

ANNEX I

ORGANIZATIONAL STRUCTURE OF THE PROJECT MANAGEMENT UNITS/NATIONAL PROJECT OFFICES

Cuba National Project Office (NPO)

The Provincial Delegation of the Ministry for Science, Technology and Environment for the City of Havana (DCITMA) will be the national counterpart organ for the implementation of the Cuba component. It will oversee the National Project Office (NPO), with the support and under the supervision of the National Steering Committee (CND).

The NPO will establish linkages with the Provincial Administrative Council (CAP), the Popular Councils and NGOs, as well as with universities and the Research Centre of the City of Havana.

The Ministry of Science, Technology and Environment of Cuba will chair the National Steering Committee. Said Committee, which will meet on a periodic basis (every three months) will consist of an Executive Secretary (who will be the National Coordinator of the Project) and representatives of the Ministry of Foreign Investment and Economic Co-operation, the Ministry of Transportation, the Ministry of Construction, the Ministry of Economy and Planning, the National Institute of Hydraulic Resources, the Provincial Administrative Council, Provincial Directorate of Physical Planning, Provincial Directorate of Public Health and the Governmental Working Group for the Sanitation, Conservation and Development of Havana Bay, the Technical Center for Development of Construction Materials (MATCO) and the UNDP. It will also include other institutions such as the Institute of Tropical Geography, the High Polytechnical Institute "José Antonio Echevarría", the Center of Engineering and Environmental Management of Bay and Coastal Areas, the National Center of Research Hydraulics and Water Quality, Investments GAMMA and NGOs linked to the project.

The National Project Coordinator will also be the Head of the National Project Office and the Executive Secretary of the National Steering Committee. His/her function will be to ensure and monitor the implementation of project activities, technical and others, in the country. He/she will interact with the UNDP, UNOPS and UNEP in aspects of concern to each of these agencies. The Cuban Minister for Science, Technology and Environment has designated her Delegate in the Province of the City of Havana as National Coordinator of the Project.

TERMS OF REFERENCE

NATIONAL PROJECT OFFICE (CUBA)

CUB/99/G31-Demonstration of Innovative Approaches to the Rehabilitation of Heavily Contaminated Bays in the Wider Caribbean (Havana Bay)

The Delegate of the Ministry of Science, Technology and Environment (CITMA) in Havana Province, who is designated by the Minister of CITMA, will act as general project coordinator for the National Project Office. This office will be the national counterpart for the implementation of project activities and will be composed of a team of specialists who will contribute to the management of the project. Furthermore, the National Project Office will interact with centers of higher education and research centers of the City of Havana. It will also establish links with the Provincial Administration Council (CAP), the Popular Councils and NGOs.

Structure of the National Project Office

• National Coordinator	1
• Chemical engineer	2
• Hydraulic engineer	1
• Architect	1
• Geography specialist	1
• Biochemistry specialist	1
• Technology specialist	2
• Project Management specialist	1
• Economist	1
• Expert in architecture and informatics	1
• Electrical engineer	1
• Information specialist	1
• Law specialist	1
TOTAL	15

During project execution this team of specialists will meet monthly to monitor the implementation of project activities. Every three months, the NPO will hold working sessions with the National Steering Committee, which will be created in accordance with the project document.

The salaries, per diems and other expenditures of this team will be covered by the Cuban counterpart contribution of this project.

ANNEX II

TERMS OF REFERENCE

SUBCONTRACT FOR ADMINISTRATION AND SUPERVISION

CUB/99/G31-Demonstration of Innovative Approaches to the Rehabilitation of Heavily Contaminated Bays in the Wider Caribbean (Havana Bay)

Requirements:

A company with experience in advisory and consulting services in specialized scientific and technological areas, in particular environmental sciences, environmental impact analyses, and in the operation of treatment plants for waste water and integrated environmental solutions.

The company should preferably be Cuban or an international company located in the country.

Duration of assignment: 5 years

Tasks:

1. Supervise project execution through periodical reports
2. Participate in periodic progress evaluations with the Cuban counterpart
3. Supervise the construction and start-up of operation of the zero-emission housing demonstration units
4. Review the preparation and execution of contracts for the construction, installation and start-up of the waste water treatment plant
5. Supervise the construction and start-up of the plant through site visits and liaison with the various parties involved in the construction
6. Supervise the operation and maintenance of the treatment plant during the first six months after initial start-up

ANNEX III PROJECT PROGRESS PLAN

Quarter/Year (1/2002-4/2006)

Code	Component/Activity	1/02	2/02	3/02	4/02	1/03	2/03	3/03	4/03	1/04	2/04	3/04	4/04	1/05	2/05	3/05	4/05	1/06	2/06	3/06	4/06
1	Wastewater treatment in Havana																				
	Project mobilisation	■																			
1.1	Treatment plant, including nutrient																				
	Pre-design report	■																			
	Detail design/tender documents		■	■																	
	Tendering/contracting				■	■															
	Construction and commissioning							■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Operation and maintenance																			■	■
1.2	Sludge treatment																				
	Pre-design	■																			
	Detail design/tender documents		■	■																	
	Tendering/contracting				■	■															
	Construction and commissioning							■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Operation and maintenance																			■	■
2	Demonstration projects for recycling																				
2.1	Zero emission housing unit																				
	Planning/detail design/contracting	■	■																		
2.2	Construction of sewage treatment			■	■	■	■														

ANNEX IV

CARTAGENA CONVENTION – LBS Protocol

Domestic Wastewater

A. Definitions

For the purposes of this Annex:

1. "Domestic wastewater" means all discharges from households, commercial facilities, hotels, septage and any other entity whose discharge includes the following:
 - (a) Toilet flushing (black water);
 - (b) Discharges from showers, wash basins, kitchens and laundries (grey water); or
 - (c) Discharges from small industries, provided their composition and quantity are compatible with treatment in a domestic wastewater system.

Small quantities of industrial waste or processed wastewater may also be found in domestic wastewater. (See Part D - Industrial Pretreatment.)
2. "Class I waters" means waters in the Convention area that, due to inherent or unique environmental characteristics or fragile biological or ecological characteristics or human use, are particularly sensitive to the impacts of domestic wastewater. Class I waters include, but are not limited to:
 - (a) waters containing coral reefs, seagrass beds, or mangroves;
 - (b) critical breeding, nursery or forage areas for aquatic and terrestrial life;
 - (c) areas that provide habitat for species protected under the Protocol Concerning Specially Protected Areas and Wildlife to the Convention (the SPAW Protocol);
 - (d) protected areas listed in the SPAW Protocol; and
 - (e) waters used for recreation.
3. "Class II waters" means waters in the Convention area, other than Class I waters, that due to oceanographic, hydrologic, climatic or other factors are less sensitive to the impacts of domestic wastewater and where humans or living resources that are likely to be adversely affected by the discharges are not exposed to such discharges.
4. "Existing domestic wastewater systems" means, with respect to a particular Contracting Party, publicly or privately owned domestic wastewater collection systems, or collection and treatment systems, that were constructed prior to entry into force of this Annex for such Contracting Party.
4. "New domestic wastewater systems" means, with respect to a particular Contracting Party, publicly or privately owned domestic wastewater collection systems, or collection and treatment systems, that were constructed subsequent to entry into force of this Annex

for such Contracting Party, and includes existing domestic wastewater systems which have been subject to substantial modifications after such entry into force.

5. "Household systems" means on-site domestic wastewater disposal systems for homes and small commercial businesses in areas of low population density, or where centralised collection and treatment systems of domestic wastewater are not economically or technologically feasible. Household systems include, but are not limited to, septic tanks and drain fields or mounds, holding tanks, latrines and bio-digesting toilets.
7. "Wastewater collection systems" means any collection or conveyance system designed to collect or channel domestic wastewater from multiple sources.

B. Discharge of Domestic Wastewater

1. Each Contracting Party shall:
 - (a) Consistent with the provisions of this Annex, provide for the regulation of domestic wastewater discharging into, or adversely affecting, the Convention area;
 - (b) To the extent practicable, locate, design and construct domestic wastewater treatment facilities and outfalls such that any adverse effects on, or discharges into, Class I waters, are minimised;
 - (c) Encourage and promote domestic wastewater reuse that minimises or eliminates discharges into, or discharges that adversely affect, the Convention area;
 - (d) Promote the use of cleaner technologies to reduce discharges to a minimum, or to avoid adverse effects within the Convention area; and
 - (e) Develop plans to implement the obligations in this Annex, including, where appropriate, plans for obtaining financial assistance.
2. Each Contracting Party shall be entitled to use whatever technology or approach that it deems appropriate to meet the obligations specified in Part C of this Annex.

C. Effluent Limitations

Each Contracting Party shall ensure that domestic wastewater that discharges into, or adversely affects, the Convention area, is treated by a new or existing domestic wastewater system whose effluent achieves the effluent limitations specified below in paragraphs 1, 2 and 3 of this Part, in accordance with the following timetable:

Category	Effective Date of Obligation (in years after entry into force for the Contracting Party)	Effluent Sources
1	0	All new domestic wastewater systems

Category	Effective Date of Obligation (in years after entry into force for the Contracting Party)	Effluent Sources
2	10	Existing domestic wastewater systems other than community wastewater systems
3	10*	Communities with 10,000 - 50,000 inhabitants
4	15	Communities with more than 50,000 inhabitants already possessing wastewater collection systems
5	20	Communities with more than 50,000 inhabitants not possessing wastewater collection systems
6	20	All other communities except those relying exclusively on household systems

* Contracting Parties which decide to give higher priority to categories 4 and 5 may extend their obligations pursuant to category 3 to twenty (20) years (time frame established in category 6).

1. Discharges into Class II Waters

Each Contracting Party shall ensure that domestic wastewater that discharges into, or adversely affects, Class II waters is treated by a new or existing domestic wastewater system whose effluent achieves the following effluent limitations based on a monthly average:

C. Parameter	Effluent Limit
Total Suspended Solids	150 mg/l*
Biochemical Oxygen Demand (BOD ₅)	150 mg/l
pH	5-10 pH units
Fats, Oil and Grease	50 mg/l
Floatables	not visible

* Does not include algae from treatment ponds

2. Discharges into Class I Waters

Each Contracting Party shall ensure that domestic wastewater that discharges into, or adversely affects, Class I waters is treated by a new or existing domestic wastewater system whose effluent achieves the following effluent limitations based on a monthly average:

D. Parameter	Effluent Limit
Total Suspended Solids	30 mg/l*
Biochemical Oxygen Demand (BOD ₅)	30 mg/l
pH	5-10 pH units
Fats, Oil and Grease	15 mg/l
Faecal Coliform (Parties may meet effluent limitations either for	Faecal Coliform: 200 mpn/100 ml; or a. <i>E. coli</i> : 126 organisms/100ml;

faecal coliform or for <i>E. coli</i> (freshwater) and enterococci (saline water).)	b. enterococci: 35 organisms/100 ml
Floatables	not visible
* Does not include algae from treatment ponds	

3. All Discharges

- (a) Each Contracting Party shall take into account the impact that total nitrogen and phosphorus and their compounds may have on the degradation of the Convention area and, to the extent practicable, take appropriate measures to control or reduce the amount of total nitrogen and phosphorus that is discharged into, or may adversely affect, the Convention area.
- (b) Each Party shall ensure that residual chlorine from domestic wastewater treatment systems is not discharged in concentrations or amounts that would be toxic to marine organisms that reside in or migrate to the Convention area.

D. Industrial Pretreatment

Each Contracting Party shall endeavour, in keeping with its economic capabilities, to develop and implement industrial pretreatment programmes to ensure that industrial discharges into new and existing domestic wastewater treatment systems:

- (a) do not interfere with, damage or otherwise prevent domestic wastewater collection and treatment systems from meeting the effluent limitations specified in this Annex;
- (b) do not endanger operations of, or populations in proximity to, collection and treatment systems through exposure to toxic and hazardous substances;
- (c) do not contaminate sludges or other reusable products from wastewater treatment; and
- (d) do not contain toxic pollutants in amounts toxic to human health and/or aquatic life.

Each Contracting Party shall endeavour to ensure that industrial pretreatment programmes include spill containment and contingency plans.

Each Contracting Party, within the scope of its capabilities, shall promote appropriate industrial wastewater management, such as the use of recirculation and closed loop systems, to eliminate or minimise wastewater discharges to domestic wastewater systems.

E. Household Systems

Each Contracting Party shall strive to, as expeditiously, economically and technologically feasible, in areas without sewage collection, ensure that household systems are constructed, operated and maintained to avoid contamination of surface or ground waters that are likely to adversely affect the Convention area.

For those household systems requiring septage pump out, each Contracting Party shall strive to ensure that the septage is treated through a domestic wastewater system or appropriate land application.

F. Management, Operations and Maintenance

Each Contracting Party shall ensure that new and existing domestic wastewater systems are properly managed and that system managers develop and implement training programmes for wastewater collection and treatment system operators. Managers and operators shall have access to operators' manuals and technical support necessary for proper system operation.

Each Contracting Party shall provide for an evaluation of domestic wastewater systems by competent national authorities to assess compliance with national regulations.

II.

G. Extension Period

1. Any Contracting Party may, at least two years before the effective date of an obligation in categories 2, 3, 4 or 5 of the timetable in Part C above, submit to the Organisation a declaration that, with respect to such category, it is unable to achieve the effluent limitations set forth in paragraphs 1 and 2 of Part C above in accordance with that timetable, provided that such Contracting Party:
 - (a) has developed action plans pursuant to Part B, paragraph 1(e);
 - (b) has achieved the effluent limitations for a subset of the discharges associated with those categories, or a reduction of at least 5 percent of total loading of pollutants associated with those categories; and
 - (c) has taken actions to achieve those effluent limitations, but has been unable to achieve those limitations due to a lack of financial or other capacity.
2. With respect to a Contracting Party that has submitted a declaration pursuant to paragraph 1 above, the effective date of an obligation in the timetable in Part C for categories 2, 3, 4 or 5 of that timetable shall be extended for a period of five years. The five-year period shall be extended for a maximum of one additional five-year period if the Contracting Party submits a new declaration prior to the expiration of the first period, and if it continues to meet the requirements set out in paragraph 1 above.
3. The Contracting Parties recognise that the complete fulfillment* of the obligations contained in this Annex will require the availability and accessibility of financial resources.

ANNEX V**ACRONYMS/ABBREVIATIONS**

APR	Annual Project/Programme Review
BOD	Biochemical oxygen demand
CBO	Community based organisation
COD	Chemical oxygen demand
ECD	Environmental Control Division
GEF	Global Environment Facility
MGD	Million gallons per day
NGO	Non-government organisation
O&M	Operation and maintenance
PHA	Public Health Act
POP	Persistent Organic Pollutant
PPER	Project Performance Evaluation Report
PS	Pump station
PSO	Private sector organisations
Ton	Metric ton, 2205 lbs.
Tot-N	Total nitrogen
Tot-P	Total phosphorous
TPR	Tri-Partite Review
TSS	Total suspended solids
UNDP	United Nations Development Program
WWTP	Wastewater treatment plant