in the state budget rectification process. The approved project annual budget is

then entered into the project accounting system and used for periodic comparison with actual results as part of the interim reporting. The process of compiling budget data and approval will continue in the same manner, with detailed budget for the full year of project. *The risk associated with planning and budgeting is assessed as moderate.*

105. *Information Systems*, HVJP uses an ORACLE database, POINT 2000 for accounting purposes. The project expenditure is recorded as a separate division in the accounting software. The software contains different integrated modules: contract monitoring, fixed assets module, bookkeeping, payments. Reports are standard, but specific reports for the project are generated. Reports can be printed or exported in Excel spreadsheets. The software can only record in local currency – HRK. The project interim un-audited financial statements are converted in loan currency manually, in Excel spreadsheets, using the end-month exchange rate of Croatian National Bank – at the date of withdrawal. The accounting system cannot generate automatic IFRs. The recommendation to produce automatic IFRs has been dropped, as it would be very difficult to implement in practice. *The risk associated with information systems is assessed as moderate.*

106. *Accounting Policies and Procedures*. The project financial statements are prepared on a cash basis, i.e. invoices are recognized when received and registered in a document evidence module in the accounting system, and expenditures are recognized only after payment. The reports are in Croatian Kuna. The project will use the existing accounting policies and procedures of HVJP, as described in the financial manual, which was used in Phase 1 and found acceptable to the Bank. The accounting law applicable to HV is the Decree of Accounting for non profit organizations, including Principles on Accounting and Chart of Accounts for non profit organizations. Additional accounting policies to be applied on the project will include the following major assumptions:

- cash accounting as the basis for recording transactions;
- reporting done in Croatian Kuna (HRK);
- consolidated IFRs prepared for all components, including all donors funds; and
- all counterpart funds should be reflected in the financial reports.

107. *Reporting, Internal Controls and Internal Audit*. The HVJP will maintain accounts of the Project and will ensure appropriate accounting of the funds provided. The same formats of the IFRs have been agreed upon as for Phase 1, with the difference that the IFRs will be prepared on a semi-annual basis for APL 2, as opposed to quarterly for Phase 1. IFRs will be prepared for each calendar semester and submitted within one month after the end of the semester. The IFRs will include: Project Sources and Uses of Funds, Uses of Funds by Project Activity, Designated Accounts Statement, and will be presented in HRK, except for Designated Accounts Statements which will be presented in HRK and EUR, and in HRK and USD, for the IBRD loan and GEF trust fund, respectively.

108. HVJP has adequate internal controls for the project, including regular reconciliation of bank accounts, adequate segregation of duties, proper accounting policies and procedures and quarterly reconciliation of disbursement summaries of the

World Bank with project accounting records is performed. There are regular reconciliations in the HVJP: Designated account and escrow accounts reconciliation are performed with every payment, client connection figures are reconciled quarterly with the project accounting records, and IFRs are reconciled with the accounting data quarterly. SOE is prepared in a separate excel file and kept for each beneficiary listing all the payments made, based on bank statements. This file is then used for preparing withdrawals applications and will be reconciled with the accounting records.

109. The IFRs are reconciled quarterly with the trial balance out of which they are prepared, including the relevant bank statements. The reconciliation performed during the mission for end-2007 revealed no discrepancy. As there are many sources of information, it was recommended that HVJP prints and stores all back up documentation (trial balance, bank statements, account statements) for the quarterly IFRs in a file. It is also recommended that the escrow accounts balance in the IFRs is split by sources, for a better presentation and easier reconciliation with the bank statements. These actions have been successfully completed.

110. The accounting software, POINT 2000 has sufficient internal controls such as restricted access to different modules, tracking reports are available on request from the IT department (by request, there is the possibility to see who made changes in the system and what changes have been performed), there is no possibility of going back and altering the initial journal entry (corrections are made only via adjusting journal entries), there is no possibility to go back and make changes on a certain month once the month has been closed in the system (corrections can be made only in the following months). The database is frozen at the end of the year. There is no petty cash under the project. The HVJP Director expenditures are approved by Croatian Waters, based on its regular procedure. There is no payroll on the HVJP books. Staff is on HV payroll system.

111. The project related contracts are approved by both HVJP director and project Financial Officer. HVJP is acting as a commissioner for the beneficiaries, as all goods are delivered directly to the municipal companies. Representatives from HVJP participate at the reception of the products and of civil works, sign the protocol of reception and afterwards invoices are sent to HVJP for approval and payment. For civil works contracts, there is a contract in place with an independent site supervisor. The goods purchased under the project are transferred via a protocol to the project beneficiaries.

112. Following the auditor's recommendation, annexes to the sub-loan agreements with the utilities have been signed at the beginning of the year, regulating the sub-financing and the repayment of sub-loans. In case of municipal company default, the relevant municipality will repay the project debt. Besides the annex to the sub-loan agreement, a pro-memoria has been signed with each MWSC, regulating the content of the general costs of the project and how they are allocated to the final beneficiary. General costs of the project include: advertisements in the official gazette and public media, project presentations, bank charges, and fees for members of the supervisory board, intellectual rights, membership rights to the Chamber of Commerce, cost of office supplies, stationary for HVJP, courier charges, exchange rate differences, and other costs.

113. Quarterly reports on the usage of funds under sub-projects are sent to the municipal companies, including monthly reports with the payments made. Yearly reconciliation with the municipal companies started to be performed as a result of the 2005 audit management letter recommendation. *The risk associated with information systems is assessed as moderate after the risk mitigation measures.*

114. *External Audit.* The audit report for the calendar year 2007 for Phase 1 for components relating to HVJP was submitted to the Bank in time. The audit was conducted by Ernst & Young who gave an unqualified opinion on the project financial statements. Several internal control issues were raised in the management letter, and have already been addressed by HVJP, or an action plan has been developed to address the issues identified in the management letter. The audit of Component 3b (Strengthening of Coastal Water Monitoring Network – the Adriatic Sea monitoring Program) implemented by MEPPPC will be conducted by the same auditor and submitted to the Bank before negotiations. For APL2, HV and the project financial statements (including SOE and DA activities) will be audited by an independent auditor acceptable to the Bank. The terms of reference for the audit have been agreed with the Bank and will be attached to the minutes of negotiation. The audit reports will be delivered to the Bank within six months of the end of each fiscal year. The following chart identifies the audit reports that will be required to be submitted by the project implementation agency together with the due date for submission. In fact, HV is audited under the Inland Waters Project and the same audit report will be used for this project. *The risk associated with external audit is considered moderate.*

<i>Audit Report</i>	<i>Due Date</i>
HV Entity financial statements	Within six months of the end of each fiscal year and also at the closing of the project
Project financial statements (PFS), including SOEs and Special/designated account. The PFSs include sources and uses of funds by category, by components and by all financing sources (IBRD, GEF, HV contribution); SOE statements, Statement of designated account (stated in HRK and USD for the loan and GEF grant respectively), notes to financial statements, and reconciliation statement. The PFS will include all project components implemented by HV and MEPPPC.	Within six months of the end of each fiscal year and also at the closing of the project

115. *Funds Flow and Disbursement Arrangements:* As in Phase 1, IBRD would make funds available to MoF under the Loan Agreement and GEF trust fund grant agreement. MOF will conclude a subsidiary Agreement with HV that will reflect the arrangements within the Government to implement the project. The Bank will conclude a Project Agreements with HV, incorporating both the IBRD loan and the GEF grant for the implementation of the project. Project funds will flow from: (i) the Bank through two Designated Accounts (one account for each IBRD loan and GEF grant funds, respectively), opened by HV, in a commercial bank acceptable to the Bank; and (ii) HV, as counterpart contribution, via its own account. For the MWSC Investment component, payments will be made by HV on behalf of the utilities from the Designated Accounts and from the Treasury Account as counterpart contribution. The HVJP will prepare the

application for withdrawals to be submitted to the Bank and the payment orders for the suppliers, including counterpart contribution. During the debt service period of the Bank loan, escrow accounts will be opened for all utilities involved in the project. Funds will be deposited in the escrow account by the utilities, depending on the level of payments that they have to make to HV under terms and conditions of the Sub-Loan Agreement.

116. Disbursement from the Loan Account and GEF grant will follow the traditional method, either through reimbursement, direct payment to suppliers, issuance of the Bank's Special Commitment, payments from and replenishment of the Designated Account, or the use of Statement of Expenditures (SOEs) with full documentation. Withdrawal applications for the replenishments of the Designated Accounts will be sent to the Bank directly by the HVJP every quarter or when about one-third of the initial deposit in the Designated Account has been utilized, whichever comes first. For the second environmental monitoring component only direct payments as a disbursement method from the loan account and GEF grant would be used. There will be no separate designated account opened for MEPPPC.

117. Supporting documents for SOEs, including completion reports and certificates, will be retained by HVJP and made available to the Bank during project supervision. Disbursements for expenditures above the SOE threshold levels will be made against presentation of full documentation relating to the expenditures. The reimbursement of expenditures made from the Designated Accounts may be made on the basis of certified SOEs, for the following items: (a) contracts for goods valued at less than Euro 400,000; (b) contracts for works valued at less than Euro 1.6 million; and (c) consulting contracts with firms valued at less than Euro 80,000 and with individuals valued at less than Euro 40,000; and training.

118. HV will establish, maintain, and operate two DAs in a commercial bank or financial institution, acceptable to the World Bank. The IBRD account will be denominated in Euro and the GEF DA will be opened in US dollars. The ceiling for the IBRD DA and the GEF DA will be defined in the project disbursement letter. The following disbursement categories will be followed for the project. The disbursement percentages were based on the following principles: (a) for the components to be implemented by the utilities (Component 1), the Value Added Tax will be recovered from the consumers and not financed through the Bank loan. Further, for Components 1 and 2, HV will provide an average of 22% counterpart financing; (b) for the components to be implemented by HV, the Bank will finance 50% of all expenditures under all components. *The risk associated with funds flow and disbursement is considered as moderate after mitigating measures.*

Withdrawal of the Proceeds of the Loan

Category	Amount of the Loan (in Euro million)	% of expenditures to be financed
Goods		
Components 1, 2 and 3a	0.25	50%
Component 3b	0.25	50%
Works	50.50	50%
Consultants' services		
Components 1, 2 and 3a	5.75	50%
Component 3b	1.75	50%
Unallocated	1.50	
Total	60.00	

Withdrawal of the Proceeds of the GEF Grant

Category	Amount of the Grant (in US\$ million)	% of expenditures to be financed
Works under Component 1a of the Project	5.1	20%
Consultants' Services under Components 1, 2a and 3a of the Project	0.8	100%
Unallocated	0.5	
Total	6.4	

119. The GEF will be cofinancing the same contract as those financed by the Bank and government contribution in four sites. The GEF financing percentage is set at up to 20% in order to ensure sufficient counterpart financing. The HVJP will ensure that GEF financing remains sufficient to cover GEF participation in the selected sites and report such financing accordingly in the periodic financial reporting.

120. *Financial Management Conditions and Covenants.* The project implementing entity will continue to maintain a project financial management system acceptable to the Bank. The project financial statements will be audited by independent auditors acceptable to the Bank and on terms of reference acceptable to the Bank. The annual audited statements and audit report will be provided to the Bank within six months of the end of each fiscal year. In addition, HV will also have their financial statements audited by independent auditors and copies of those audits will be provided to the Bank. Semi-annual IFRs will be forwarded to the Bank no later than 30 days after the end of each semester. Also, the audited financial statements for the year ended December 31, 2007 for Phase 1 3b component implemented by MEPPPC were due on June 30, 2008. The MEPPPC audited financial statements were not yet submitted to the Bank. The following represents a condition for negotiations:

Condition	Responsibility	Deadline

Submit audited financial report relating to Phase 1 3b. component (Strengthening of Coastal Water Monitoring Network – the Adriatic Sea monitoring Program) implemented by MEPPPC	MEPPPC	Before negotiations
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121. *Supervision Plan.* The Bank will conduct risk-based financial management supervisions, at appropriate intervals in the following ways: (a) review the project’s quarterly and semi-annual financial reports (for Phase 1 and APL2, respectively), the project’s annual audited financial statements, the auditor’s management letter and remedial actions; and (b) during the Bank’s on-site supervision missions, review the following key areas (i) project accounting and internal control systems; (ii) budgeting and financial planning arrangements; (iii) disbursement management and financial flows, including counterpart funds, as applicable; and (iv) any incidences of corrupt practices involving project resources. As required, a Bank-accredited Financial Management Specialist will assist in the supervision process.

Annex 8: Procurement Arrangements
CROATIA: Coastal Cities Pollution Control Project 2

[updates to come from Toni]

A. General

122. Procurement for the Project would be carried out in accordance with the World Bank's "Guidelines: Procurement under IBRD Loans and IDA Credits" dated May 2004 and revised in October 2006 (Procurement Guidelines); and "Guidelines: Selection and Employment of Consultants by World Bank Borrowers" dated May 2004 and revised in October 2006 (Consultant Guidelines) and the provisions stipulated in the Loan Agreement (LA). The Project will be cofinanced by a GEF Grant Agreement (GA). These procurement arrangements will also apply to GEF funds. The various procurement actions under different expenditure categories are described in general below. For each contract to be financed under the LA or GA, the various procurement or consultant selection methods, estimated costs, prior review requirements, and time frame have been agreed between the Borrower and the Bank in the Procurement Plan (PP). The PP will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

123. *Advertisements.* A General Procurement Notice (GPN) *will be published no later than the first half of November 2008* in DgMarket and UNDB on-line as well as in printed version of UNDB. Specific Procurement Notices (SPN) following the Bank's standard template will be published as the corresponding bid documents become available. SPNs for ICBs and results of contract awards will be published in DgMarket and UNDB and in the local media. SPNs for NCBs and respective results of contract awards will be published in the national gazette as stated in the Public Procurement Law, and on the website of the implementing agency.

124. *Debarments.* The Borrower will respect debarment decisions by the Bank and will exclude debarred firms and individuals from the participation in the competition for Bank-financed contracts. Current listing of such firms and individuals is found at the following web site address: <http://www.worldbank.org/debarr>

125. The Project represents mostly works adding up to about Euro 100 million. These are generally to construct sewerage networks (main, not secondary) and pumping stations, construct, supply and install waste water treatment plants in northern and southern parts of the Croatian coast which were not already covered under Phase 1 or by means of other investments funded by the Government and/or other financiers. The main intended bidding approach is rationalized packaging of works lots within a reasonable distance, and using NCB or ICB according to the estimated cost per contract of works (in the northern part works contracts are mostly procured for the construction and installation of Waste Water Treatment Plants using Supply and Install – Plant and Equipment (SIPE) SBDs).

126. Each year, the list of proposed sites and approval procedure, all feasibility and design studies will be ready in time and produce sufficiently detailed technical

information such that bidding under acceptable levels of risk from the bidders' point of view will be possible. In some locations, it may become necessary to arrange for additional process option studies, investigations and geotechnical analyses to supplement information in the prioritization process, feasibility and design studies. For these reasons, the works program is only detailed with accuracy for the first 18 months. These circumstances will be reflected in the Procurement Plan (PP).

Procurement of Goods:

127. Goods contracts to be procured would include **one** special use vehicle, IT equipment and off-the-shelf software. Procurement will be done using the Bank's SBDG for all ICB procurements, NCB documents satisfactory to the Bank, and the Shopping method for goods estimated to cost less than Euro 70,000 equivalent.

128. *Procurement of Works.* Works procured under this project would include construction of sewerage main networks, of pumping stations, and of waste water treatment plants for a total estimated cost of about Euro 104 million. Procurement will be done using the Bank's applicable SBD for Works (or SIPE for the Construction, Supply and Installation of Waste Water Treatment Plants) for all ICB procurements and NCB documents satisfactory to the Bank. Only rare cases are foreseen for the use of Shopping procedure under this project, for a few contracts estimated to cost less than Euro 70,000 equivalent.

129. *Technical (non-consulting) Services.* A potential need for mapping, topographic and geotechnical services has been identified so far, in a small amount, estimated to cost less than Euro 70,000.

130. *Selection of Consultants.* There will be about 88 procurement actions for consulting services contracts mostly for design and technical supervision of construction supply, of installation and commissioning, and for monitoring of waters, communication; support of training activities, evaluation study, workshops, etc. Short-lists of consultants for services estimated to cost less than US\$200,000 equivalent per contract may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines. Individuals will be selected in accordance with section 5 of the Consultants Guidelines.

131. *Training, study tours and attendance of conferences.* Several such activities are foreseen in the Project.

132. *Operating Costs.* No incremental operating costs (IOC) in support of the day-to-day management of the Project would be financed under the LA.

133. *Manual.* The procurement procedures and SBD to be used for each procurement method, as well as model contracts for works and goods procured will be described in the Project Operations Manual (Volume 2). The model contracts will include environmental management requirements in accordance with the EMP.

B. Assessment of the Agency's capacity to implement procurement

134. The Bank team carried out a short update to assessment of the procurement capacities of HVJP on June 17, 2008. The assessment is based on the experience of Phase 1 which is ongoing. The assessment update has taken into consideration the current capacity of HVJP including a review of the organizational structure of HVJP and the necessary interaction between HVJP staff responsible for procurement and various other departments inside HV, including the respective units for administration and finance. The assessment update led to conclude that: (i) HV, the Project Implementing Entity and a government agency has considerable experience under several Bank-financed projects (ii) HVJP as the PIU has demonstrated a good grasp of procurement concepts and practices in procurement undertaken so far under Phase 1, mostly for works (including construction, supply and installation of waste water treatment plants) and consultants services;; (iii) the procurement team in HVJP had recently lost staff, and new recruitment or assignment of staff is needed; HV management has responded to the Bank's request and assigned 15 staff to HV of which 9 have procurement and engineering responsibilities; and (iv) given the turnover in staff, a number of actions need to be taken by the HVJP agency, focusing on training, in order to be improve the capacity of HVJP to handle the increased procurement transactions under APL2. The actions are described below and are summarized in Table 8.

135. Overall procurement responsibility within the HVJP will be borne by the administrative and procurement unit of the Project "HVJP" led by HVJP Deputy Director who is an engineer experienced in Bank procurement, worked in Phase 1, and managed procurement preparation for the preparation of APL2. APL2 will maintain the same HVJP project management structure as for Phase 1 with headquarters in Zagreb and two field offices in Rijake and Split to cover the northern and southern part of the project area. In Zagreb, in addition to the Project Manager and deputy (both of whom are engineers with experience in procurement), a procurement specialist and lawyer are fully assigned to procurement. Two other technical and legal specialists will be trained. In each of the Split and Rijeka regional offices, three technical/procurement specialists are assigned.

136. To reduce further the procurement risk, a training program for HVJP's procurement staff is designed to strengthen HV staff capacity to assume full responsibility for procurement and supervision of contracts implementation. This program will start in the fourth quarter of 2008.

Table 8: Time-bound Action Plan

Item	Action	Responsibility	Deadline	Actual/Planned
1	Recruit 3 more qualified procurement officers experienced in Bank Work procurements	HVJP	Negotiations	July 24, 2008/ Met
2	First Training session of HVJP procurement unit staff	HVJP/IC	Loan effectiveness	November 2008
First year (implementation)				
3	Second local/or ILO training session	HVJP/ILO/ Consultant	July 2009	1st semester 2009
4	Training in Contract management and supervision	HVJP/ Consultant	December 2008 for first	One per semester

137. The key issues and risks concerning procurement for implementation of the project are summarized below in Table 9 together with measures which aim at mitigating the risks.

Table 9: Summary Risk Assessment

Item	Risk	Risk Mitigation
1	MAIN RISK: HVJP Procurement unit might be initially overwhelmed with the number or size of new consultants and works contracts to procure.	Recruitment before negotiations of qualified additional procurement officers experienced in the procurement of Works under Bank Guidelines. Early training and training by doing. This is now completed.
2	Feasibility and Design studies do not provide all data to permit early drafting of Design bidding documents, and construction/maintenance, documents which could unduly expose contractors to risk	TOR Supervision contract to include additional focus on design parameters for works and SIPE (Waste Water Treatment plants) contracts. Extend contracts for FS consultants in case supervision consultants will produce insufficient data. Add needed field investigations.
3	Clients and Consulting firms do not agree on design parameters and/or measures aimed at controlling time and costs, including operation and maintenance.	Consultant firm organizes briefing workshop for HV and local staff on approach and effective Water Company management, O&M techniques.
4	Start of 2nd phase implementation is delayed	Addressed through (a) increase staffing (see risk #1) and (b) supervision and FS contracts (see risk #2).
5	Implementation requires more time than envisaged	Procurement plan (i) gives priority during the first 12 months to most urgent contracts for which design is ready or is included in PPF consultant's contract; Avoid the category A sites; and (ii) include design support services in Supervision contract.
6	HV could be pressured to select particular sites, outcome of bid evaluations and contract awards.	(i) Discuss anticorruption guidelines with the borrower at technical discussions/negotiations and further at project launch to agree on risk mitigation measures; (ii) Include provisions related to disclosure of conflict of interests, code of ethics for evaluation committee into OM: and include anticorruption guidelines in OM. (iii) prior review by the Bank of all large contracts and first contract with different procurement methods; (iv) post review of a minimum of 1 in 10 procurement actions.

Item	Risk	Risk Mitigation
7	Bidding approach may require experience with large works contracts and ICB/NCB Works bidding documents by the staff of procurement unit (especially new staff).	Early training by Consultant and the World Bank team before Committee presentation. During first year training to be provided by consultants and ILO as part of preparing drafts of first sets of BDs of each type (SIPE, SBDW under ICB/NCB). Further training will be “on-the-job”.

138. The overall Project risk for procurement is rated as “Substantial” with a possibility to be changed to “Moderate” subject to successful implementation of the mitigation measures. The risk will be reassessed after the first year and mitigation measures will be adjusted as appropriate. Bank staff in Washington and Zagreb will maintain close oversight. Prior review of all major contracts in line with the thresholds given in Section F at the end of this Annex will be carried out by the Bank team.

C. Procurement Plan (PP)

139. The HVJP team has developed the procurement plan for project implementation which provides the basis for the procurement methods to be followed. This draft plan will be confirmed during negotiations and will be made available at the HV offices in Zagreb and on the HV web site.⁹ It will also be available on the Bank’s external website (without the estimated costs column). The PP will be updated annually in agreement with the Bank team or as required to reflect actual project implementation needs and improvements in institutional capacity.

D. Frequency of Procurement Supervision

140. In addition to the prior and post review supervision to be carried out by the Bank team, the capacity assessment of the Implementing Agency recommends supervision missions every six months during first year of implementation. Frequency of procurement supervision missions after the first year will be decided on the basis of reassessed risk, and once every subsequent year. Post reviews will be carried out regularly with a minimum sampling of one in ten. Supervision will address, among other aspects, implementation of provisions of the EMP including the extent to which contractors are implementing environmental management actions.

E. Details of the Procurement Arrangements Involving International Competition

141. *Procurement methods and thresholds:* The Loan Agreement will define the procurement methods available for use for various procurement actions. Thresholds for procurement methods and prior review requirements are indicated below on the basis of the Bank’s update of assessment of the capacities of the HVJP agency responsible for procurement. The risks of corruption in the country and the capacities of the manufacturing, construction and consulting industries in Croatia have also been taken into consideration. The PP will specify for each procurement action whether it will be subject to prior or post review.

⁹ Contract cost estimates will not be disclosed to the public.

1. Goods, Works, and Non-Consulting Services

(a) List of contract packages to be procured following ICB and Direct Contracting (DC) (all cost estimates¹⁰ are in million Euro equivalent):

1	2	3	4	5	6	7	8	9	10	11	12
Ref	Description of Contract	Est. Cost	Proc. Meth	P-Q Y/N	Dom. Pref	Prior Review	Bid Document submitted to the Bank	Bid Invitation	Bid Evaluation Report submitted to Bank	Contract signing	Contract completion
	<i>Civil Works</i>										
1	Design and construction of WWTP, Cres	4.50	ICB	No	No	Yes	Dec. 2009	Jan 2010	Mar 2010	Mar 2010	June 2011
2	Design and construction of WWTP, Rovinj Kuvi	4.0	ICB	No	No	Yes	June 2010	June 2010	Aug 2010	Aug 2010	Nov 2011
3	Design and construction of WWTP, Mali Losink – Kijac	3.24	NCB	No	No	Yes	Oct 2009	Oct 2009	Dec 2009	Jan 2010	Feb 2011
	<i>Goods</i>										
4	Procurement of IT Equipment	0.5	ICB	No	No	Yes	Feb 2009	Feb 2009	April 2009	May 09	Dec 2009
5	Procurement of sewer cleaning truck	0.4	NCB	No	No	Yes	Apr 2009	Apr 2009	June 2009	July 09	Oct 2009

(b) All ICB and DC contracts, if any, will be subject to prior review by the Bank.

¹⁰ All cost estimates will be removed before dissemination to the public

2. Consulting Services

(a) List of consulting assignments subject to prior review. Amounts are shown in thousand Euros.

1	2	3	4	5	6	7	8	9	10	11
Ref	Description of Assignment	Est Cost	Sel. Meth	Prior Review	Advertise of EOI	RFP submitted to the Bank	Proposal Submission	Technical evaluation report to the Bank	Contract signing	Contract completion
1	Construction supervision of WWTP Cres	109	QCBS	Yes	Aug 2009	Nov 2009	Feb 2010	Mar 2010	May 2010	Sep 2011
2	Construction supervision of WWTP, Porec – Lanterna	108.7	QCBS	Yes	Jan 2010	Mar 2010	Jun 2010	Jul 2010	Aug 2010	Oct 2011
3	Construction supervision of WWTP, Kuvi – Ruvinj	136.4	QCBS	Yes	Nov 2009	Jan 2010	Apr 2010	May 2010	Jun 2010	Dec 2011
4	Construction supervision of WWTP, Mlina – Hvar, submarine outlet and main collectors	109.1	QCBS	Yes	Sep 2010	Nov 2010	Jan 2011	Feb 2011	Apr 2011	May 2012
5	Construction supervision of main pipelines and pump stations, Bibinje	136.4	QCBS	Yes	Jun 2010	Aug 2010	Oct 2010	Nov 2010	Jan 2011	May 2012
6	Construction supervision of main pipelines and pump stations, Sukosan, Velaluka	136.4	QCBS	Yes	Jan 2009	Feb 2009	Apr 2009	May 2009	Jul 2009	May 2011
7	Construction supervision of main pipelines and pump stations, Vodice – Srima	163.7	QCBS	Yes	Aug 2010	Sep 2010	Nov 2010	Dec 2010	Jan 2011	May 2012
8	Study on the technical optimization of municipalities	450	QCBS	Yes	Feb 2010	Mar 2010	May 2010	Jun 2010	Aug 2010	Nov 2011
9	Study for Institutional framework for water tightness tests for existing and new pipelines	200	QCBS	Yes	Jun 2009	Jul 2009	Sep 2009	Dec 2009	Feb 2010	Nov 2011
10	Study on institutional strengthening of HV and MWWC operational, financial and environmental performance	350	QCBS	Yes	Oct 2009	Nov 2009	Jan 2010	Feb 2010	Mar 2010	Nov 2011

1	2	3	4	5	6	7	8	9	10	11
Ref	Description of Assignment	Est Cost	Sel. Meth	Prior Review	Advertise of EOI	RFP submitted to the Bank	Proposal Submission	Technical evaluation report to the Bank	Contract signing	Contract completion
11	Study to plan, coordinate and monitor sludge treatment and waste disposal	500	QCBS	Yes	Sep 2009	Oct 2009	Dec 2009	Jan 2010	Feb 2010	Nov 2011
12	Study on investment needs and financing plan to meet EU requirements	400	QCBS	Yes	Mar 2010	Apr 2010	Jun 2010	Jul 2010	Aug 2010	Nov 2011
13	Technical assistance for cadastre works for installations in Jacanje (2 contracts)	800	QCBS	Yes	Sep 2009	Oct 2009	Dec 2009	Jan 2010	Mar 2010	Nov 2011
14	Study on water tightness tests for existing pipelines and defining system losses	150	QCBS	Yes	Nov 2009	Dec 2009	Feb 2010	Mar 2010	May 2010	Nov 2011
15	Technical assistance for maintenance team of waste water treatment plants	150	QCBS	Yes	Nov 2009	Dec 2009	Feb 2010	Mar 2010	May 2010	Nov 2011
16	Professional revision of main designs of WWTPs , Northern coastal area (3 contracts)	300	QCBS	Yes	Feb 2009	Mar 2009	Apr 2009	May 2009	June 2009	Jun 2011
17	Professional revision of main designs of WWTPs , Southern coastal area (3contracts)	300	QCBS	Yes	Feb 2009	Mar 2009	Apr 2009	May 2009	Jun 2009	Jun 2011
18	Media Coverage	500	QCBS	Yes	Feb 2009	Mar 2009	Apr 2009	May 2009	Jul 2009	Nov 2012
19	Preparation of project bidding documents	200	QCBS	Yes	Feb 2009	Mar 2009	Apr 2009	May 2009	Jul 2009	Jun 2011

- (b) Consultancy services estimated to cost above Euro 100,000 per contract for firms, Euro 50,000 for individuals and all single source selection of consultants (firms and individuals), if any, will be subject to prior review by the Bank.
- (c) Short lists of consultants assignments estimated to cost less than the equivalent of US\$200,000 per contract may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.

3. Retroactive Financing

142. Two contracts are foreseen to be financed under the retroactive financing procedure: consultant services contract for monitoring, estimated to cost Euro _____ *(to be discussed and agreed during negotiations)*, and one contract for the construction, supply and installation of a Waste Water Treatment Plant, estimated to cost Euro _____ *(to be discussed and agreed during negotiations)*. The procurement would be carried out by HVJP according to procedures complying with World Bank Guidelines in both cases (QCBS and ICB).

F. Procurement and Prior Review thresholds:

143. The following thresholds for prior review apply for the first year (since the thresholds were agreed in Euros in the legal agreements for Phase 1, thresholds are hereafter proposed in Euros, for consistency):

- (a) *Goods*: The following contracts are subject to the Bank's prior review as set forth in paragraphs 2 and 3 of Appendix 1 to the Guidelines:
 - 1. ICB: all contracts regardless of value
 - 2. NCB: the first contract regardless of value as well as all contracts estimated to cost the equivalent of Euro 400,000 or more
 - 3. Shopping: the first contract and contracts estimated to cost the equivalent of Euro 50,000 or more.
- (b) *Works*: The following contracts are subject to the Bank's prior review as set forth in paragraphs 2 and 3 of Appendix 1 to the Guidelines:
 - 1. ICB: all contracts regardless of value
 - 2. NCB: the first contract regardless of value as well as all contracts estimated to cost the equivalent of Euro 1,600,000 or more
 - 3. Shopping: the first contracts.
- (c) *Consulting Services*: Contracts for services with firms estimated to cost the equivalent of Euro 100,000 or more and contracts with individuals estimated at Euro 50,000 or more as set forth in paragraphs 2 and 3 of Appendix 1 to the Guidelines. CQS may be used for contracts estimated to cost less than the equivalent of Euro 130,000.
- (d) *Training*: For all training events and activities estimated at Euro 50,000 or more, criteria for selection of trainees and training institutions as well as arrangements for the conduct of training will be given prior review.
- (e) All other contracts are subject to post review; to be reviewed in a ratio of one contract in ten.

**Table 10: Summary of Procurement and initial Prior Review Thresholds
(all amounts in Euro)**

Expense Category	Method	Procurement Threshold (in Thousand Euro)	Prior Review Thresholds (in Thousands Euros)
1. Goods	ICB	NA	All contracts
	NCB	< 800	First contract and all > 400
	SH	< 70	First contract and all >50
	DC	NA	All contracts
2. Works	ICB	NA	All contracts
	NCB	< 4,000	First contract and all > 1,600
	SH	< 70	First contract
	DC	NA	All contracts
3. Consulting Services – firms	QCBS	NA	All contracts > 100
	QBS	NA	All contracts > 100
	FBS	NA	All contracts > 100
	LCS	NA	All contracts > 100
	CQS	< 130	All contracts > 100
	SSS	NA	All contracts
3. Consulting Services – individuals	IC	NA	First contract and all contracts > 50 as well as all sole source contracts
4. Training	AP	NA	All events and activities > 50

Annex 9: Economic and Financial Analysis
CROATIA: Coastal Cities Pollution Control Project 2

Financial Analysis

144. The annual nominal financial flows were estimated over 20 years, using the weighted average cost of capital of 5% as the discount rate, taking into consideration the project design and different sources of financing. The financial flows on the revenue side include revenues from the investment surcharge, incremental revenues from increased tariffs, and net residual value of newly constructed assets. On the expenditure side, costs of investments and operation and maintenance are included. The results summarized below show that financial rates of return will be low, which is not surprising given the nature of wastewater treatment plants, the small size of the investments with low economies of scale, and the emphasis on gradual cost recovery rather than increased profit in the financial arrangements:

Sub-Project	Financial NPV and FRR (5%)	
	NPV ('000 HRK)	FRR
Cres	1468	6%
Mali Losinj	2229	6%
Hvar	762	6%
Supetar	687	6%
Metkovic	340	5%

145. *Key parameters.* Investment costs are derived from the technical feasibility studies, undertaken as part of project preparation. The costs and sources of financing are in line with the financing arrangements of the entire program. The table below presents the investment costs and sources of financing for the five subprojects.

Table 11: Investment Costs and Sources of Financing (HRK '000)

Company	Investment Cost	WB loan	MRDFWM	HV	MWSC	Municipality	Surcharge (kn/m ³)
Supetar	18,000	9,000	4,320	1,620	3,042	18	1.69
Cres	33,600	16,800	8,064	2,422	6,313	15	2.34
Hvar	23,500	11,750	5,640	1,215	3,350	1,545	2.48
Mali Losinj	31,200	15,600	7,488	2,257	5,854	32	2.33
Metkovic	39,000	19,500	9,360	3,190	6,912	38	1.95

146. *O&M Costs and debt servicing.* The operation & maintenance costs for the sub-projects are based on typical O&M cost as a percentage of the investments i.e. 1% annually for civil works and 2.5% annually for energy and maintenance works. The Bank loan is serviced by the MWSC (from the surcharge) and by HV, in proportion to their shares of the loan.

147. *Revenues.* The projected revenues are derived on the basis of the (i) proposed investment surcharges during construction, and (ii) the tariff increases once the systems

are operational, to cover the increased costs of operation and maintenance. The investment surcharges cover the MWSC's share of financing during construction and the debt service, at levels presented in the table above. The tariff increases required to cover the increased operation and maintenance costs are: HRK 0.4/m³ for Supetar/Brac, 2.70 for Cres, 0.80 for Hvar, 1.50 for Mali Losinj and 2.70 for Metkovic, levied once construction is completed (assumed to be 2013). Through the sub-loan agreements, HVJP will ensure that the tariffs are increased in a timely manner, within socially affordable levels, to meet the increased operating and maintenance costs

148. Other assumptions include: (i) 3% increase in costs in line with the historic inflation rate in Croatia, and (ii) increase of wastewater collection according to project design, i.e. Cres 80-90%, Hvar 93-97%, Mali Losinj 80-90%, Metkovic 40-70% and Supetar 85-90%.

149. For each sub-project, HVJP will conduct a financial analysis, based on the model that has already been prepared. HVJP will use this model to confirm that the introduced surcharges will be sufficient to cover the debt service of each sub-project, and also calculate the required tariff increase to fully cover O&M cost .

150. *Financial Assessment of Utility Companies* The MWSCs appraised receive government subsidies in order for them to break even or make a small profit. Three out of four of them provide multiple municipal services, and sometimes do not have cost centers. Subsidies are expected to be the norm for the project and for small sized municipalities. While MWSCs are generally well managed, attention to financial management would improve their operations. Overall, municipalities ensure the financial sustainability through contributions to capital and operational costs. The current summary financial position of the companies is presented in the table below.

Table 12: Current Financial Situation of Utility Companies

Profit & Loss statements 2007	MWSC Cres-Mali Losinj	MWSC Brac	MWSC Hvar	MWSC Metkovic
A) Total Revenues	35,929,138	15,427,310	11,293,387	11,893,486
1. Revenues from sale	31,444,343	14,836,281	11,155,665	11,887,375
out of which revenues from subsidies/ settlements	3,729,473	1,395,925	2,395,333	0
2. Extraordinary Revenues	3,729,473	5,206	100,000	0
3. Financial Revenues	794,782	585,823	37,722	6,111
B) Total Expenditures	34,897,402	15,148,025	11,210,635	11,745,233
1. Business Expenditures	34,233,169	14,677,665	10,963,945	11,475,305
out of which Personnel costs	14,321,505	3,868,619	4,365,307	4,439,937
out of which Depreciation	6,763,505	4,604,574	2,728,519	1,466,405
2. Extraordinary Expenditures	0	20,621	106,198	0
3. Financial Expenditures	664,239	449,739	140,492	269,928
C) Profit before Tax	1,031,736	279,285	82,752	148,253
D) Losses before Tax	0	0	0	0
E) Profit Tax	0	55,857	54,570	38,091
F) Profit after Tax	1,031,736	223,428	28,182	110,162
G) Loss after Tax	0	0	0	0

151. *Cres and Mali Losinj.* The company Vodovod i Cistoca Cres-Mali Losinj provides multiple utility services to the population of Cres and Losinj: water supply and sewerage, solid waste management, street cleaning and park maintenance, cemetery

maintenance, operation of a small market place, beach cleaning in summer period, and technical inspection of vehicles. Vodovod i Cistoca Cres – Mali Losinj registered a net profit of HRK 1 million in 2007, which is a 23% increase compared to the year before. However, this is mainly due to an increase in extraordinary revenues and revenues from subsidies and settlements. The cost structure remained largely the same as in 2006 but total expenditure increased slightly by 4%, mostly due to higher salaries and depreciation.

152. *Supetar*. The municipal company Vodovod Brac provides water supply and sewerage services to the population of the Brac island. Supetar is one of seven municipalities shareholders in equal shares of 12.5% in the utility company (Supetar, Bol, Nerezisca, Postira, Pucisca, Selca, Pucisce); two municipalities (Milna and Sutivan) jointly hold 12.5%. In 2007, the company's net profit more than doubled, compared to 2006, due to increases in revenues from subsidies and sales. Total expenditures increased also by one-fourth..

153. *Hvar*. The company Komunalno Hvar, provides the following services for the town of Hvar: sewerage, solid waste management, street cleaning and park maintenance, cemetery maintenance, operation of a small market place, and street lighting. The company's sole owner is the City of Hvar. Water supply services on the island of Hvar are provided by the company Hvarski Vodovod. The net profit of the utility Komunalno Hvar decreased by over 90% in 2007, due increased expenditures of staff salaries and energy costs. However, the company continues to operate with a profit, and the same is expected in 2008.

154. *Metkovic*. The utility company Metkovic d.o.o. provides the following services to the population of Metkovic: water supply and sewerage, solid waste management, street cleaning and park maintenance, cemetery maintenance, operation of a market place and some construction works. The company's supply area covers the town of Metkovic and two neighboring settlements. The company's operations in 2007 were about 1% of revenues.

155. *Financial Requirements*. The baseline data for the four companies are presented in the table below. HVJP will continue to monitor these indicators for all participating companies throughout the project. HV will monitor MWSC operations and they are expected to improve their basic financial indicators by the end of the project. Based on the official financial statements of the utility companies, three indicators will be monitored.

- operating ratio (operating expenditures/operating revenues);
- debt service coverage ratio (operating cash flow/ total loan service payments);
- collection ratio (annually invoiced/collected).

Table 13: Baseline data for Four Companies

Financial ratios	Cres-Mali Losin	Brac	Hvar	Metkovic	Average	Benchmark
Operating ratio	1.09	1.13	1.32	0.99	1.13	0.9
Collection rate	88%	98%	79%	79%	86%	85%
Debt service coverage ratio						<1

Economic analysis

156. *Summary of costs and benefits.* The project is located in one of the most attractive and growing tourism regions in Central Europe. The project is expected to have significant economic benefits due the positive environmental impact on the quality of the bathing water, and resultant impact on the number of tourists, tourism revenues and increase in land value, in addition to the incremental financial benefits, and the savings in the costs of emptying septic tanks. Preliminary analysis was undertaken for the sub-projects appraised based on EU guidelines that include benefits to the environment, health, convenience, increases to real estate costs, improvement to tourism amongst others. However, no reliable data was available for these small towns, and further indepth studies would be needed to verify the assumptions. Tourism contributes about 25% to Croatia's GDP. This figure is expected to range from 50% to 75% in the project area along the Adriatic coast. However, lack of reliable data does not allow for a reliable estimate of the contribution of wastewater treatment to tourism improvements. The main economic benefits for the project that are directly related to the objective of the project/program are: (i) improvements in tourism; and (ii) support to EU accession. Croatia's strategic goal of joining the EU is a national priority.

157. *Fiscal impact.* The project entails a fiscal cost as it entails direct contributions from Central Government through HVs to MWSCs. The total fiscal cost estimated for APL2 coming from budget allocations to MRDFWM is Euro 24.4 million, or on average, Euro 6.1 million over the four years of implementation. While this is a sizable impact on the national budget, the fiscal impact is mitigated by two important factor: (i) these investments are all required by Croatia to meet EU accession agreements, therefore they would need to be financed in the time table agreed; (ii) the Project will support the preparation of projects for grant financing by the EU structural and cohesion funds that could finance some of the investments needed; and (iii) as the Project has a much higher level of user financing, government budgetary sources are used efficiently.

158. An independent assessment undertaken during Phase 1 of the Program concluded that the Project performed well in ensuring that scarce public subsidies (in the form of contributions from the Ministry of Finance) have been used to good effect in making possible an almost double wastewater investment volume.

Table 14: Indicative long-list of sub-projects in APL2 and financing plan

	Sub-project	Estimated		Financing during construction period						Repayment					
		EUR million	HRK million	Bank	MRDFWM	HV		MWSC	Investment surcharge applied to tariff (HRK/m3)	HV portion (HRK/m3)	MWSC portion (HRK/m3)				
				50%	10%-31%	3%-15%		11%-37%	100%	17%-57%	43%-83%				
<i>Northern Adriatic</i>															
1	Brijuni	1.99	14.50	7.3	3.5	24%	3.3	23%	0.4	3%	39.2	35.2	90%	4.0	10%
2	Cres (GEF)	4.30	33.60	16.8	8.1	24%	2.4	7%	6.3	19%	3.2	0.9	28%	2.3	72%
3	Crikvenica	3.84	28.00	14.0	2.8	10%	1.1	4%	10.1	36%	2.3	0.9	39%	1.4	61%
4	Krk	3.01	22.00	11.0	5.3	24%	1.1	5%	4.6	21%	3.1	0.9	29%	2.2	71%
5	Mali Lošinj	4.09	31.20	15.6	7.5	24%	2.3	7%	5.9	19%	3.2	0.9	28%	2.3	72%
6	Malinska-Njivice	4.25	31.00	15.5	7.4	24%	0.9	3%	7.1	23%	4.6	0.9	20%	3.7	80%
7	Medulin	8.22	60.00	30.0	14.4	24%	3.6	6%	12.0	20%	3.9	0.9	23%	3.0	77%
8	Novi Vinodolski	4.11	30.00	15.0	3.0	10%	0.3	1%	11.7	39%	4.7	0.9	19%	3.8	81%
9	Omišalj	4.25	31.00	15.5	7.4	24%	6.2	20%	1.9	6%	17.4	13.4	77%	4.0	23%
10	Opatija	4.11	30.00	15.0	7.2	24%	4.2	14%	3.6	12%	1.2	0.5	42%	0.7	58%
11	Općina Vinodolska	0.96	7.00	3.5	1.7	24%	0.3	4%	1.5	22%	4.5	0.9	20%	3.6	80%
12	Poreč	13.70	100.00	50.0	10.0	10%	3.2	3%	36.8	37%	3.6	0.5	14%	3.1	86%
14	Pula-sjever	5.55	40.50	20.3	4.1	10%	5.2	13%	11.0	27%	0.73	0.36	49%	0.36	49%
15	Rab	9.66	70.50	35.3	16.9	24%	2.1	3%	16.2	23%	5.0	0.9	18%	4.1	82%
16	Rabac	2.74	20.00	10.0	4.8	24%	0.4	2%	4.8	24%	4.6	0.9	20%	3.7	80%
17	Rijeka-Grobnik	14.59	106.50	53.3	25.6	24%	14.9	14%	12.8	12%	1.0	0.5	50%	0.5	50%
18	Rovinj	5.41	39.50	19.8	9.5	24%	1.6	4%	8.7	22%	1.9	0.5	26%	1.4	74%
	Subtotal		695.30												
<i>Southern Adriatic</i>															
19	Betina-Murter	2.26	16.50	8.3	4.0	24%	0.7	4%	3.6	22%	4.4	0.9	20%	3.5	80%
20	Bol-Brač	3.07	22.40	11.2	6.9	31%	1.5	7%	2.7	12%	3.41	0.9	26%	2.51	74%
21	Dugi Rat	2.33	17.00	8.5	4.1	24%	0.3	2%	4.1	24%	3.0	0.5	17%	2.5	83%
22	Gradac	2.05	15.00	7.5	3.6	24%	1.1	7%	2.9	19%	4.9	0.9	18%	4.0	82%
23	Hvar	3.22	23.50	11.8	5.6	24%	1.2	5%	4.9	21%	3.38	0.9	27%	2.48	73%
24	Korčula	1.79	13.10	6.6	3.1	24%	2.5	19%	0.9	7%	2.4	0.9	38%	1.5	63%
25	Lumbarda	1.37	10.00	5.0	2.4	24%	0.7	7%	1.9	19%	3.2	0.9	28%	2.3	72%
26	Makarska	2.74	20.00	10.0	2.0	10%	0.8	4%	7.2	36%	1.1	0.2	18%	0.9	82%
27	Malostonski-Duboka-Klek-Ston	3.84	28.00	14.0	6.7	24%	4.2	15%	3.1	11%	7.4	3.4	46%	4.0	54%
28	Metković	4.79	39.00	19.5	9.4	24%	3.2	8%	7.0	18%	2.85	0.90	32%	1.95	68%
29	Mljet	2.63	19.20	9.6	4.6	24%	1.0	5%	4.0	21%	37.4	33.4	89%	4.0	11%
30	Nin-Privlaka	3.42	25.00	12.5	6.0	24%	1.3	5%	5.3	21%	4.6	0.9	20%	3.7	80%
31	Opuzen	0.96	7.00	3.5	1.7	24%	0.2	3%	1.6	23%	2.2	0.2	9%	2.0	91%
32	Orebić	1.37	10.00	5.0	3.7	37%	1.1	11%	0.2	2%	3.2	0.9	28%	2.3	72%
33	Pirovac-Tisno	3.42	25.00	12.5	6.0	24%	1.3	5%	5.3	21%	4.6	0.9	20%	3.7	80%
34	Ploče	3.42	25.00	12.5	6.0	24%	1.8	7%	4.8	19%	3.2	0.9	28%	2.3	72%
35	Primošten	2.33	17.00	8.5	4.1	24%	0.9	5%	3.6	21%	4.8	0.9	19%	3.9	81%
36	Sukošan-Bibinje	4.11	30.00	15.0	7.2	24%	1.5	5%	6.3	21%	4.9	0.9	18%	4.0	82%
37	Supetar-Brač	2.30	18.00	9.0	4.3	24%	1.6	9%	3.1	17%	2.6	0.9	35%	1.7	65%
38	Vela luka	1.37	10.00	5.0	2.4	24%	1.1	11%	1.5	15%	6.9	2.9	42%	4.0	58%
39	Vodice	10.96	80.00	40.0	19.2	24%	4.0	5%	16.8	21%	4.9	0.9	18%	4.0	82%
40	Zadar-Centre	5.48	40.00	20.0	9.6	24%	3.2	8%	7.2	18%	0.5	0.2	40%	0.3	60%
41	Zaton, Rijeka dubrovačka i Elafiti	9.59	70.00	35.0	16.8	24%	5.6	8%	12.6	18%	1.0	0.5	50%	0.5	50%
42	Zupa dubrovačka	4.34	31.70	15.9	7.6	24%	2.9	9%	5.4	17%	2.7	0.9	33%	1.8	67%
	Subtotal		612.40												
	TOTAL/AVE.	177.93	1,307.70	653.85	286.13	22%	96.56	7%	271.25	21%	223.72	115.66	52%	108.05	48%
	TOTAL/EURO		179.14	89.57	39.20		13.23		37.16		30.65	15.84		14.80	

Annex 10: Safeguard Policy Issues
CROATIA: Coastal Cities Pollution Control Project 2

Environmental Safeguards

159. In Phase 1, an Operations Manual was prepared to address all environmental issues. EIAs for all eleven projects in Phase 1 were publicly disclosed. Triggers for APL2 were achieved by negotiations. The triggers included: (a) setting baseline for wastewater discharges for the 11 municipalities participating in Phase 1; (b) determining the sensitive and less sensitive areas in the Adriatic Sea; and (c) preparing a Strategic Environmental Assessment that deals with the regional cumulative effect of the waste water discharges. The SEA was submitted, and contains valuable data. For completion, it will be followed up during APL2 for completion, particularly on the summary results of the cumulative effects of the submarine outfalls.

160. The Project triggers OP/BP 4.01, Environmental Assessment safeguard policy. To minimize and address safeguard-related impacts, the borrower has updated the Operations Manual, i.e. Environmental Framework (EF) for APL2. The EF is a tool used to ensure that the proposed investments implemented through the project comply with existing environmental protection laws, regulations, and standards in Croatia, and with World Bank Operation Policies and Practices. The EF calls for preparation and implementation of EIA with an EMP for each sub project, i.e. wastewater treatment plants.

161. During project preparation of Phase 1 and APL2, stakeholders, including local and national NGOs, were involved in local level community meetings. The key stakeholders are the citizens of the municipalities to be serviced by project- new sewerage and waste water treatment plants. The EIAs for all sub projects in Phase 1, except for two, have been discussed during project preparation and each municipality has conducted a public discussion of the EA according to the EF and Croatian legislation. The EIAs and EMPs have been publicly disclosed. For APL2, the EF and EMP for Vodice waste water treatment plant and three EIAs executive summaries were publicly disclosed on July 9, 2008.

162. The Project is expected to generate significant positive environmental benefits by improving collection of wastewater and introducing waste water treatment systems into participating municipalities. Project-financed activities will reduce environmental degradation related to inadequate wastewater management through the following: (a) increase sewerage network for waste water collection which would reduce number of septic tanks often leaking into karst area and not properly managed; (b) improve the quality of the waste water discharges by introducing primary and/or advanced treatment; and (c) reduce direct waste water discharges into the coastal waters, waterways and beaches by constructing outfalls from the waste water treatment plants.

163. As with operation and construction of any wastewater treatment plant, potential negative impacts include air, soil and water pollution associated with the following: (a) construction/rehabilitation, (b) treatment of wastewaters, (c) management of waste sludge from the treatment plant, (d) operations, and (e) decommissioning. The following impacts are to be especially considered: odors, noise, spreading of insects, exploitation of the sea and seacoast, potential

changes in flora and fauna, decline in land value, disposal of waste from the plant. To mitigate environmental impacts, the borrower will prepare and implement EIAs with the EMPs for each new wastewater treatment plant. All documents will be publicly disclosed and discussed before commencing construction works as defined in the Environmental Framework. The borrower will use the best technical practices for waste water treatment plants.

164. Mitigations plans and monitoring programs are to be prepared in the form of the EMP for each sub project as defined through the EF. The mitigation measures and monitoring programs will be part of the Decision of the MEPPPC on EIA and as such become legally binding. In addition, the Project will support a strong environmental monitoring program within HV and MEPPPC. A sub-component for financing monitoring programs, equipment, services and training has been designed in Phase 1 to ensure that the program outlined in the EIAs/EMPs in APL2 is successfully implemented on the whole Adriatic. The environmental monitoring conducted as part of Component 3 will help Croatia to approximate its monitoring program to EU. The scope of the monitoring will be determined later on during the project implementation. However it should focus on the following: wastewater discharged from public sewerage system; impact of wastewater discharged from public sewerage systems on the quality of the sea water; quality; sediment; biota; status of biological communities; industrial wastewater; and impact of industrial wastewater on the quality of the sea. The results of water quality monitoring will be included in annual reports. Project semi-annual progress reports will indicate results of monitoring of amounts of wastewater discharge/effluent by level of treatment.

165. The successful implementation of Phase 1 offers reassurance that the second project will be successfully implemented as the same institutional arrangements will be used. However, documentation of supervision of compliance with environmental safeguards was not satisfactorily conducted during the implementation of Phase 1. For that reason the Bank team conducted a separate supervision during the APL2 pre-appraisal mission. The Bank team visited Zadar and Biograd sub project sites. The EIA documents were prepared for both sites. In Zadar implementation of the measures was additionally supported through the regular supervision of the Water Management inspection during the construction phase. The implementation of the measures was also facilitated by the contractor's good code of practice and supervision of the independent supervising engineer. The Bank team found implementation of the EIAs generally to be in order with two exceptions which lacked public consultation. The Operations Manual (OM) under Phase 1 did not call for the preparation of the EMP according to OP 4.01 safeguard policy, but just listing of the monitoring and mitigation measures. The EMPs lack clear and sufficient information on when to monitor the certain parameter, on who is responsible and how much are the monitoring costs during construction and during operation. For the above-mentioned deficiencies in supervision and the increased number of the sub projects in APL2 the EF suggests that supervision should be strengthened by assigning responsibility to one PIU member for compliance with the environmental provisions, by introducing preparation of the EMP according to 4.01 and by requiring an annual report on implementation.

166. HVJP is responsible for overall environmental management and decision-making in accordance with the EF during the preparation and implementation of subprojects. A separate environmental unit for the project is not required, since the HVJP will be staffed by qualified personnel and specialists to carry out environmental management with support from the World Bank and independent experts/specialists. In addition to HVJP, the MEPPPC will through its

regular EIA procedure screen the project and monitor the implementation of the mitigation measures and monitoring plan. The Water Management Inspection will monitor the quality of the effluent at least four times a year.

167. Legal documents will specify obligations for preparing the EIAs/EMPs. Under the Environmental Covenant in the Legal Agreements, sites to be identified for inclusion in the project will have to have EIAs prepared. EMPs will be applied. Local disclosure of any such documentation will be provided.

Social Safeguards

168. The Project triggers OP 4.11, Physical Cultural Resources and OP 4.12, Involuntary Resettlement. Contrary to expectations during the preparation of Phase 1, the incidence of triggering the two policies during implementation has been minimal and compliance has been fully satisfactory. Croatian laws and regulations in both areas are consistent with Bank policies, and the Project Operations Manual proved to be an effective mechanism to draw attention to the issues and offer guidance if needed.

Involuntary Resettlement

169. *Policy Framework for Land Acquisition and Resettlement published on Bank's Infoshop and placed on HV website on June 3, 2008.* In ten of the eleven sites of Phase 1, only two plots were purchased from private individuals: One plot for a pumping station in Pula (645 m²) and one piece of land was purchased outright for a collector in Biograd, rather than obtaining a servitude agreement (90 m²). All transactions were concluded satisfactorily through negotiation. Expropriation has been used in only one instance to obtain a servitude agreement in Biograd for the submarine outfall. The expropriation process is underway and no construction will take place on the property until the process is completed. Approximately 73 servitude agreements were concluded on private land, for which owners received no direct compensation, but may have received sewer connections. About 30 state companies granted servitude agreements and over 1,100 agreements were granted by State bodies — municipalities, agencies and maritime administration.

170. The Project demonstrates clearly that municipalities and municipal water companies conscientiously avoid disrupting private property and avoid expropriating property or using expropriation to obtain rights of way. Expropriation is time consuming, especially if title is uncertain or there are multiple owners, and it invites negative publicity. Nonetheless, it also can take time to obtain public land for construction. Although it is relatively easy to obtain servitude agreements from different administrations (roads, municipalities), it can take months or years to transfer public land for pumping stations and treatment plants.

171. HVJP issued a contract with a law firm to provide legal assistance to municipalities and municipal water companies in land acquisition and to document compliance with OP 4.12 and the Operations Manual. The work started after the project was underway and many transactions had already occurred in the first four municipalities, but it proved timely and useful in the case of the seven additional municipalities. Once the consultant established a rapport with the sub-borrowers, the demand for legal services increased, as did the quality of the data submitted to the

Project. The demand is expected to be higher among second-phase municipalities, and they will have access to the service in order to help ensure that as many land issues as possible are resolved before the start of work.

Physical Cultural Resources

172. During Phase 1, OP 4.11 was triggered only in Pula. While reviewing documents presented to obtain Location and Construction Permits, the Pula office of the Ministry of Culture had identified areas near the historical center where chance finds were likely, and staff of the Ministry oversaw construction in the area. A collector wall collapsed in the area specified, revealing materials that were thought to be the foundation of the Minerva Temple, and work was stopped to permit the Ministry of Culture and Istria Archaeological Museum to excavate, document and protect the discovery. During investigation, archaeologists identified the site as a multi-layered construction that included a hotel foundation that incorporated Roman ruins and a medieval defense wall. The collector alignment was changed to go around the area, but was postponed and scheduled to start after the tourist season. The activity was fully compliant with Croatian and Bank policies.

173. The Social Assessments carried out for 29 APL2 municipalities identified only two sites that may trigger OP 4.11. As in Phase 1, the Ministry of Culture will review all designs and oversee construction in areas that are likely to produce chance finds. Consequently, compliance with OP 4.11 is expected to be fully satisfactory, if not best practice.

Social Assessment

174. Social assessments (SAs) were undertaken for 29 municipalities that were identified in 2007 as likely participants in APL2. Other SAs will be commissioned as additional sites are added to the list of prospective participants. The studies followed the guidelines prepared after the successful completion of the social assessments for Phase 1. The work was carried out in two steps. The first step was an institutional analysis, based on interviews with staff of HVJP, HV, the municipal water companies and municipalities, and a focus group of key informants representing other stakeholders, from hotels, enterprises and associations. The second step consisted of a focus group of citizens and key informants and a survey of 200 residents in each of the 29 municipalities, with a sampling bias toward septic tank users. The SAs covered a range of issues related to the project, including the following: institutional relationships and public trust in relevant institutions; wastewater management access and practices; perceptions of water quality; the importance of wastewater management; willingness and ability to pay for improved wastewater collection and treatment; level of knowledge about the project and investments planned for the municipality; anticipated problems related to the acquisition of land and rights of way and the placement of wastewater facilities; and the level of access to communications media and relative dependence on different media for information.

175. The SA consultants prepared preliminary reports on the institutional analysis in each of the 29 sites, as well as a final report for each. In addition, they developed an overview presentation that summarized general findings and compared each of the municipalities on a number of attributes. Although the findings of the different SAs are generally consistent with the results of earlier studies, there is considerable variation from one municipality to another on a

number of dimensions, which justifies continuing the work. Moreover, the results and implications are more clearly and forcefully highlighted in this second round of SAs, thus officials of the municipalities and water companies can more readily understand the practical value of the studies, particularly regarding the topics of public information and communication, a major weakness in most municipalities.

176. The SAs found that 95% of the locations have a municipal water company that can participate in the project, but only 27% have added a supplemental tariff to cover the expected investment, as of mid-2007. For comparative analysis, the summary divides the municipalities into three groups according to the level of households attached to a public collection system:

- From zero to 13% (9)
- From 36% to 66% (10), and
- 70% or more attached (10).

177. Overall, people living in the areas with the least developed public network had a much higher incidence of permeable and semi-permeable septic tanks, which they generally recognized as contributing to the pollution of both ground water and seawater. Moreover, people with the lowest level of public networks are the most willing to support a public network (97%) and most willing to connect to a public network (60%), compared to those with well-developed networks. This confirms the high level of demand for the project and responses to other questions establish clearly that the high motivation is primarily related to the public good — to protect coastal waters from pollution to increase their attractiveness for tourists — although many people also indicated that they dislike the foul smell associated with emptying septic tanks. The difference between the level of support (97%) and willingness to connect (60%) appears to reflect the perceived high cost of connections and general uncertainty regarding how payments will be required — in a lump sum or through installments.

178. When asked if they are willing to bear the cost of wastewater improvements, respondents in only three municipalities had a plurality of negative response, and the highest was in a municipality in the middle group. Although the number of positive responses generally strongly outnumbered negative responses, it appears that there was a relatively high level of uncertainty (less than 50% positive and generally less than 20% negative) in seven municipalities, presumably because of uncertainty regarding cost. Negative responses were higher on the mainland than in island municipalities, including all three of the ones mentioned above. Not surprisingly, the locations with the least developed public systems had the highest expectations regarding the impact of wastewater treatment plants.

179. When asked whether or not they trust various institutions, respondents generally rated state institutions (State Government and HV) higher than municipal institutions (municipality and municipal water companies). In the water area, respondents in 59% of the municipalities had a higher level of trust in HV than in municipal water companies. Respondents in 72% of the municipalities expressed a higher level of trust in state government than their municipality. Of course, in each municipality, if the general level of trust was high, it was relatively high in each category, and vice versa, rather than widely divergent.

180. The comparative analysis of municipalities revealed an interesting set of data regarding patterns of access to communications and dependence on different communications media. For example, 31% of respondents in the Southern Adriatic group said they heard about the project through television, compared to 22% in the Northern group, whereas 32% of the Northern group learned about the project through daily newspapers, compared to 21% of the Southern group. Local newspapers also appear to be more important in the North (22%) than in the South (15%). Radio has more impact on the Southern sample (27%) than the Northern (19%) and leaflets appear to be more effective in the North (25%) than in the South (20%). One of the most interesting findings is that people in the South learn more from meetings and lectures (31%) than in the North (20%). Overall, smaller communities depend on more personal contact — in meetings and going to offices to ask information — than in larger communities, which depend on more structured contacts.

181. In conclusion, the consultants strongly recommended that project participants (HVJP, municipalities and municipal water companies) organize repeated meetings in their locations as early as possible to inform people about the project and its implications for individual households, as well as the overall community. Meanwhile, each of the institutions is advised to conduct appropriate, targeted public information campaigns designed to impart both technical knowledge about the investments and financial information about how they will be funded. Finally, reflecting the project's experience to date, the consultant strongly recommends that the municipalities move forward quickly to set alignments and give top priority to settling related property issues.

182. Each municipality and municipal water company will receive copies of the SA for their specific location, as well as the summary report and a briefing by the SA consultant and the public relations firm contracted by HVJP. The purpose of the briefings is to ensure that municipalities and their water companies understand the findings and implications of the SA and help them develop practical, structured public information campaign appropriate for the location.

Annex 11: Project Preparation and Supervision
CROATIA: Coastal Cities Pollution Control Project 2

	Planned	Actual
PCN review	February 12, 2008	February 12, 2008
Initial PID to PIC	March 11, 2008	March 11, 2008
Initial ISDS to PIC	April 16, 2008	April 16, 2008
Appraisal	July 29, 2008	July 29, 2008
Negotiations	September 15, 2008	October 15, 2008
Board/RVP approval	October 30, 2008	December 11, 2008
Planned date of effectiveness	January 1, 2009	
Planned date of mid-term review	June 30, 2011	
Planned closing date	June 30, 2014	

Key institutions responsible for preparation of the project: HV, MEPPPC

Bank staff and consultants who worked on the project included:

Name	Title	Unit
Claudia M. Pardinás Ocana	Senior Counsel	LEGEC
Egli Ellic	Finance Analyst	LOADM
Friedrich Schwaiger	Financial Specialist, Consultant	ECSSD
Hana Huzjak	Operations Analyst	ECSSD
Konrad Buchauer	Wastewater Specialist, Consultant	ECSSD
Lamija Hadzagic	Financial Management Spec.	ECSPS
Ljiljana Boranic	Team Assistant	ECCHR
Lynette Alemar	Sr. Program Assistant	ECSSD
Maha Armaly	Sr. Urban Finance Specialist	ECSSD
Manuel Marino	Lead Water and Sanitation Specialist (Reviewer, QER)	LCSUW
Maria Teresa R. Lim	Program Assistant	ECSSD
Marianne Fay	Lead Economist (Peer Reviewer, Concept)	DECWD
Michael John Webster	Sr. Water and Sanitation Specialist (Team Leader)	ECSSD
Milane de Jesus Reyes	Program Assistant	ECSSD
Natasa Vetma	Operations Officer	ECSSD
Peter Kolsky	Sr. Water and Sanitation Specialist (Peer Reviewer)	ETWWA
Nicholay Chistyakov	Sr. Finance Officer	LOAFC
Pier Mantovani	Sr. Water and Sanitation Specialist (Peer Reviewer)	MNSSD
Salim Benouniche	Sr. Procurement Specialist	ECSPS
Shelley McMillan	Water Resources Specialist	ECSSD
Stan Peabody	Social Scientist, Consultant	ECSSD
Stjepan Gabric	Sr. Projects Officer	ECSSD
Sudipto Sarkar	Lead Specialist (Reviewer, QER)	ECSSD

Bank funds expended to date on project preparation:

1. Bank resources: \$193,000.00
2. Trust funds: \$ 53,000.00
3. Total: \$246,000.00

Estimated Approval and Supervision costs:

4. Remaining costs to approval: \$30,000
5. Estimated annual supervision cost: \$130,000

Annex 12: Documents in the Project File
CROATIA: Coastal Cities Pollution Control Project 2

1. CM Expert d.o.o. (2008), Institutional Assessment of HVJP, and Recommendations for Improving the performance of MWSCs
2. Electroprojekt d.o.(2008), Environmental Impact Assessment Studies, Northern Coastal Area
3. Full assessment of Performance of Phase 1 and Triggers to move to APL2, completed by Maha Armaly (March 2008)
4. Government of Croatia (2008), Water Management Strategy
5. Hidroprojekct (2008), Feasibility Studies for sub-projects in Southern Adriatic
6. Hrvatske Vode (2008), Updated Operation Manual: Volume 1 – Program; Volume 2 – Operating Manual, Volume 3 – Safeguard Policies; Volume 4 – Accounting and Financial Management Manual
7. HV (2008), reports on water quality monitoring
8. Iberinsa (2008), Feasibility Studies for sub-projects in Northern Adriatic;
9. IGH/DHV (2008), Environmental Impact Assessment Studies, Southern Coastal Area
10. MEPPPC (2008), reports on water quality monitoring---
11. Posch and Partners (2008), Financial and Economic Analysis of 5 sub-projects for APL2
12. Republic of Croatia (2007), 2007 State of the Environment. Published by the Croatian Environment Agency
13. Resettlement Policy Framework (published in Infoshop on June 3, 2008)
14. Ringskog (2007), Institutional Assessment of Special Purpose Subsidiary Company
15. Target (2008), Social Assessments of 29 sub-projects
16. University of Zagreb (2008), Strategic Environmental Impact Assessment
17. Sea Sensitivity Study (June 2008)

Annex 13: Statement of Loans and Credits

CROATIA: Coastal Cities Pollution Control Project 2

Project ID	FY	Purpose	Original Amount in US\$ Millions				Cancel.	Undisb.	Difference between expected and actual disbursements	
			IBRD	IDA	SF	GEF			Orig.	Frm. Rev'd
P100639	2008	Agri Pollution (GEF)	0.00	0.00	0.00	5.00				
P102778	2007	Revenue Admin Modernizn Project (RAMP)	68.00	0.00	0.00	0.00	0.00	68.00	0.58	0.00
P098948	2007	INLAND WATERS PROJECT	133.41	0.00	0.00	0.00	0.00	131.85	-1.57	0.00
P094341	2007	PAL 2	197.40	0.00	0.00	0.00	0.00	65.80	-22.62	0.00
P093767	2007	TRADE & TRANS INTEG	75.30	0.00	0.00	0.00	0.00	66.41	3.87	0.00
P095389	2006	District Heating Project	29.80	0.00	0.00	0.00	0.00	22.88	2.06	0.00
P091715	2006	AGRIC ACQUIS COHESION	30.14	0.00	0.00	0.00	0.00	25.42	17.29	0.00
P086671	2006	EDUC SECTOR DEV PROGRAM (CRL)	85.00	0.00	0.00	0.00	0.00	80.70	39.97	0.00
P080258	2006	SCI & TECH	40.00	0.00	0.00	0.00	0.00	30.50	2.80	0.00
P076730	2005	SOC & ECON REC	45.68	0.00	0.00	0.00	0.00	37.38	22.10	0.00
P069937	2005	SOC WELF DEVT	40.00	0.00	0.00	0.00	0.00	23.28	20.39	0.00
P079978	2004	ENERGY EFF	5.00	0.00	0.00	0.00	0.00	3.52	2.87	0.55
P065416	2004	Coastal Cities Pollution Phase 1	47.54	0.00	0.00	0.00	0.00	21.97	17.81	9.43
P043195	2004	RIJEKA GATEWAY	156.50	0.00	0.00	0.00	9.56	87.68	20.76	-1.79
P067149	2003	REAL PROP REG & CADASTRE	25.70	0.00	0.00	0.00	0.00	12.33	2.04	0.00
P063546	2003	PENSION SYS INVST	27.30	0.00	0.00	0.00	0.00	12.52	12.52	0.00
Total:			1,006.77	0.00	0.00	5.00	9.56	690.24	140.87	8.19

CROATIA STATEMENT OF IFC's Held and Disbursed Portfolio In Millions of US Dollars

FY Approval	Company	Committed				Disbursed			
		IFC		IFC		IFC		IFC	
		Loan	Equity	Quasi	Partic.	Loan	Equity	Quasi	Partic.
1998	Belisce	3.49	6.01	0.00	0.00	3.49	6.01	0.00	0.00
2002	Belisce	12.75	0.00	0.00	9.59	12.75	0.00	0.00	9.59
2006	Belje	50.99	0.00	0.00	0.00	50.99	0.00	0.00	0.00
1999	Croatia Capital	0.00	2.37	0.00	0.00	0.00	2.04	0.00	0.00
1999	E&S Bank	1.85	0.00	0.00	0.00	1.85	0.00	0.00	0.00
2002	E&S Bank	20.40	0.00	0.00	0.00	20.40	0.00	0.00	0.00
2005	PBZ	95.61	0.00	0.00	0.00	95.61	0.00	0.00	0.00
2004	Schwarz Group	49.40	0.00	0.00	0.00	49.40	0.00	0.00	0.00
2000	Viktor Lenac	0.06	0.00	0.50	0.03	0.06	0.00	0.00	0.03
Total portfolio:		234.55	8.38	0.50	9.62	234.55	8.05	0.00	9.62

		Approvals Pending Commitment			
FY Approval	Company	Loan	Equity	Quasi	Partic.
2002	ESBank Zagreb II	0.01	0.00	0.00	0.00
2004	Viktor Lenac Exp	0.00	0.00	0.00	0.00
Total pending commitment:		0.01	0.00	0.00	0.00

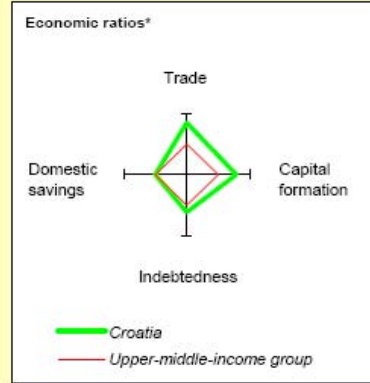
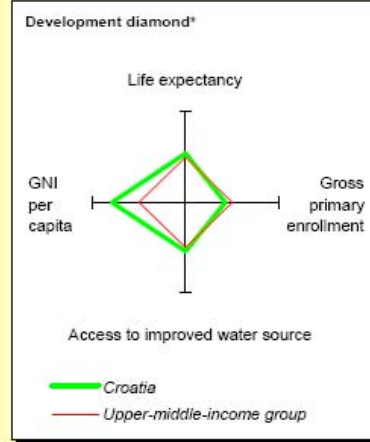
Annex 14: Country at a Glance

CROATIA: Coastal Cities Pollution Control Project 2

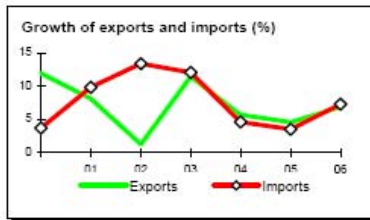
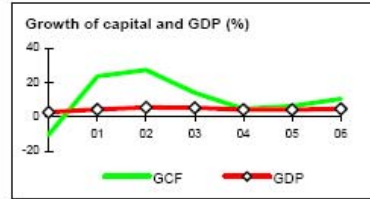
Croatia at a glance

9/28/07

POVERTY and SOCIAL	Croatia	Europe & Central Asia	Upper-middle-income		
2006					
Population, mid-year (millions)	4.4	460	810		
GNI per capita (Atlas method, US\$)	9,320	4,796	5,913		
GNI (Atlas method, US\$ billions)	41.4	2,206	4,790		
Average annual growth, 2000-06					
Population (%)	-0.2	0.0	0.8		
Labor force (%)	-0.4	0.5	1.3		
Most recent estimate (latest year available, 2000-06)					
Poverty (% of population below national poverty line)		
Urban population (% of total population)	57	64	75		
Life expectancy at birth (years)	76	69	70		
Infant mortality (per 1,000 live births)	6	28	26		
Child malnutrition (% of children under 5)	..	5	..		
Access to an improved water source (% of population)	100	92	93		
Literacy (% of population age 15+)	98	97	93		
Gross primary enrollment (% of school-age population)	96	102	112		
Male	..	103	106		
Female	..	100	104		
KEY ECONOMIC RATIOS and LONG-TERM TRENDS					
	1986	1996	2005	2006	
GDP (US\$ billions)	..	19.9	38.9	42.9	
Gross capital formation/GDP	..	21.9	31.0	32.8	
Exports of goods and services/GDP	..	40.2	47.1	47.9	
Gross domestic savings/GDP	..	12.5	22.6	23.9	
Gross national savings/GDP	..	17.1	23.3	23.9	
Current account balance/GDP	..	-5.0	-6.6	-7.6	
Interest payments/GDP	..	0.4	2.2	..	
Total debt/GDP	..	26.7	77.6	..	
Total debt service/exports	..	5.8	23.0	..	
Present value of debt/GDP	76.2	..	
Present value of debt/exports	138.7	..	
	1986-96	1996-06	2005	2006	2006-10
(average annual growth)					
GDP	-3.5	3.8	4.3	4.8	4.9
GDP per capita	-3.2	4.1	4.3	4.9	5.3
Exports of goods and services	..	6.2	4.6	6.9	5.7



STRUCTURE of the ECONOMY	1986	1996	2005	2006
(% of GDP)				
Agriculture	..	10.3	7.6	7.4
Industry	..	33.2	31.6	31.6
Manufacturing	..	22.3	20.9	20.6
Services	..	56.5	60.8	60.9
Household final consumption expenditure	..	60.5	56.9	56.0
General gov't final consumption expenditure	..	27.0	20.5	20.1
Imports of goods and services	..	49.7	55.5	56.8
(average annual growth)				
Agriculture	-5.5	0.7	0.1	2.5
Industry	-9.3	4.2	4.8	5.4
Manufacturing	-10.2	4.5	5.8	4.5
Services	0.7	3.6	4.2	4.7
Household final consumption expenditure	..	3.9	3.4	3.5
General gov't final consumption expenditure	..	0.5	0.8	2.2
Gross capital formation	..	8.1	6.3	10.5
Imports of goods and services	..	6.4	3.5	7.3



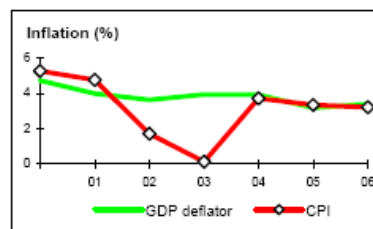
Note: 2006 data are preliminary estimates.

This table was produced from the Development Economics LDB database.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

PRICES and GOVERNMENT FINANCE

	1986	1996	2005	2006
Domestic prices				
(% change)				
Consumer prices	50.0	4.3	3.3	3.2
Implicit GDP deflator	..	3.6	3.2	3.4
Government finance				
(% of GDP, includes current grants)				
Current revenue	..	48.9	44.9	45.1
Current budget balance	..	4.6	3.8	5.4
Overall surplus/deficit	..	-1.6	-2.8	-1.2



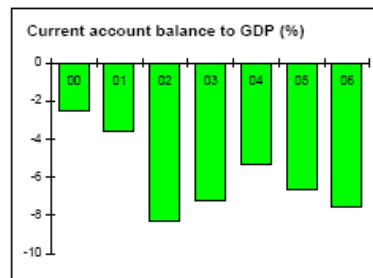
TRADE

	1986	1996	2005	2006
TRADE				
(US\$ millions)				
Total exports (fob)	..	4,677	8,955	10,606
Capital goods	..	255	488	610
Chemicals	..	445	1,219	1,568
Manufactures	..	1,992	4,338	5,042
Total imports (cif)	..	8,165	18,301	21,117
Food	..	772	1,333	1,554
Fuel and energy	..	856	2,806	3,416
Capital goods	..	2,134	6,115	6,929
Export price index (2000=100)	..	72	72	70
Import price index (2000=100)	..	72	72	70
Terms of trade (2000=100)	..	100	100	100



BALANCE of PAYMENTS

	1986	1996	2005	2006
BALANCE of PAYMENTS				
(US\$ millions)				
Exports of goods and services	..	7,974	18,876	21,415
Imports of goods and services	..	9,882	21,702	24,665
Resource balance	..	-1,908	-2,825	-3,249
Net income	..	-103	-1,225	-1,390
Net current transfers	..	1,022	1,475	1,383
Current account balance	..	-989	-2,575	-3,255
Financing items (net)	..	1,553	3,597	4,983
Changes in net reserves	..	-564	-1,022	-1,727

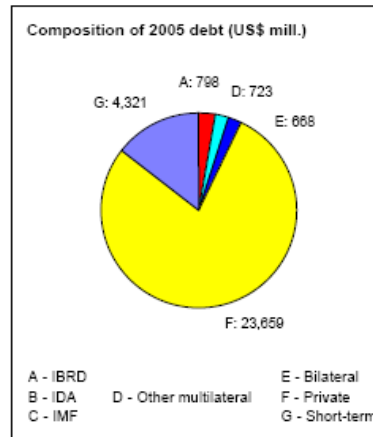


Memo:

Reserves including gold (US\$ millions)	..	2,314	8,801	11,489
Conversion rate (DEC, local/US\$)	..	5.4	5.9	5.8

EXTERNAL DEBT and RESOURCE FLOWS

	1986	1996	2005	2006
EXTERNAL DEBT and RESOURCE FLOWS				
(US\$ millions)				
Total debt outstanding and disbursed	..	5,309	30,169	..
IBRD	..	195	798	1,028
IDA	..	0	0	0
Total debt service	..	530	4,920	..
IBRD	..	26	96	112
IDA	..	0	0	0
Composition of net resource flows				
Official grants	..	25	82	..
Official creditors	..	-6	-20	..
Private creditors	..	563	1,643	..
Foreign direct investment (net inflows)	..	511	1,761	..
Portfolio equity (net inflows)	..	-7	113	..
World Bank program				
Commitments	..	134	396	0
Disbursements	..	105	81	243
Principal repayments	..	16	70	73
Net flows	..	89	11	169
Interest payments	..	11	26	39
Net transfers	..	78	-15	131



Annex 15: Incremental Cost Analysis

CROATIA: Coastal Cities Pollution Control Project 2

183. This annex details the GEF investments, and the rationale baseline, objectives and alternatives, costs and financing plan. The GEF co-financed project is fully consistent with the Croatia Coastal Cities Pollution Control Program and APL2 for the improvement of treatment and disposal of municipal wastewaters on the Adriatic coast to maintain the quality of seawater. 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. Moreover in the process of EU accession, strategies in the water sector are driven by conditions and requirements that have to be fulfilled through a number of directives and regulations, most significantly the Water Framework Directive (WFD). It requires that all inland and coastal waters within defined river basin districts must reach at least good status by 2015 and defines how this should be achieved through the establishment of environmental objectives and ecological targets for surface waters. The Croatian Water Act has been partially aligned with the WFD, and the Government is working towards full approximation. In this regard, the project will assist the Government meet the objective of good quality water status as required by the WFD.

The Baseline

184. The Baseline takes reference to the individual towns' plans for investment. All four towns were carefully selected through a step-wise approach. First, a long-list of eight potential sub-projects for GEF financing was developed, that was agreed upon by all stakeholders (GoC, HV, HVJP, towns' representatives, Bank staff). This long-list was then discussed further with the municipalities, and eventually four of these sub-projects were dropped for various reasons. The four sub-project municipalities remaining on the short-list, and thus suggested for GEF financing, clearly expressed that investment into wastewater treatment is their top priority and that they are willing to bear the cost involved. Not surprising, the economy in the towns of Cres and Porec Materada depends heavily on summer tourism. Those two towns that require somewhat lower investment (Metković and Opuzen) are not so touristy, but still acknowledge the importance of clean waters for their future development, be it in fishing, bathing tourism or other leisure activities such as bird watching, etc. Moreover, these two latter sub-projects do not have an alternative to wastewater treatment in the shape of a long sea outfall, since both are located at the Neretva River, 10 km and 20 km, respectively, upstream of the river delta. On top of that, the region is part of the project 'Neretva Trebišnjica – Integrated River Basin Management Plan', co-financed by GEF. This project tries to improve water quality in the Neretva catchment. Hence the inclusion of WWTPs for the 2 largest single settlements within this catchment on Croatian soil should enhance the objectives supported by the GEF for the Neretva catchment area.

185. The core rationales for choosing the suggested four project towns thus are:

- A very strong local willingness to invest into wastewater treatment, mainly driven by the expectation that this investment will assist a positive local economic development;
- The GEF investment is only incremental to Bank loan and local/government finance, with the main burden of investment into the project WWTPs still being covered by Croatia;
- The Project will include different process technologies for the enhanced removal of nutrients from wastewater – thus it can have a many-sided demonstration effect in Croatia and elsewhere in the Balkans;
- By combining WWTPs of different size it becomes possible to develop a project with relatively low overall abatement cost for the reduction of nutrients; and
- Rounding-off of other on-going GEF activities in the Neretva region.

186. Typically the cost for conventional wastewater treatment facilities roughly equals 60% the cost of a WWTP for enhanced nutrient removal. Hence, in this section the baseline is defined as the sum of: (i) 60% of investment into WWTPs for enhanced nutrient removal; and (ii) 60% of cost of Engineering Consultants for WWTPs. Based on the process technologies suggested to date (see Table 15), the baseline cost equals US\$18.3 million.

WWTP Process Technologies

187. As pointed out before, a top priority was to target projects which potentially represent different WWTP treatment technologies. At present the sub-projects short-listed foresee three types of technology: (i) Membrane Bio Reactors (MBR) in the case of Cres and Poreč Materada, (ii) Activated Sludge (AS) in the case of Metković, and (iii) Extended Aeration (EA) in the case of Opuzen.

188. A Bank review of these technologies under the given conditions showed that so far typically no fair and correct comparison of alternative treatment technologies had been made. It was therefore decided to leave the final decision on treatment technologies to a Feasibility Study. These technologies include all the above-mentioned ones, and additionally investigate the feasibility of Trickling Filters (TF) and Constructed Wetlands (CW). The selection criteria for the technologies to be tested/implemented under the project are:

- efficiency of technology in meeting pollution reduction targets (BOD, SS, P, N), i.e., average expected removal efficiency
- cost of technology to meet target, and cost/kg nutrient removed. This will also be calculated both on the capital costs, operation and maintenance costs, and the entire life cycle costs
- ability of MWSC to finance counterparts funds (for debt service) and O&M costs;
- capacity of MWSC to operate the WWTP
- availability of public land, and ability, and cost, of purchasing private land;
- sludge disposal options;
- In as much as possible, we would like all 4 WWTP to use different technologies.

189. Additional modifications and supplements to the basic processes have also been made. These additional components include among others: (i) Imhoff Tanks for primary sedimentation and ‘cold’ digestion of all sludge (both from primary sedimentation and from biological stages); (ii) Enhanced biological phosphorus removal (bio-P); (iii) Ultraviolet (UV) disinfection; and (iv) Co-generation of electricity and heat energy from biogas. Not least, in some projects there also is the potential to reuse treated wastewater for irrigation purposes. Typically, the water reuse is targeting olive tree plantations (Cres) and public green areas (Poreč). Since such kind of water reuse requires strict hygienic standards, in both cases the process technologies shall include either MBR or UV disinfection.

190. The individual process technologies to investigate are:

- *Cres*: (i) Membrane Bio Reactor (MBR); and (ii) Imhoff tank + activated sludge + UV disinfection, ‘cold’ digestion of all sludge in Imhoff tank.
- *Poreč*: (i) Membrane Bio Reactor (MBR); (ii) Primary sedimentation + activated sludge with enhanced biological phosphorus removal (bio-P) + UV disinfection, mesophilic sludge digestion, co-generation of electricity and heat energy from biogas; and (iii) Extended aeration + UV disinfection.
- *Metković*: (i) Primary sedimentation + activated sludge with enhanced biological phosphorus removal (bio-P), mesophilic sludge digestion; (ii) Extended aeration; and (iii) Imhoff tank + activated sludge de-nitrification stage + trickling filter for nitrification, ‘cold’ digestion of all sludge in Imhoff tank.
- *Opuzen*: (i) Extended aeration; (ii) Imhoff tank + activated sludge de-nitrification stage + trickling filter for nitrification, ‘cold’ digestion of all sludge in Imhoff tank; and (iii) two-stage Constructed Wetlands. There are no conditions as to the type of Constructed Wetland, i.e. horizontal versus vertical flow systems or different combinations thereof. Likewise, no conditions apply to mechanical pre-treatment, other than proven functionality of the overall system (mechanical pre-treatment + type of Constructed Wetland) and its potential to remove enhanced levels of nitrogen and phosphorus.

Table 15: Summary of GEF project sites

Project	Design Population Equivalents (GEF)	Recipient water	Nutrient removal technology		Estimated total investment cost		
			suggested to date	recommended comparison for final decision	[million US\$]	[million EUR]	[million HRK]
Cres	10,500	Sea	MBR	MBR - AS	7.5	4.7	34.0
Poreč Materada	29,000	Sea	MBR	MBR - AS - EA	15.4	9.6	69.5
Metković	10,000	Neretva River	AS		3.5	2.2	15.9
Opuzen	3,000	Neretva River	EA	EA - CW - TF	1.4	0.9	6.5
TOTAL	52,500				27.8	17.4	126.0

AS ... Activated Sludge

1 EUR = 7.24 HRK

CW ... Constructed Wetland (2-stage system)

1 EUR = 1.60 US\$

EA ... Extended Aeration

MBR ... Membrane Bio-Reactor

TF ... Trickling Filter

191. For the purpose of cost estimates at this stage, an assumption was made based on the currently suggested technologies (2 x MBR, 1 x AS, 1 x EA). Under these conditions the GEF grant would be sufficient to cover about 20% of total investment into WWTPs. Should the analysis of alternative technologies indeed lead to more economic solutions, it would permit that the GEF grant will cover a larger percentage than 20% of total cost.

GEF Environmental Objectives and GEF Alternatives

192. The global environmental project objective is to reduce the nutrient load entering Croatia's coastal waters from participating municipalities and pilot innovative wastewater treatment solutions. This will contribute to the Program objective to maintain the quality of Croatia's coastal waters to meet EU/national standards. This requires reducing organic and nutrient emissions (phosphorus and nitrogen) from municipal wastewater sources into the Mediterranean Sea and into inflowing rivers.

193. The specific objective is a reduction of organic pollution and nutrient emissions from point sources in selected Croatian towns, that are either located directly at the coast or near it. This requires the new construction of WWTPs designed for the removal of organics and nutrients.

194. The impacts of this Project will be twofold: (i) improved water quality in the coastal zones near the project towns; and (ii) improved water quality in the Mediterranean Sea. Lower nutrient loads will reduce eutrophication in the Neretva delta and maritime zones. This will also have positive impacts on ecosystems, biodiversity and wetlands. All this is not meant to be an end in itself, but it will eventually maintain positive economic impacts, e.g. long-term viability of tourism, abundance of fish populations.

195. The Neretva Delta covers about 20,000 ha of which 12,000 ha are in Croatia and the rest in Bosnia. The Delta contains some of the few wetlands remaining in Europe and is internationally recognized as a Ramsar site and important bird area and a Mediterranean Specially Protected Area under the Barcelona Convention. The area presents a variety of habitats which form a beautiful and remarkable landscape. Wetlands, marshes and lagoons, lakes, beaches, rivers, hummocks (limestone hills) and mountains combine into a mosaic of natural habitats in the area of Neretva Delta. The Neretva Delta includes five protected localities with a total surface of 1,620 ha. These are the ornithological reserves of *Pod Gredom*, *Prud* and *Orepak*, the ornithological and ichthyologic reserve of Delta Neretva and the protected landscapes of Modro Oko and Desne Lake.

196. In January 2006, Croatia launched an irrigation and water management strategy through the National Irrigation and Agricultural Land and Water Management Project. The strategy aims at a systematic upgrade and/or development of the agricultural infrastructure, consolidation of agricultural lands, and implementation of state-of-the-art irrigation technologies. The Neretva Delta is one of the selected priority areas of the aforementioned project. As such it can be expected that the nutrient pollution load in the Neretva Delta from agricultural run-off is increasing further underscoring the need for the introduction of tertiary level wastewater treatment in the Neretva Delta.

197. The Project also complements the on-going GEF Neretva and Trebisnjica Management project (NTMP) because while the NTMP also aims to reduce water pollution, mainly nutrients into the Delta, the NTMP is focusing on the wastewater discharges from several municipalities in Bosnia Herzegovina. This Project will focus on the Croatian portion of the Delta. The net result will be even better environmental conditions in the Neretva Delta.

Table 16: Average influent & effluent parameters of 4 new nutrient removal WWTPs

Main parameters	Expected influent load			Average expected removal efficiency	Average expected flow		Avg. expected concentration		Avg. expected pollution load	
	winter	summer	average		[l/PE/d]	[m3/d]	Influent to WWTP	Effluent from WWTP	Influent to WWTP	Effluent from WWTP
	[PE]	[PE]	[PE]				[mg/l]	[mg/l]	[kg/d]	[kg/d]
BOD₅			32,400	99.0		4,860	400	4	1,944	20
Cres WWTP	2,500	10,000	5,500	99.5	150	825	400	2	330	2
Poreč-Materada WWTP	8,500	27,000	15,900	99.5	150	2,385	400	2	954	5
Metković WWTP	8,500	8,500	8,500	97.0	150	1,275	400	8	510	10
Opuzen WWTP	2,500	2,500	2,500	97.0	150	375	400	8	150	3
Suspended Solids (SS)			32,400	99.4		4,860	467	3	2,268	13
Cres WWTP	2,500	10,000	5,500	99.8	150	825	467	1	385	1
Poreč-Materada WWTP	8,500	27,000	15,900	99.8	150	2,385	467	1	1,113	2
Metković WWTP	8,500	8,500	8,500	98.7	150	1,275	467	6	595	8
Opuzen WWTP	2,500	2,500	2,500	98.7	150	375	467	6	175	2
Nitrogen total (TN)			32,400	77.7		4,860	73	16	356	80
Cres WWTP	2,500	10,000	5,500	80	150	825	73	15	61	12
Poreč-Materada WWTP	8,500	27,000	15,900	80	150	2,385	73	15	175	35
Metković WWTP	8,500	8,500	8,500	80	150	1,275	73	15	94	19
Opuzen WWTP	2,500	2,500	2,500	50	150	375	73	37	28	14
Phosphorus total (TP)			32,400	82.3		4,860	12	2	58	10
Cres WWTP	2,500	10,000	5,500	85	150	825	12	2	10	1
Poreč-Materada WWTP	8,500	27,000	15,900	85	150	2,385	12	2	29	4
Metković WWTP	8,500	8,500	8,500	85	150	1,275	12	2	15	2
Opuzen WWTP	2,500	2,500	2,500	50	150	375	12	6	5	2

Notes:

- Typically winter PE was assumed to equal the resident population connected to the sewer system. In none of the places there is relevant industrial activity or tourism during winter time. Summer PE was chosen according to information provided locally and/or in the existing studies on these projects. Average PE was then derived by weighing winter with 60% and summer with 40% to arrive at annual loads. These percentages are based upon the typical duration of summer tourism.
- Removal efficiencies for BOD₅ and SS were derived from assumptions for typical influent and effluent loads for the treatment technologies in discussion. Removal efficiencies for N and P were defined such that the resulting effluent quality matches requirements according to European legislation¹¹. For WWTPs with a capacity larger than 10,000 PE, as is the case for Cres, Poreč-Materada and Metković, this requires N concentrations < 15 mg/l and P concentrations < 2 mg/l. In the case of Opuzen, with a design capacity below 10,000 PE there are no such standards. For the sake of the assessment, hence an assumption has been made in Opuzen based on typical performance of two-stage Constructed Wetlands according to recent literature.
- Generally, all these treatment targets should be safely feasible with properly designed WWTPs.
- Average flow rates were universally based upon a specific wastewater production of 150 l/PE/day, which was typically used in Croatian designs so far, and which is a plausible figure.
- Influent pollution loads are based upon standard central European specific pollution loads of 60 gBOD₅/PE/d, 70 gSS/PE/d, 11 gN/PE/d and 1,8 gP/PE/d.

¹¹ [1] Council Directive 91/271/EEC concerning urban waste water treatment (21-05-1991). [2] Commission Directive 98/15/EEC (27-02-1998) amending Council Directive 91/271/EEC

198. *Additionality.* The measures suggested for the GEF project are additional to the Baseline. These additional measures will complement planned activities that target primarily complete carbon removal.

199. *Positive economic impacts.* Avoidance of eutrophication and consequent safeguarding of good water quality are a pre-requisite for the long-term sustainability of tourism. People flock to the Croatian coast exactly because they associate it with pristine and unpolluted waters. But also biodiversity and fish populations will experience a positive impact by less polluted waters. Not least, the Neretva River delta offers the potential for a Nature Park, which would also attract tourists and benefit fish populations and bird breeding.

Overall financing and cost components

200. The main objective of the Bank-GEF Investment Fund for the Mediterranean Sea Partnership is to assist the recipient countries of the Mediterranean Sea basin in implementing their top priority pollution reduction and habitat protection measures and to contribute to reversing the degradation of the Mediterranean LME and its coastal areas. The Investment Fund would primarily finance investments that support pollution reduction and other conservation targets agreed by the basin countries under the Strategic Action Program to Address Pollution from Land-Based Activities in the Mediterranean Region (SAP MED) and the Strategic Action Program for the Conservation of Mediterranean Marine and Coastal Biological Diversity (SAP BIO), including domestic and industrial wastewater treatment. In the case of this Project, the rationale for involvement relates to the Bank’s continuing presence in the wastewater sector in Croatia and more generally in the ECA region and beyond. The GEF builds on the second phase of the APL and adds the tertiary level treatment component which otherwise would not be done.

Table 17: Eligibility for GEF Investment Fund for the Mediterranean Sea

Eligibility Criteria	Elements of Consistency with the Project
The project responds to the priorities identified in the SAP MED as well as the National Action Plan or equivalent strategic documents endorsed by the requesting county.	Both the SAP MED and the NAP indicates as a priority the treatment of domestic and industrial waste in the Neretva river and Delta area.
The project has secured adequate co-financing for non-incremental components.	The GEF contribution represents 4% of the total project cost; the loan and borrower contributions are each 48%.
The project adheres to the principles of the GEF International Waters Strategies, Operational Programs, and Strategic Priorities and is formally endorsed by the country’s GEF Focal Point(s).	The project fully conforms to GEF4 IW Strategic Objectives and Programs and has been endorsed by the GEF Operational Focal Points.
The project includes piloting and testing alternative methodologies and approaches that are innovative in the country context.	These include constructed treatment wetlands.
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 framework.	The project will finance a feasibility study of technical alternatives to wastewater treatment. Specific stress reduction indicators have been identified and will be monitored during project implementation (see Annex 3). A study on the potential to use treated wastewater for irrigation will also be considered. This would potentially result not only in innovative approaches but also

Eligibility Criteria	Elements of Consistency with the Project
	eminently transferable approaches to addressing the nutrient problem.
The project demonstrates high potential for replication within the country and the Mediterranean basin.	The technologies chosen for tertiary level treatment will represent replicable experiences to be disseminated among Adriatic coastal communities, and more broadly throughout the Mediterranean. Interaction with the regional activities implemented under the Regional Component of the Mediterranean Strategic Partnership will also be done to allow for dissemination of project results to broader audiences.
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.	Croatia is fully committed to SAP objectives, to the goals set by the Barcelona Convention and its Protocols, and to the principles of the EU Water Framework Directive.
The requesting country is up-to-date on contributions to the Barcelona Convention.	Yes

201. The availability of significant allocations from GEF increases the incentive for the towns under this project to further improve on the quality of their wastewater treatment facilities. The GEF initiative and the grant provided by GEF are thus very welcome and provide an impulse, which could lead to further investment in this field once practical operating experiences are known. The total investment under the four WWTP projects is estimated at US\$33.6 million. Thereof US\$6.4 million will be the GEF's contribution and US\$27.2 million shall be financed by Croatian sources.

202. The suggested investments encompass the following components all within APL2:

- Component 1: construction of 4 nutrient removal WWTPs in Cres, Poreč-Materada, Metković, Opuzen;
- Component 2: Project preparation: Feasibility studies and Environmental Impact Assessment in the above 4 towns to further elaborate the most appropriate treatment technologies, and to have an in-depth look at investment cost, O&M cost and implications thereof; and engineering design and construction supervision;
- Component 3: Monitoring, Evaluation, Dissemination component;

Table 18: Project funding plan

No	Contract Description	Co-financing	GEF	sum	local currency	foreign currency
I	Investment					
1	Cres WWTP	6,000	1,500	7,500	3,750	3,750
2	Poreč-Materada WWTP	12,300	3,100	15,400	7,700	7,700
3	Metković WWTP	2,800	700	3,500	1,750	1,750
4	Opuzen WWTP	1,100	300	1,400	700	700
	SUM I (1.000 US\$)	22,200	5,600	27,800	13,900	13,900
II	Monitoring, Evaluation, Dissemination					
5	Water quality monitoring	2,000	500	2,500	2,500	0
	SUM II (1.000 US\$)	2,000	500	2,500	2,500	0
III	Consultants					
6	Project Preparation (Feasibility studies)		300	300		300
7	Engineering Consultants for WWTP (design, procurement, supervision, start-up)	2,780	0	2,780	834	1,946

SUM III (1.000 US\$)	2,980	300	3,280	1,034	2,246
Grand Total (1.000 US\$)	27,180	6,400	33,580	17,424	16,146

Table 19: Incremental environmental benefits

	Baseline project	GEF project	Incremental environmental benefit
Key features	GoC and local investment into 4 WWTPs suitable for carbon removal.	Construction of enlarged WWTPs to enable enhanced nutrient removal, based upon different technologies.	Reduced emissions of BOD and nutrients (N, P); reduction of algal blooms; increase of oxygen conc. in surface waters; preservice of wetlands; positive effects on biodiversity & ecosystems; improved water quality in Neretva River.
Cost [million US\$]	18.3	33.4	15.0
1 Construction of 4 new WWTPs (Cres, Poreč-Materada, Metković, Opuzen)	WWTPs for carbon removal only.	Enlarged WWTP, capable of substantial nutrient removal.	Reduced emissions and subsequent incremental benefits as listed above.
2 Monitoring, Evaluation, Dissemination	No action.	Collection of practical experience with different technologies for nutrient removal. Practical experience with impact of nutrient removal WWTPs on environment. Information of general public.	Optimization of future investments into wastewater treatment. Favourable public opinion. Increased willingness to accept higher tariffs. Spreading of the knowledge about exemplary treatment schemes in the region.

Table 20: Expected annual reduction of pollution loads

Main parameters	Avg. expected daily pollution load		Avg. expected annual flow [m ³ /y]	Avg. expected annual load reduction [tons/y]
	Influent to 4 WWTP [kg/d]	Effluent from 4 WWTP [kg/d]		
BOD ₅	1,944	20	1,773,900	702
Suspended Solids (SS)	2,268	13		823
Nitrogen total (TN)	356	80		101
Phosphorus total (TP)	58	10		18

Table 21: Incremental cost for 25 years average lifespan of investment

Incremental effects		4 WWTPs
BOD ₅ reduction within 25 years	[tons/25y]	17,560
Suspended Solids (SS) reduction within 25 years	[tons/25y]	20,576
Nitrogen total (TN) reduction within 25 years	[tons/25y]	2,526
Phosphorus total (TP) reduction within 25 years	[tons/25y]	438
Incremental investment cost (GEF+Co-financing)	[million US\$]	15.0
Incremental investment cost (GEF)	[million US\$]	6.4
Incremental O&M cost	[million US\$/y]	0.2
Inhabitants directly affected (based on no. of connections & customer accounts, 3 cap/customer account)	[cap]	26,500
GEF + Co-financing:		
Abatement cost (for 25 years lifespan)	[US\$/kg BOD ₅]	0.9
	[US\$/kg SS]	0.7
	[US\$/kg TN]	5.9
	[US\$/kg TP]	34.3
Incremental investment cost per inhabitant affected	[US\$/cap]	567
Incremental O&M cost per inhabitant concerned	[US\$/cap/y]	7.3
GEF:		
Abatement cost (for 25 years lifespan)	[US\$/kg BOD ₅]	0.4
	[US\$/kg SS]	0.3
	[US\$/kg TN]	2.5
	[US\$/kg TP]	14.6
Incremental investment cost per inhabitant affected	[US\$/cap]	242
Incremental O&M cost per inhabitant concerned	[US\$/cap/y]	7.3

Annex 16: STAP Roster Review
CROATIA: Coastal Cities Pollution Control Project 2

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STAP Review Proposal for GEF Grant to

GOVERNMENT OF CROATIA: Coastal Cities Pollution Control Project

The GEF proposal relates to a valuable add-on to a larger Bank Loan funded proposal. The proposed GEF-funded activities are sound and address a longer term goal of reducing nutrient and organic pollution of Croatian marine waters by introducing enhanced nutrient removal wastewater treatment plants. These should have immediate local benefits and provide experience and demonstration sites for longer term extension of such technologies to all marine discharge sewage treatment works.

The PAD addresses the Bank loan and the GEF components together. It is useful to be able to understand the GEF component in the broader context but in this case the GEF component being reviewed only becomes clear in the section on incremental cost analysis. The PAD discussed five sites in some detail but only 2 of these Cres and Metrovik are GEF sites. The other 2 GEF sites Porec and Opuzen are listed in several tables but not discussed in any detail outside the GEF Incremental cost paper.

World Bank response: The PAD was revised to integrate further the GEF intervention into the project. The sites discussed in the PAD are those 4 appraised out of 30 sites in the project. The remaining sites, including Opuzen and Porec will be appraised and documented during implementation.

Scientific and technical soundness

The scientific and technical basis of the project is simple and sound. It builds on an existing project that is working effectively. The GEF component proposes to apply and demonstrate appropriate existing technologies that have good potential for widespread application to reduce nutrient and organic pollution of Croatian marine waters. The broader PAD focuses on waste treatment from the perspective of bathing water standards. These address human pathogen and health issues which are an obvious immediate priority and first step for a tourism based economy. From the environmental and quality tourism perspective it would be appropriate for the combined PAD to articulate more clearly a medium to longer term strategy to move all treatment plants towards enhanced nutrient removal. The major implication in this would probably be treatment plant site planning to allow a footprint for introduction of future treatment technologies.

The social study reported in the PAD provides a sound basis for site selection on a robust assessment of community support and preparedness to engage. This should support the role of the selected sites in demonstrating an advocating broader adoption of advanced nutrient treatment.

World Bank response: The Government of Croatia is developing the longer term strategy for wastewater treatment as a step toward integration with the EU. The proposed sites for GEF financing can provide a demonstrative effect in developing the strategy.

Global environment benefits and costs

The project proposes incremental investments from GEF that address objectives of Strategic Action Plan for the Reduction of Pollution of the Mediterranean from Land-based Sources (SAP-MED) prepared under the Barcelona Convention. It is an important step towards delivering clear global benefits by addressing a key element in a major source and potentially growing sources of nutrient pollution of the Adriatic and Mediterranean marine basins. Marine pollution by nutrients and organic wastes that do not pose a threat to human health has been identified as an environmental issue of global significance. In the Croatian context where tourism and related coastal residential and commercial development are major national economic drivers, national compliance with at least EU requirements in relation to nutrient and organic pollution is an important strategic national priority. It will take some years to address this but the GEF demonstration sites should be an important demonstration and basis for extension within the next decade to all waste systems discharging to the Adriatic.

The context of GEF goals and guidelines

The proposal clearly addresses the objectives of the reduction of nutrient pollution of the marine environment of the Croatian Adriatic

Regional Context

The project and the related loan program have high priority in the context of national legislation and obligations under the environment acquis as a member of the European Union. As noted earlier the proposal concerns incremental investments from GEF that address objectives of Strategic Action Plan for the Reduction of Pollution of the Mediterranean from Land-based Sources (SAP-MED) prepared under the Barcelona Convention.

Replicability

The project is based on application and demonstration of waste water treatment methods that address nutrient pollution of marine ecosystems. In the short term the key issue for replication of the GEF component is understanding and acceptance by communities of the economic benefits – particularly in the context of tourism and

associated development as major economic drivers - of reducing nutrient pollution from in order to maintain the natural amenity of the coastal marine environment. The project design addresses the issues of public awareness, promotion of good practice and developing willingness to pay for environmental economic outcomes.

Sustainability

The project is an important part of a larger context. By providing demonstrations and contributing to public awareness, it should contribute materially to the development of the national program for prevention of pollution of Adriatic coastal waters.
Contribution to future strategies and policies

Success with this project will contribute to the broader adoption of waste management practices and to meeting Croatia's commitments under the environmental acquis of the European Union.

Secondary Issues

Linkages to other programmes and action plans are adequately identified.

Involvement of stakeholders

The proposal builds on the experience of the first phase (APL 1) which includes a substantial social study and public engagement program. The sites selected for the GEF component of the proposal were selected substantially on the basis of public awareness and willingness to engage in and pay for waste treatment to reduce coastal marine pollution.

Risk assessments

I am not familiar with the field operating situation but note that the GEF component is part of a much larger package. The risks seem to be reasonably discussed and I concur with the assessments

Costs

Subject to the qualification above, the amounts and relativities of funding proposed for the various components appear reasonable.

Conclusion

This is a soundly designed and important catalytic project. The GEF components of the proposal address the important issue of reducing nutrient pollution of coastal waters. They are based on the solid experience of Phase 1 and sites selected substantially on the basis of a good understanding of public awareness and support for program objectives. They are directly linked government policy and legislation and to national commitments in relation to the environmental acquis of the European Union. I recommend that it should proceed.



R A Kenchington, 4 July 2008

Annex 17: Map

CROATIA: Coastal Cities Pollution Control Project 2

