



Working Group Terms of Reference

How to Attract Green Funding for Nature-Based Navigation Infrastructure

1. Background

In the past decades development of Nature-based Solutions¹ (NbS) for navigation infrastructure gained considerable attention in the port and waterway community. Research provided effective concepts. In pilot studies these concepts were tested and port and waterway authorities implemented these ideas in a variety of projects. The results of these projects have been received well by the responsible authorities. Moreover there seems to be ample opportunity for wide application of such solutions.

However, barriers seem to stand in the way for wide-scale application of NbS for navigation infrastructure. Known barriers by developers and managers are, for example, assumed additional costs, fear of change or lack of interest or support (Envicom report 176). Criticism from the financial sector is the lack of transparent business cases, missing characterisation as an asset-class, and risk adversity due to general unfamiliarity with the concepts and sector².

Interestingly, the financial sector shows a considerable appetite to invest in infrastructure projects in order to diversify their investment portfolio. This appetite is even stronger for so called 'green investments'. This category is driven by both fiscal stimuli and a growing community of investors with a green interest. These are for instance investment fund managers, pension funds managers, impact investors but also traditional funding agencies with an ambition to 'green-up' their portfolio.

When the appetite for financing green infrastructure is linked to NbS for navigation infrastructure, adoption and roll-out of NbS will be accelerated. Adoption and roll-out of NbS in this sector would be beneficial as these solutions can provide long lasting benefits to port and waterway authorities

¹ Nature-based Solutions are defined by IUCN as “actions to protect, sustainably manage, and restore natural or modified ecosystems, that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits”.

² This ToR has been reviewed by two infrastructure investment specialists.

and their stakeholders, are sustainable by nature, serve the needs of the financial sector and contribute to a positive view by the public of navigation infrastructure.

However, to bridge the gap between technical possibilities and funding options a set of practical steps needs to be taken. These steps include showing how value in NbS can be identified, how this value can be converted into tangible revenue streams, and what funding options would fit such a revenue stream. In this terms of reference the outline for a working group covering these issues is described.

2. Objective

Describe the options and practical steps to take for navigation infrastructure managers and developers to attract funding from institutional investors for their nature-based infrastructure projects.

3. Earlier reports to be reviewed

EnviCom WG 176: 'Guide for Applying Working with Nature to Navigation Infrastructure Projects' (2018)

InCom WG 139: 'Values of Inland Waterways' (2016)

EnviCom WG 175: 'A Practical Guide to Environmental Risk Management for Navigation Infrastructure Projects' (forthcoming)

EnviCom WG 178: 'Working Group on Climate Change Adaptation for Maritime and Inland Port and Navigation Infrastructure'

PIANC Cross-Commission TG 193: 'Resilience of the Maritime and Inland Waterborne Transport System' (forthcoming)

EnviCom WG 195: 'An Introduction to applying Ecosystem Services for Waterborne Transport Infrastructure Projects' (forthcoming)

4. Scope

The Working Group will develop a report that will:

1. Present the basis for NbS as durable solutions, also from an investment perspective.
2. Identify the benefits and associated value of the most common applications of NbS in the port and waterway sector.
3. Show how the value proposition can be optimised on the basis of best practices (e.g. value stacking, multifunctional use, synergetic alliances, economies of scope).
4. Show how value can be converted into revenue streams taking into account the capabilities of various common institutional settings (e.g. private port, national public port, municipal port, recreational port, waterway authority, landlord model, concession model, full service model)
5. Provide an overview of types of funding sources and typical characteristics with regard to NbS for navigation infrastructure (e.g. green funds, impact funds, infrastructure funds, pension funds, traditional funding).
6. Show what type of revenue streams could be fitting for the various types of funding options and what arrangements would be supportive to make this work (e.g. public contracting, public-public cooperation, PPP, market/private projects).
7. Provides real life examples of green solutions and associated funding structure.

5. Intended product

The report will be qualitative in nature as quantification of value is highly dependent on local circumstances, local and national regulatory context and specific finance calculation rules. The report will be written as general guidance for infrastructure developers and managers to explore and enhance funding opportunities of green projects.

6. Working Group Membership

Members of the WG should include representatives from the target audience, i.e. consultants, regulators, contractors, waterway authorities and/or port authorities who are tasked with making decisions on investments and project development. The range of expertise should cover at least practical port design and construction knowledge and experience, expertise in sustainability issues and NbS, institutional and financial aspects of public and private port authorities.

Special attention will be paid to the inclusion of financial expertise in the working group. For this purpose, experts from the infrastructure finance sector will be invited as corresponding members. To ensure proper line-up of the report with the appetite for green investments from the financial sector, these financial experts will also be consulted for quality assurance of the report. Interest by the sector to participate in such way has been probed and provided positive responses.

7. Relevance to Countries in Transition

The report will be written for a broad audience of port and waterway managers. The primary focus will be on decision-making in early stages of project development where the scope of the project, type of solutions and desired funding arrangements are under consideration.

For countries in transition, this report will be of particular interest as these countries commonly seek external funding for their project due to limited availability of public funding. Green funds and alike could be a welcome addition to their set of funding sources.

The report will be written in a straightforward manner to provide non-financial specialist tools to shape their projects in an attractive way for institutional investors.

8. Relevance to Climate Change and Working with Nature

The report will consider the role, influence, and implications of climate change and will integrate current knowledge from reports produced by the PIANC Permanent Task Group on Climate Change (PTGCC).

Climate change is expected to be one of the drivers for many port investments around the world. Shaping these investment in line with the philosophy of NbS will generally strengthen the robustness and resilience of those investments.

Working with Nature is directly connected to the subject of this TOR as green financing would be a source of funding for Working with Nature projects that leverage and produce environmental value and benefits.

Annex (relevant reports and literature)

- WG 100: *'Dredging Management Practices for the Environment – a Structured and Selected Approach'*
- WG 108: *'Environmental Aspects of Dredging and Port Construction Around Coral Reefs'*
- WG 136: *'Sustainable Navigation'*
- WG 139: *'Values of Inland Waterways'* (2016)
- WG 159 on *'Renewable Energy for Maritime Ports'*
- WG 175: *'A Practical Guide to Environmental Risk Management for Navigation Infrastructure Projects'* (forthcoming)
- WG 176: *'Guide for Applying Working with Nature to Navigation Infrastructure Projects'* (2018)
- WG 178: *'Working Group on Climate Change Adaptation for Maritime and Inland Port and Navigation Infrastructure'*
- WG 188: *'Carbon Management for Port and Navigation Infrastructure'* (upcoming)
- WG 195: *'An Introduction to applying Ecosystem Services for Waterborne Transport Infrastructure Projects'* PIANC Cross-Commission
- TG 193: *'Resilience of the Maritime and Inland Waterborne Transport System'* (forthcoming)
- Task Group 2 report *'Towards a Sustainable Waterborne Transportation Industry' 'Dredging for Sustainable Infrastructure'*, IADC-CEDA. (2018)
- *'Infrastructure as an Asset Class: Investment Strategy, Sustainability'*, Project Finance and PPP, 2nd Edition, 2016. Barbara Weber, Mirjam Staub-Bisang und Hans Wilhelm Alfen.
- *'Value creation in capital waterway projects'*. Arjan Hijdra, Johan Woltjer, Jos Arts, 2014.
- *'Waterways, ways of value. Redevelopment of an ageing system in modern society'*. Dissertation A. Hijdra, University of Groningen, 2017.
- *Guidance note on integrating ESG-factors into financial models for infrastructure investments*. WWF publication 2019. Dr. Barbara Weber (B Capital Partners), Britta Rendlen (WWF Switzerland).
- *Sustainable Infrastructure - A Business Case*. Sustainable Infrastructure Alliance (SIA), Feb. 2019. Dr. Barbaras Weber.