



Questions about the CO₂ emissions of inland navigation

Answering the questions below is designed to assist decision makers in business and administration.

Participants in the workshops, but also all other interested persons may answer the questions and send the answers to the Secretariat of the CCNR (co2-iwt@ccr-zkr.org).

The questions also serve to structure the Parallel Workshops and the presentation of their results at the end of the event. (The group 1 of questions is only relevant for parallel workshop 1 and the group 2 for parallel workshops 2 to 4. The group 3 and 4 of questions, however, are addressed to all workshop participants.)

The matter is complex and the questionnaire extensive. It cannot therefore be expected that all participants / all parallel workshops answers all questions.

1. Method for determining the CO₂ emissions of inland navigation

The CO₂ emissions of inland navigation are in general very low compared to other transport modes! However, the studies on the CO₂ emissions of inland navigation differ widely in their results. (See the overview on the website of the CCNR www.ccr-zkr.org.)

- 1.1 For what purposes should the fuel consumption / CO₂ emissions and the resulting emission factors (g CO₂ per ton km) of inland waterways be known?
- for the comparison of ship types / individual ships?
 - for decisions of shippers in the choice of transport mode (road / rail / waterway)?
 - for decisions in public policy?

- 1.2 Are the methods for determining the emission factors for the aforementioned purposes already sufficiently known? What research is possibly still necessary with respect to the methods?

- 1.3 For the aforementioned purposes, are the CO₂ emission factors for inland waterway transport already sufficiently known / accurately determined? What research is possibly still necessary to obtain sufficiently accurate emission factors? Are measurements of real fuel consumption on barges needed?

There is an ecological competition between the different transport modes, each mode is anxious to cause low CO₂ emissions and to use this for promoting the particular mode!

- 1.4 Is a formal "certification" of CO₂ emission factors (values for the CO₂ intensity) of inland navigation required? If so, which institution should take this on?

CO₂ emissions are generated also in manufacturing and scrapping of the transport units and for construction, operation and maintenance of infrastructure.

- 1.5 Is there a need to determine the CO₂ emissions for construction and scrapping of barges?

- 1.6 Is there a need to determine also CO₂ emissions for construction, maintenance and operation of the waterways?

2. Measures to reduce fuel consumption / CO₂ emissions

(If possible, the following questions are to be answered individually for each measure, which is presented or discussed.)

A variety of measures related to propulsion / hydrodynamics / operation is known to reduce fuel consumption / CO₂ emissions of inland navigation. But few of them are widely applied!

- 2.1 What specific measures have the greatest potential to contribute to the reduction of CO₂ emissions from inland navigation
 - short / medium term (1-10 years)?
 - long-term (10 years and over)?
- 2.2 What research and development are possibly still necessary, until such measures may generally be applied in inland navigation?
- 2.3 Can be expected that these measures are at least cost neutral or even lead to a reduction of the total cost (investment and operation)?
- 2.4 How large is the estimated potential reduction of CO₂ emissions (in %) compared to a modern ship today?

3. Accessibility and exchange of information on CO₂ emissions from inland navigation

There is much and in some cases extensive work undertaken on the CO₂ emissions of inland navigation; many institutions (companies, research institutions, associations, government agencies, international organizations, etc.) deal with the issue!

- 3.1 Are informations on CO₂ emissions from inland navigation well known and easily accessible?
- 3.2 If it should be necessary to make information more than previously known and available, how could this happen in practice? What role should the CCNR play?
- 3.3 Is the exchange of information and other cooperation between national and international institutions on the CO₂ emissions of inland waterways sufficient?
- 3.4 If it should be necessary to intensify cooperation and share information, how could this happen in practice? What role should the CCNR play?

4. Political support for the reduction of CO₂ emissions from inland navigation

- 4.1 Which supportive activities on the part of the CCNR, the EU, the States or elsewhere may contribute to a rapid implementation of mitigation measures? Are regulatory activities necessary or can regulatory activities accelerate the application of these measures? Should CO₂ emission standards be developed for inland waterway transport, as proposed by the European Commission?
- 4.2 Are the reduction targets of the European Commission (20% by 2030 relative to 2008, and 60% by 2050 relative to 1990) and the similar targets of EBU, ESO and INE realistic?
