

Brussels, February 23, 2005.



*To the Chief Delegates of the  
Member Governments of PIANC  
To the Secretaries of the National Sections of  
PIANC  
To the Sister Associations of PIANC*

**Subject :** **Second Call for members :** EnviCom - Setting up of a new Expert Group 2 on  
“Environmental Benefits of Waterborne Transport”.

Dear Sir and Dear Colleague,

This is a second call for members for this Expert Group. As it deals with an important matter, the EnviCom would like to recruit more members.

May we ask you to inform the Secretariat of EnviCom before May 1, 2005 (copy to the General Secretariat) about the name, qualifications and address of the expert proposed by your country to participate in the Expert Group. **Please note that from now on a second expert per country, being a young professional, can participate in the working/expert group activities.**

Please enclose a brief curriculum vitae of the proposed expert together with some details about his professional experiences. This Expert Group is intended to be multi-disciplinary in its make-up and may include non-traditional stakeholder participation.

We remind you that in accordance with PIANC rules, the costs incurred in taking part in Working Groups' activities are borne by the member countries.

We thank you beforehand for the collaboration of your expert. Awaiting your prompt reply, we remain,

Yours sincerely,

  
ir. Louis Van Schel,  
Secretary – General.

Reply to:

Ir. Tiedo Vellinga  
Rotterdam Municipal Port Management  
Secretary of EnviCom  
Galvanistraat 15, Postbus 6622 – 3002 AP ROTTERDAM – THE NETHERLANDS  
Tel : 31 10 252 1309 – fax : 31 10 476 7809 – t.vellinga@portofrotterdam.com



## *INTERNATIONAL NAVIGATION ASSOCIATION*

### *Environmental Commission - EnviCom*

#### TERMS OF REFERENCE

#### EnviCom Experts Group 2

### **Environmental Benefits of Waterborne Transport**

The development of automated systems has significantly improved ports and shipping's ability to move towards seamless transportation. This push for efficiency within the shipping sector combined with the use of containers and Ro/Ro traffic has made intermodal transport a realizable possibility. However, this intermodality has swung heavily in the favor of road distribution as the most flexible, amenable, cost efficient mode of transport, this has inevitably lead to a high price in terms of road congestion and environmental impacts.

Waterborne transport offers a more sustainable option for transportation, a review of impacts and savings based on industry recognized measures will highlight the benefits inherent in moving freight, goods and passengers by water. In addition to these assessments, the role of modern ports and inland waterways requires emphasis as ports have to be seen as a hub for linkage in any integrated transport system. It is considered that any study of the Environmental Benefits of Waterborne Transport should include:

#### **Establishing Baseline Conditions**

#### **Pollution Associated with the transport industry.**

The quantification of impacts to the environment for all transport modes requires to be established using up-to-date research. This will establish a baseline to allow the further assessment of environmental impacts associated exclusively with waterborne transport, and hence the relative saving over other modes of transport.

The following areas form the basis for impact evaluation.

- Emissions. Overview of the impact of exhaust gases concentrating on carbon dioxide and monoxide, nitrogen, sulphur, water vapor and particulate matter.
- Waste from the transport industry requires evaluation; such areas include oil and other hydrocarbons, waste and disposal costs of transport equipment at the end of the lifecycle.

- Review of transport modes in outline, focusing on the split between different modes in the current freight movement statistics.

### **Direct Environmental Benefit**

Quantitative and Qualitative accounts of savings using waterborne transport, statements are to be highlighted with case studies (where possible). Areas for study:

- Air quality (emissions);
- Pollution and waste savings (marine, land waste, noise, etc);
- Fuel and energy efficiency calculated using industry standards (i.e., megajoules/tonne-km);
- Reduced wear and tear on landside infrastructure.

### **Indirect Environmental Benefit**

Quantitative and qualitative accounts of indirect environmental savings associated with waterborne transport. Areas for study:

- Safety record (using the low incident rates associated with waterborne transport as a comparison method between other modes of transport)
- Road congestion reduction (short sea shipping and inland waterways transport)
- Timetabling benefits (speed, punctuality and delays versus programmed delivery times achievable with waterborne transport)

### **Inland Ports and Inland Waterway Connectivity**

Areas for Study:

- The role of inland waterways cannot be underestimated in the context of waterborne transport, the environmental saving associated with energy consumption and atmospheric pollution requires quantification to establish the case.
- Barriers to inland waterways development need establishing. This point specifically relates to connectivity at interchange points, i.e., canal/river barge to ship, or ship to shore (port facilities). These barriers may also include efficiency of infrastructure (lock, etc), investment requirements, attitudes to road alternatives amongst distribution managers, constraint on routes and appropriate inland ports.
- Maintenance of navigation depths (flow regulation, dredging, etc).

## **Seaports and Shipping**

### **Areas for Study:**

- The automated port environment presents possibilities for increased efficiency and environmental benefits relating to safety (reduction in pollution and marine related risk), fuel savings and reduced exhaust emissions for auxiliary machinery, etc.
- Port intermodality offers an efficient interchange point as cargo can be readily shifted between ships, road vehicles and rail trucks.
- Planning of port developments in context with other transport developments, this is to include road, rail, air and seaport development assessed on an even criteria assessment basis, balancing both the positive and negative environmental effects. The impact (in general terms) on the environment can be assessed.
- Port estates also offer the potential of added values logistics by concentration of material processing works at the ports to eliminate additional transport before and after manufacture/processing.

### **Task Group Composition**

Experts in the field of logistic/sustainable environmental transport. Most work will involve a detailed literature review followed by consultation with major players in the transport chain; i.e., ports, freight handling companies, shipping lines, transport planner, etc.

### **Output**

A technical brief written in plain language and aimed at the use of the general public and stakeholders and also to produce a 2-4 page brochure targeting the general public and internet reader.