

Climate adaptation vs. Sustainability?

Strategies emerging within the
port & logistics sector of Northwest Germany

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Content:

- **Related Concepts? Sustainability and Adaptation**
 - **R&D project Northwest 2050 – Port sector**
 - **Vulnerability to Climate Change in ports - an overview**
 - **Types of adaptation**
 - **Factors explaining integrative ambitions**
 - **Conclusion**
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Sustainability and Adaptation - Related Concepts?

- **Recognize natural boundaries**
 - **Demand for integration and respective instruments**
(monitoring, regulation & planning)
 - **Demand for learning and respective instruments**
(inclusive processes, visions, networks – stakeholder integration
(economy) ...)
 - **Fields of conceptual & political struggles:**
Danger of unsustainable forms of adaptation
 - **What drives integration?**
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Northwest 2050: Project design

- **Funded within KLIMZUG (bmbf, 5 years)**
- **Regional focus Bremen-Oldenburg**
- **Focus on 4 Clusters: Region, energy, food, port / logistics,**
- **“Roadmap of change” as product**



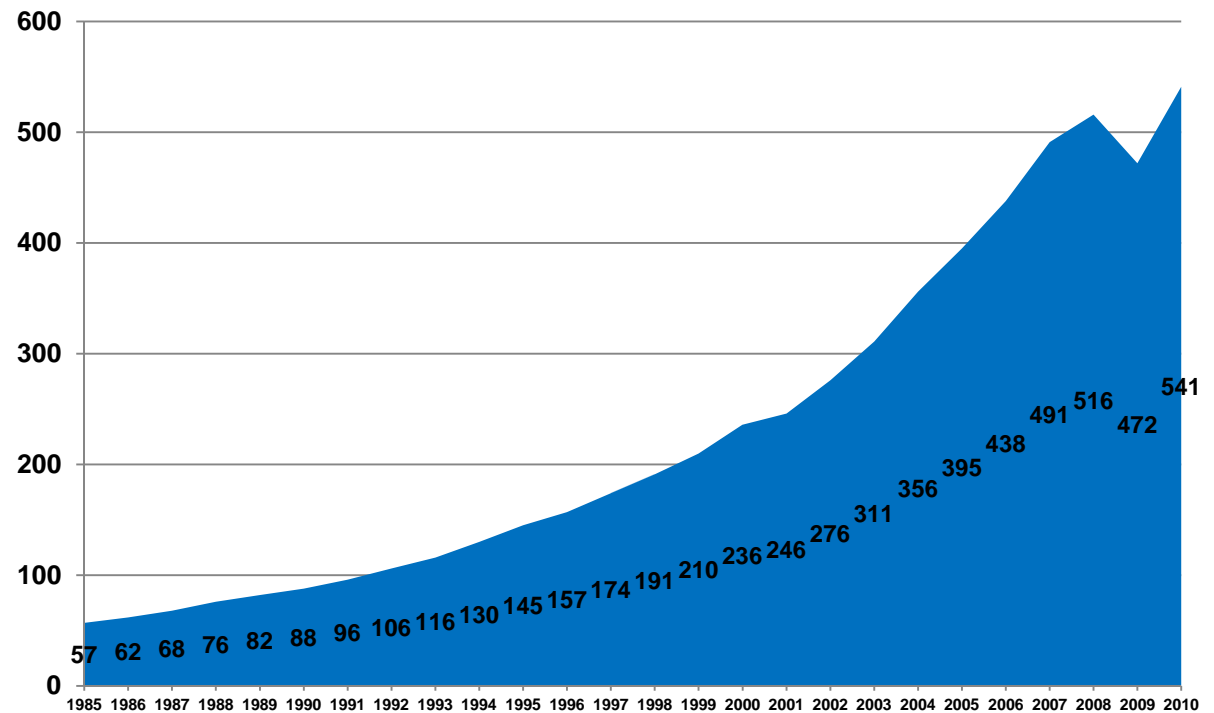
Northwest 2050 - Port Cluster Approach

	Actors	Problem?	Adaptation efforts?
Waterways	<ul style="list-style-type: none"> • (Liners) MNEs • (Waterway Authorities) 		
Port	<ul style="list-style-type: none"> • Port Authorities • Terminal Operators (PPP) • Administrations • Chambers 	<ul style="list-style-type: none"> • Sea Level Rise • Extreme events (Storm, Rain, Flood) 	<ul style="list-style-type: none"> • Clearing roles: Management • Increase Standards • Coastal protection
Hinterland-Infrastructures	<ul style="list-style-type: none"> • Transport industry • Logistic MNEs • Administrations 	<ul style="list-style-type: none"> • Extreme events • Heat, Frost 	<ul style="list-style-type: none"> • (Removing of Bottlenecks) • (Building standards)

Vulnerability - ports as a globalised industry

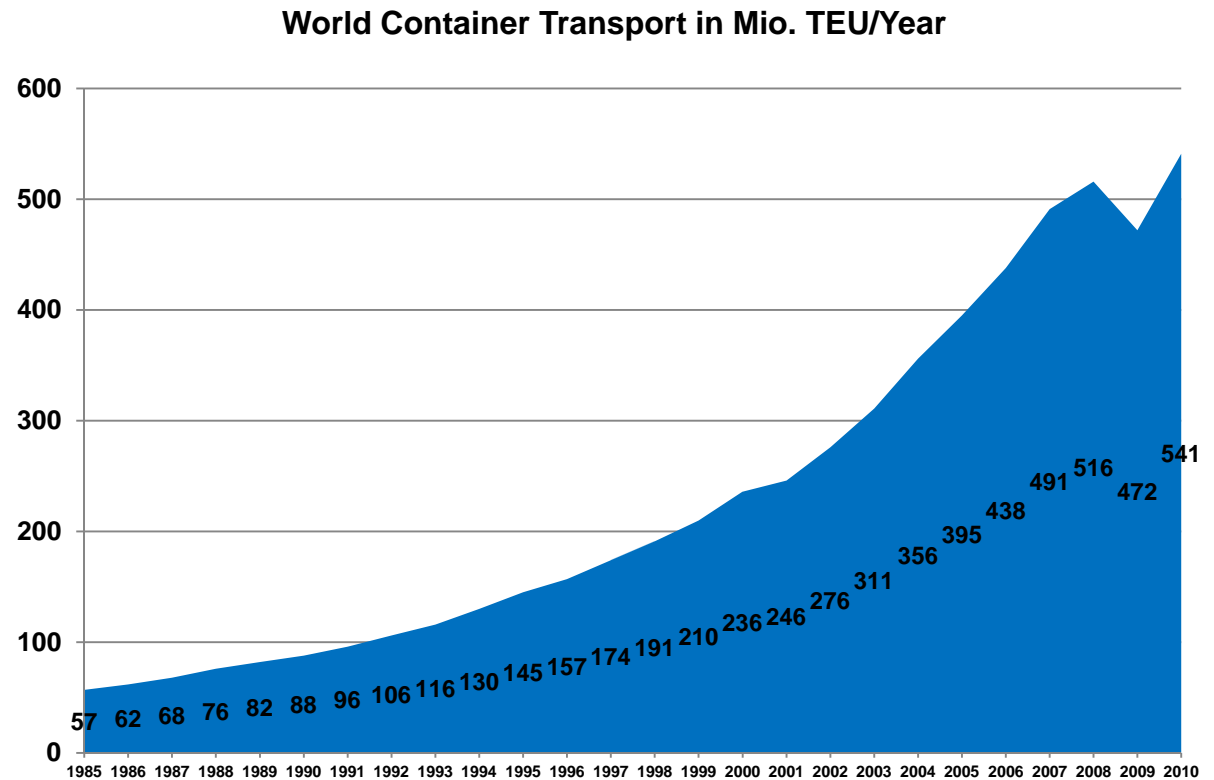
- marine transport is a globalised industry
- ports are elements of the value-chains
- Regionalization of ports

World Container Transport in Mio. TEU/Year



Vulnerability - ports as a globalised industry

- marine transport is a globalised industry
- ports are elements of the value-chains
- Regionalization of ports
- **Liners as core actors!**



Vulnerability - Liner Dominance & Port Competition



2006: Emma Maersk
15.000TEU
397m x 54m x 15m

Vulnerability - Liner Dominance & Port Competition

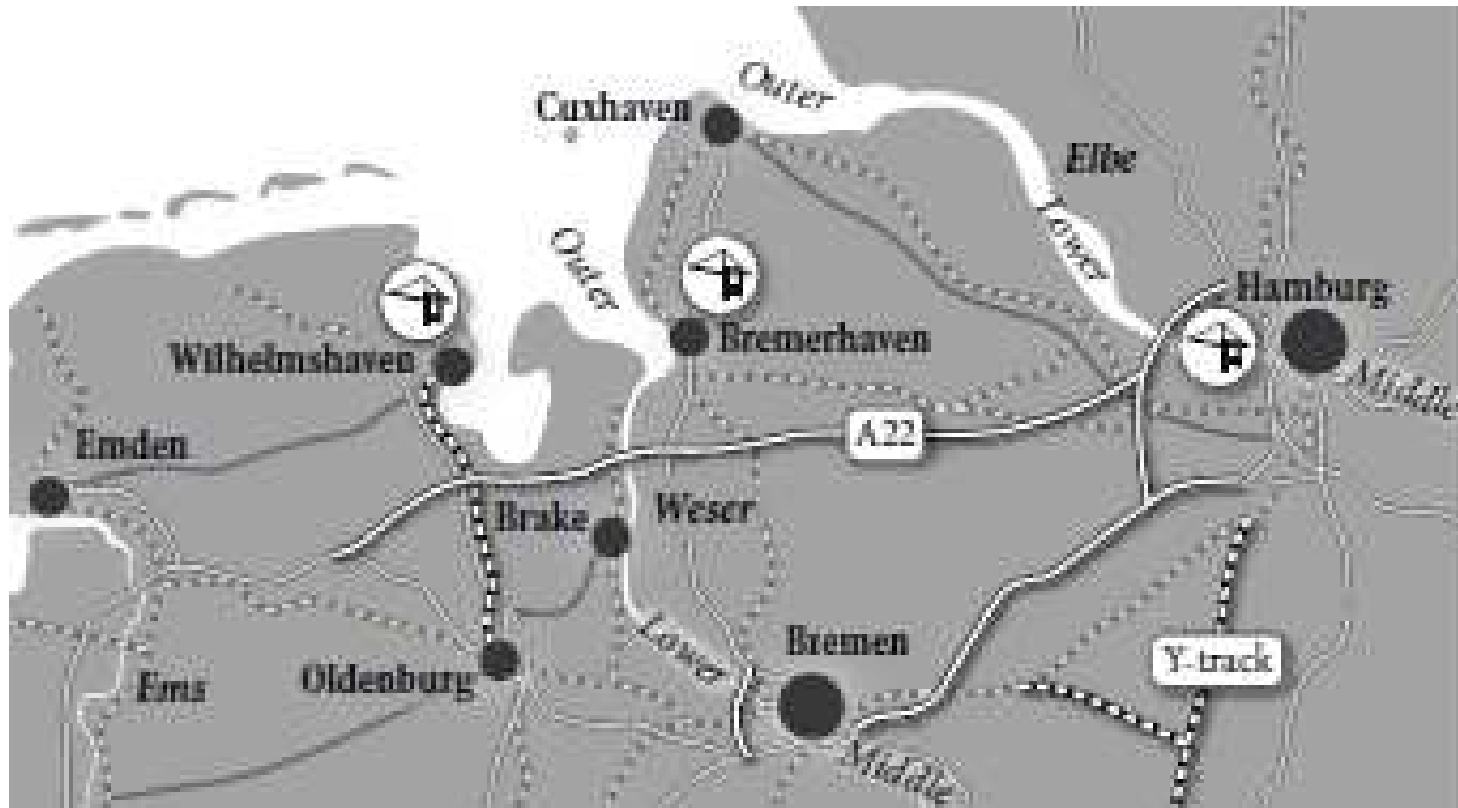


2006: Emma Maersk
15.000TEU
397m x 54m x 15m

2012: Marco Polo
16.000TEU
396m x 54m x 16m



Vulnerability - Northwest Germany as a Port Region



Vulnerability: increase in target conflicts

	Impacts of port development
Coastal Protection	River deepening projects increase flow velocity, tidal difference & salinity
Nature Protection	Undermining of river Ecosystem integrity & Biodiversity especially from river deepening
Agriculture	Demand for Space for Infrastructures or Compensation, Salinity of River Water because of river deepening
Climate Protection	2003-2025: 170% Growth in port related "Hinterland" Traffic (= 153 Mrd tkm, 17% of German Cargo Output)
Regional Development	Competition with other sectors for Finance, Space, political support

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Types of adaptation within the port industry

	Growth Orientation	Green Efficiency	Climate Proof
Waterways	<ul style="list-style-type: none"> • Demand driven Extension 	<ul style="list-style-type: none"> • Compensatory approach 	<ul style="list-style-type: none"> • Integrative Estuary Management • Resource conservation
Port	<ul style="list-style-type: none"> • Market solutions • Technologies 	<ul style="list-style-type: none"> • Energy efficiency • Moderate innovation 	<ul style="list-style-type: none"> • CO² free • Strong innovation
Hinterland-Infrastructures	<ul style="list-style-type: none"> • Demand driven Capacity Extension 	<ul style="list-style-type: none"> • Efficiency increases (combined traffic) • Selective development 	<ul style="list-style-type: none"> • Modal innovations • Resource conservation

Factors explaining adaptation efforts

	Adaptation	Type	Explanation
Waterways	Compensations for extensions		
Waterways	Polder (Pilot)		
Port	CO2-Reduction		
Port	Improved Management		
Hinterland-Infrastructures	Bottleneck removal (trains)		
Hinterland-Infrastructures	Building upgrading		

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Hinterland-Infrastructures	Building upgrading	Growth	

Factors explaining adaptation efforts

	Adaptation	Type	Explanation
Waterways	Compensations for extensions	Growth/Efficiency	Federalism Regulation (EU: FFH)
Waterways	Polder (Pilot)	Climate Proof	Learning Regulation (EU: FFH)
Port	CO2-Reduction	Climate Proof	Market pressure Energy policy
Port	Improved Management	Growth	Market pressure
Hinterland-Infrastructures	Bottleneck removal (trains)	Growth/Efficiency	Market demand
Hinterland-Infrastructures	Building upgrading	Growth	Regulation (DIN codes)

Conclusion

- Climate Adaptation of ports often “engineering” focused
 - Dynamics of port sectors are decisive frame conditions
 - Sustainable orientation of adaptation strategies cannot be taken for granted
 - Market processes have ambivalent effects
 - ambitions of strong actors as supporting factor
 - Robust high-level regulation for products & planning needed
 - Political demand for climate protection explains regulative ambitions and market behavior
 - Incentives for learning “only” supports reactions to explanatory factors
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Thank You!
