



Climate change adaptation: engaging stakeholders and building capacity

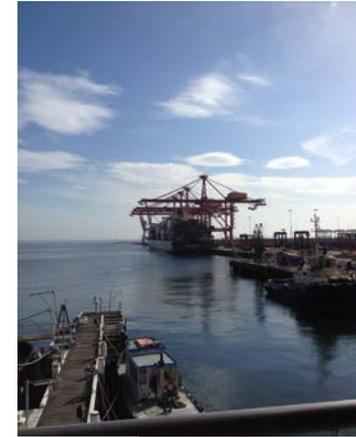
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Mentor PIANC Working Group 178,

Climate Change Adaptation for Ports and Inland Waterways

Background

- Waterborne transport includes, amongst others:
 - physical marine assets (e.g. quay-lines, berths, breakwaters, docks, locks, and other protective or operational structures)
 - terrestrial or hinterland assets associated with the port estate or waterway operation
 - port approach channels, disposal sites
 - operations or activities that depend on or are related to navigation infrastructure e.g. maintenance dredging, pilotage, vessel services, recreational use
- This infrastructure does not operate in isolation
- All those with relevant interests need to be engaged in the adaptation planning process



Key stakeholders

INTERNAL

- Port or waterway director / CEO
- Harbour master / operations manager
- Hydrographer
- Pilots representative
- Health and safety officer
- VTS, radar/communications representative(s)
- Port marine services representative Divers
- Maintenance representative
- Port facility security officer or emergencies officer
- Port or waterway planner
- Port or waterway engineer
- Environmental / sustainability officer
- Infrastructure asset owner(s)
- Owner(s) of land; of sea or river bed
- Terminal operator(s)
- Marina operator(s)
- Insurers
- Investors, financiers, etc.
- Design engineer, planner / project advisors

EXTERNAL (USER)

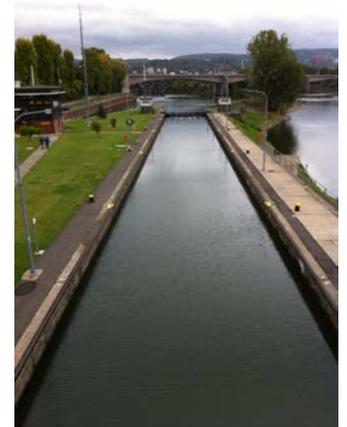
- Commercial port or waterway users
- Freight companies
- Tenants
- Harbour association
- Fisheries port or waterway users
- Leisure or recreation users

EXTERNAL (NON-USER)

- Local authorities / government / planners
- Regional authorities / government / planners
- National authorities / government
- Highways (roads) authority
- Rail provider
- Waterway
- Environmental regulators
- Other regulators
- Power, water, utilities
- Local community representatives
- Hoteliers, retailers, dependent commerce

What is practicable? Who decides?

- Those responsible for an asset or operation are usually best placed to establish what types of measures are appropriate, and when action needs to be taken
- Engaging relevant individuals is critical to the process of strengthening navigation infrastructure resilience, and adapting assets and operations
- Solutions need to be owned, implemented, managed and monitored
- Decisions reached without the engagement of key stakeholders may not generate ownership; they may also miss opportunities and be more expensive



What to do? Who pays?

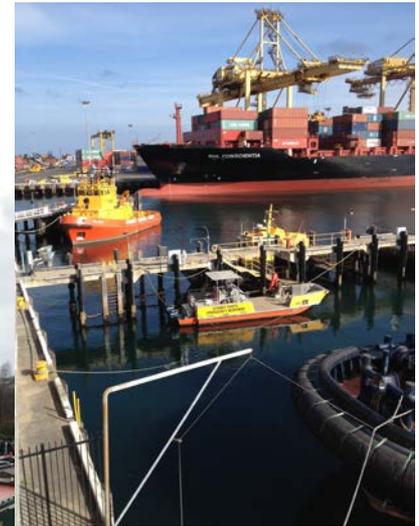
- New infrastructure: resilience / adaptation part of project design
 - Additional costs may or may not be sensitive to the climate change scenario adopted, and they may be minimal or they may be significant
- Existing infrastructure: consider residual life of asset, current condition, etc.
 - Can adaptation can be delayed until the asset requires replacement, with or without strengthening resilience in the meantime, or is retro-fitting needed?
- Is there: an internal budgetary provision? External finance available? A win-win opportunity?
- Adaptation costs will often fall to infrastructure owner or operator
- Resources will likely be limited; senior management and where relevant investors or financiers may need to be involved in many decisions about climate change adaptation ... however ...

Alternative options

- Resilience can often be improved or adaptation delivered through
 - behavioural change
 - changes in operational procedures or maintenance regimes
 - the adoption of no- or low-regrets measures
 - identifying 'win-win' solutions
 - other flexible or adaptive ways of working
- Such alternatives can be significantly cheaper than conventional hard engineering solutions
- May provide a temporary or interim solution or may be a longer-term option
- Appropriateness of these measures (and associated opportunities) often best determined by those familiar with the infrastructure asset or operation, and how it is currently used or carried out

Adaptation challenges

- Climate change is not a **one-off**
- Many **uncertainties**
- Solutions are not **one-size-fits-all**
- Climate change adaptation will be an **ongoing process**
- Needs to become **part of the day job**
- **Mainstream** into activity and operations at all levels



Awareness raising



“The climate is changing”

- Necessary but not sufficient: won't typically lead to action
- To result in action, the message must:
 - Be locally and personally relevant
 - Be clear and meaningful to the recipient
 - Communicate the level of urgency

Capacity building

- Climate change is a new problem: knowledge and resources often don't exist
- Capacity building is about empowering those responsible for navigation infrastructure to deal with issues
- More than simply raising awareness
- Need to facilitate access to:
 - knowledge and technical support
 - technical guidance
 - good practice
 - technology transfer
 - tool-kits of options (structural and non-structural, institutional, behavioural)
- Role of PIANC's WG 178 guidance



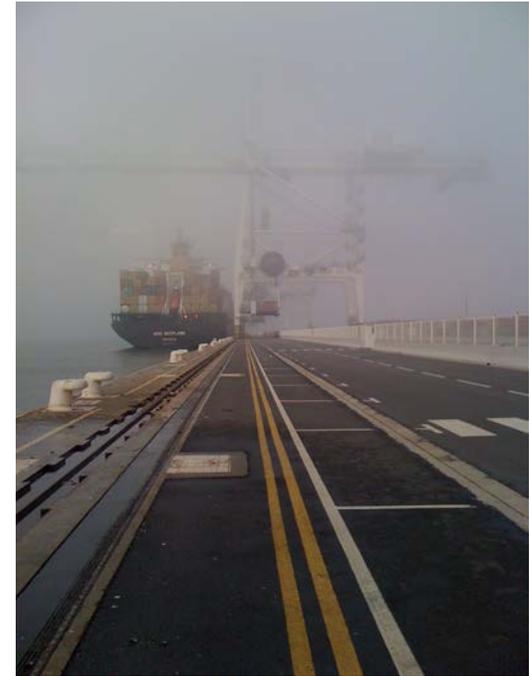
WG 178 objectives

- Develop an approach to climate change adaptation planning and delivery for maritime and inland port and navigation infrastructure
- Build on (updated) PIANC TG3 report on climate impacts
- Collate existing information on climate projections
- **Generate a toolbox of adaptation options** including non-structural as well as structural measures
- Indicate the effectiveness of different adaptation options in typical or generic climate change scenarios
- Provide guidance on **addressing challenges and identifying priorities**
- Provide a **guidance framework for decision making**

Guidance will include

Advice on

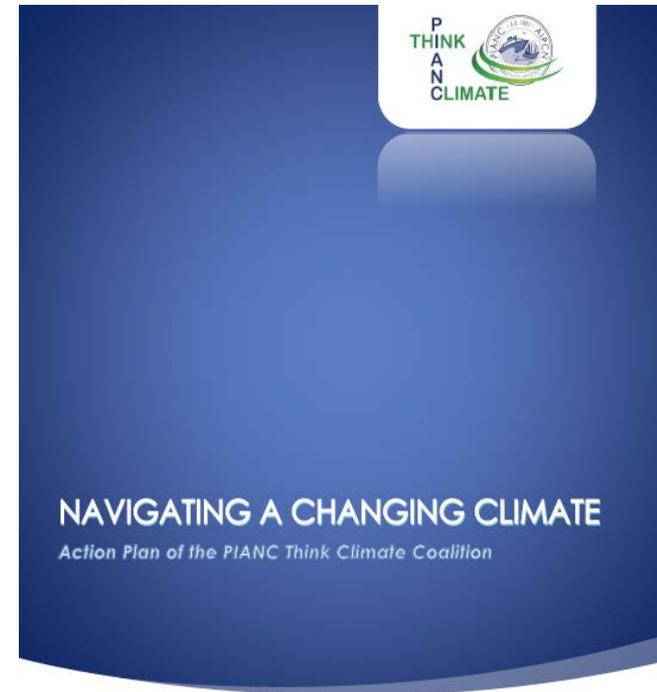
- who should be involved in decision making on measures to strengthen resilience and adapt navigation infrastructure
- how their effective participation in this process can be facilitated
- how to approach the interpretation of the climate science and risk assessment methodologies
- building individual and institutional capacity to respond to the changing climate





Publication of WG 178 technical guidance, planned for early 2017, is an action in the Action Plan of PIANC's Think Climate coalition.

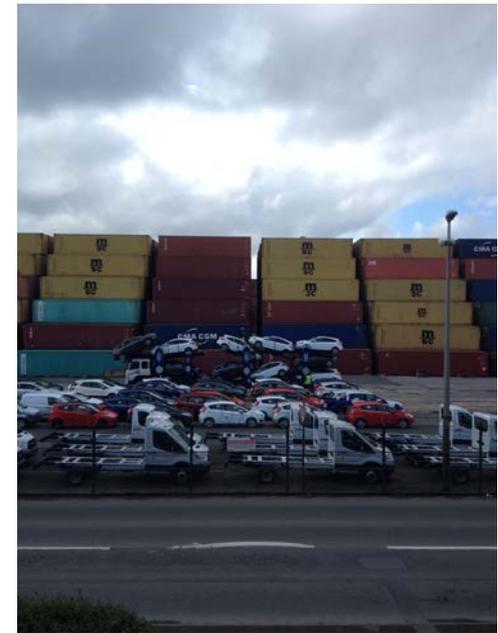
Several other Working Groups are proposed in the Plan (carbon management in ports; possible WG on resilience ...)



www.pianc.org/thinkclimate.php

Think Climate supporters

- Value of coalition's work increase as visibility of Navigating a Changing Climate initiative increases
- Other organisations being encouraged to sign up as Think Climate supporters
- Supporters receive newsletters and information about relevant events and new technical publications
- Supporters will play important role in dissemination and therefore make essential contribution to the achievement of the Think Climate coalition's vision



Existing supporters

- Society of International Gas Tanker and Terminal Operators (SIGTTO)
- Institut français des sciences et technologies des transports, de l'aménagement et des réseaux (IFSTTAR)
- North Queensland Bulk Ports Corporation (NQBP)
- SedNet
- PIANC UK
- Compagnie Nationale du Rhône (CNR)
- Bremenports GmbH & Co. KG
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Thanks for listening!



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