

Session DP UP 2.4: Planning for ports and waterways

Date and Time of Session: Thursday, 30 September 2010, 15.15-17.00

Short description of the session topic and the objective of the session

Topic: This session will explore various approaches to management of ports operations, hinterland connections and waterways under climate change. Presentations will be given about Melbourne, Rotterdam, Taiwan and Hamburg.

Objective: pro's and cons of the different approaches will be discussed and lessons learned so far shared. The sessions is also meant to initiate and strengthen cooperation between port cities.

Session Agenda and Main Speakers

Session chair: : Tiedo Vellinga, Port of Rotterdam, the Netherlands

Main speakers:

- Melbourne: its coastline, ports and climate change; Prof.dr. Darryn Mc Evoy; Climate Change Adaptation Programme, Global Cities Institute; RMIT University, Australia
- Hamburg port development under climate change; Prof.dr. Nicole von Liebermann; Hamburg Port Authority; Germany
- The interaction between port and delta - Kaohsiung in Taiwan as example; Chung Chen Kun; Delft University of Technology; the Netherlands
- Port development and climate change adaptation in Rotterdam; Rinske van der Meer; Port of Rotterdam; the Netherlands

Panelists: speakers + chair

Most exciting insight, moment or outcome

The worldwide variety in climatic conditions causes ports across the globe to quite different priorities in adaptation to climate change effects.

Main conclusions, themes, insights or messages

Moving a port (as in Melbourne and Rotterdam) may solve many problems in one go, including adaptation to climate change

The Hamburg strategy comprises: Attenuation of tidal energy by river engineering (mouth of Elbe), Giving more space to the flood (upper part of Elbe), Optimization of sediment management (whole Elbe system)

Today, public and scientific discussion on port development in times of climate change focuses mainly on rising high water-levels and adaptation potentials. But, we are forced to take the **sediment management** into account! It will be absolutely necessary to care about morph dynamics in our estuaries and thus harbours!

Port development in times of climate change affords additional protection and adaptation strategies. This may lead to increased costs. But, with an **integrated approach combining different interests** like

defence, economy, tourism, urban planning etc. costs can be shared and even lead to win-win-solutions.

Economic and political developments in China have led to a decrease in freight of the Kaohsiung Harbour in Taiwan. Port and city have to deal with a shrinking economy along with adaptation to climate change (water level rises up to 3 m).

The main spatial problems are the vast obsolete waterfront and the water issues in the highly dens port city

In order to plan the future of port and city, the relation between the port and the Kao Ping River delta is analysed in a spatial study

Summer is the main season of rainfall mainly coming with storm in Taiwan. There is a apparent rise of extreme rainfall in last decade. There were four times of huge rainfall (up to 1200 mm in a month) in the past ten years. This causes devastating peak floods in the Kaohping river basin, and the depositing of huge amounts of sediment and tree trunks in de the downstream parts

Specific interests Port of Rotterdam

- Open access is key. Some climate change adaptation measures have negative effects on accessibility
- Fresh water is available for now. In the future salt intrusion during extreme conditions may cause temporary inlet stops.
- Flood risk is limited, though one should use climate proofing solutions as they materialize.
- Determining and using a climate solution is reassuring to investors