

CCNR's “Act now!” reflection paper

METEET Workshop on Climate Resilience of Inland Waterways and Ports

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1. The need to “Act Now!”
2. Low water and climate change
3. Actions
4. Conclusions

- » **Oldest international organisation** in operation (1815)
- » **5 Member States**, 11 Observer States
- » **Cooperation** with other international organisations, such as EU and UNECE and intense participation of industry
- » Governs navigation on the Rhine
- » **CCNR activities in three roles:** regulatory authority, European cooperation beyond Rhine, analysis and knowledge center
- » **Binding regulations** from Basel to the sea
 - » Police/operational rules
 - » Vessel technical requirements
 - » Crew (qualification and manning)
- » Other competencies relating to **infrastructure, economics, legal issues and dangerous goods**



01

**The need to
“Act Now!”**



Why?

- A paramount role foreseen for IWT to achieve the ambitious modal shift and emission reduction objectives.
- To fulfil this role, it remains more than ever essential:
 - to ensure that inland navigation is a reliable mode of transport;
 - to avoid a permanent shift away from inland waterways to other transport modes.
 - to improve the resilience of IWT to extreme low water events.

What?

- Extreme low water in Europe 2018
- Workshop on low water and effects on Rhine navigation 2019 to bring together all relevant stakeholders
 - Objective: identify and overcome challenges associated with the low water phenomenon and stimulate discussion on strategies
- Reflection paper “Act now!” (first edition 2020, second edition 2021)
 - Collection of statements and information on low water and their impacts
 - Proposals for short, medium and long term measures
- 2023 workshop as a logical follow-up and input for third edition “Act now!”

02

Low water & Climate Change



Rhine's natural low water regime

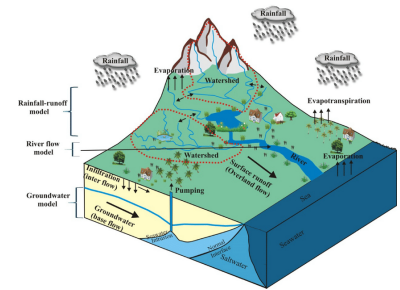
- Rhine, as all free flowing rivers has a natural low water regime!
- **Effects today**, short term measures needed.
- Did inland navigation take the natural regime into account?

Effects from climate change on Rhine discharge

- Climate change will affect the discharge regime of rivers!
- **Effects increase in future**, medium to long term measures needed.
- Is inland navigation aware of the coming changes and prepared ?

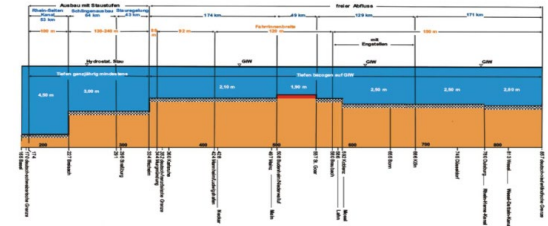
Drivers

- Precipitation (availability of water)
- Hydrology (discharge, run off)
- Morphology (riverbed, river training works)



Effects on fairway parameters and free flowing rivers

- Navigable channel depth -> reduced!
- Navigable channel width -> reduced!



Effects on inland waterway transport

- Limits cargo-carrying capacity
- Negative impact on cargo volumes transported
- Increased freight rates
- Increased risks of accidents
- Economic losses
- Effect on industrial production
- Disturbance logistics chain
- Reliability put into question
- Reverse modal shift

03 Actions



The two workshops in 2019 and 2023 identified possible actions to adapt to low water and to increase resilience of IWT:

- **Infrastructure**

- Draught optimisation at the German middle and lower Rhine
- Navigable channel in the navigable channel (low water corridor)
- Optimisation of river training works

- **Fleet**

- Dedicated vessels, capable of operating under low water conditions
- Retrofits and adaption measures on propulsors and additional buoyancy
- Adding barges to a pushed convoy during low water periods

- **Shippers and Logistics**

- long-term chartering contracts with operators with “low water barges”
- Optimisation of handling capacity onsite
- Increase of onsite inventory, additional storage capacity for raw materials

- **Digital**

- Improved water level forecasts (14 days and 6 weeks)
- Improved availability of navigable channel conditions (in realtime)
- Corridor Management



The two workshops in 2019 and 2023 concluded on “Next steps”:

	Short-term	Medium term	Long term
Infrastructure		Foster integrated project planning approach	Investigate hydraulic engineering and water management options to ensure reliable transport conditions on the Rhine
	Improving water level forecasting	Optimization of navigable channel depth in the Middle Rhine valley and Lower Rhine	
	Up-to-date information about navigable channel depth, (digital solutions and exchange dynamic real time measurement)	Cut administrative red tape	Improve water management on the Rhine
		Dialogue between industry, logistics, politics and environmental associations	Study on possibility to have new /extension of existing water planning of reservoirs
Fleet			
	Research in optimisation of existing vessels	Dialogue between industry, logistics, politics and environmental associations	
	Research in optimisation of new builds	Use of smaller vessels in coupled formations	
Shippers, logistics, industry			
	Secure time charter contract for barges adapted to low water levels	Optimization of container transport	
		Construction/optimization of terminals to facilitate modal shift	Expansion of handling and storage capacities in the ports next to the industrial sites
	Optimisation of supply chain control		
		Adaptation of transport/ storage concepts	
	Operational redesign of logistics site (e.g. longer opening hours)	Dialogue between industry, logistics, politics and environmental associations	

Table above as of 2021, updated table available will be available in 3rd edition reflection paper „Act now!“

The two workshops in 2019 and 2023 identified “National Actions Plans”

“Rhine Low Water” Action Plan





Provision of information

1. Improve water level forecasts
2. Establish DAS ‘Climate and Water’ basic service
3. Provide up-to-date depth information



Freight transport and logistics

4. Adapt transport strategies/optimize transport and load receptacles



Infrastructure

5. Speed-up implementation of ‘Optimization of laden draughts on the Middle and Lower Rhine’
6. Acceleration by acts to adopt measures



Long-term solution approaches

7. Investigate options of hydraulic engineering and water management
8. Social Dialogue

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04

Conclusions



Conclusions from the “Act now!” workshops

- Low water has significant impact on IWT
- Climate change has increasing effects on low water, more often, more extreme
- No one size fits all solution available
- But all solutions and tools are ready to be implemented
- All stakeholder need to take action
 - Infrastructure
 - Fleet
 - Shipping, Logistics, Industry
 - Digital
- **Important role for River Commissions to bring together the relevant stakeholder and to follow the development.**
- **Important role for European Commission to set the right incentives to motivate stakeholders to take required actions.**

Link to Act “now!”: <https://www.ccr-zkr.org/13020156-en.html>



THANK YOU VERY MUCH FOR YOUR ATTENTION

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