

**The Central Commission's strategy for reducing fuel consumption
and greenhouse gas emissions
from navigation on the Rhine**

*(Annex 1 to protocol 2012-II-4
of the Central Commission for the Navigation of the Rhine,
29 November 2012)*

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A. Premises

Apart from the importance of the Rhine for transport in comparison with other navigable waterways, navigation on the Rhine is attractive in environmental terms and already currently offers, via modal shift, not inconsiderable potential for reducing the environmental effects of transport generally and more particularly for reducing greenhouse gas emissions.

However, truly sustainable inland navigation on the Rhine and elsewhere in Europe requires greater efforts. The CCNR is convinced that considerable progress is still called for regarding the reduction of both the exhaust and particulate emissions and the fuel consumption of inland waterway vessels. It is aware of the fact that the international community of states is determined to take action to prevent and reduce greenhouse gas emissions.

Although the absolute volume of greenhouse gas emissions from inland navigation on the Rhine and elsewhere is small in comparison with other modes of transport, the CCNR feels it is necessary to reduce these emissions further, in line with its member states' targets for emission reductions.

The CCNR notes in this respect that reducing greenhouse gas emissions can only be achieved by concerted action on the part of the states, industry, and in particular the shipping companies, and that the necessary measures to adapt the waterways with a view to allowing the most energy-efficient operation of inland vessels need to be taken by the competent authorities.

To achieve this, every opportunity, including independent initiatives by the shipping and port industry, positive incentive systems as well as training and awareness campaigns, needs to be taken. The existing fleet needs to be included so that the planned reduction in emissions can be achieved as quickly as possible.

Large-scale reduction of greenhouse gas emissions for inland navigation requires all those affected to be involved and demands a large number of measures extending beyond the vessels alone. The CCNR is therefore convinced that all of the actors should cooperate as part of a network and should feel committed to achieving the same global goal. Every actor should contribute whatever it is better placed than others to do, or something others are not doing. Due to the large number of actors and measures, it appears practically impossible for all of the work to be planned and coordinated by one body. Rather, each actor should announce the contribution it plans to make, so that the other actors can take any necessary steps to adapt.

The barriers preventing those involved from taking steps to reduce greenhouse gas emissions, even if they are accompanied by savings, need to be removed, so that the measures that are already in existence and new measures developed in the future are actually implemented in inland navigation.

The CCNR is the most suitable forum for its member states and the users of the Rhine as a waterway to share knowledge and experience on the reduction of greenhouse gas emissions across borders, cooperate in developing strategies, and discuss and agree on programmes and measures with international repercussions.

The CCNR is convinced that reducing greenhouse gas emissions will make a significant contribution to protecting the environment as a whole and improving the use of resources. Many of the measures to reduce greenhouse gas emissions also produce a reduction in emissions of pollutants and particulates. This is the case, for instance, where fuel consumption is reduced and alternative sources of energy are used. Finally, lower greenhouse gas emissions are also in line with what customers are increasingly calling for in inland navigation and help to assure political support for inland navigation.

B. Targets

The CCNR supports the ambitious target of the European Commission mentioned in its White Paper entitled "Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system", i.e. a reduction of at least 60% of greenhouse gas emissions by the transport sector, in absolute terms, by 2050, including for inland navigation. The CCNR therefore supports these objectives and will bring its work into line with them.

The CCNR recommends that all those involved, and in particular the shipping industry, should adopt the same stance, in order to allow a coherent approach by all those who wish to contribute to climate change mitigation by acting responsibly.

In particular the planned work to expand the data basis and close the gaps in knowledge will make it possible to quantify developments in greenhouse gas emissions for inland navigation with sufficient precision and to set interim targets. The CCNR will investigate whether greenhouse gas emissions have been reduced in line with these targets in 2020. It will then evaluate the measures taken on the basis of this, and adapt its strategy if necessary.

C. Principles for implementing the targets

In its efforts to achieve these targets, the CCNR will apply the following principles:

1. The CCNR will aim to achieve concerted action on the part of the states, the industry, and in particular the companies in the inland navigation sector.
2. Each party involved is to make the contributions for which it is more qualified than others, or which are not made by others.
3. Activities in the European context will be agreed upon in consultation with the European Commission. If the European Commission intends to implement activities itself, the CCNR will offer its support and assistance.
4. Particularly in view of its limited resources, the CCNR is only able to carry out or support some of the further work that has been identified as being required. It will therefore focus on:
 - tasks for which it has data or knowledge that is not otherwise available in the same scope or quality, for example regarding its regulatory activities or observation of the market;

- tasks that contribute to the development of strategies and consequently to the objectives of the CCNR's work in the medium and long term;
- tasks that represent necessary groundwork for measures to be taken by others, in particular by the shipping industry, or for later action by the CCNR.

The CCNR will develop its measures in cooperation with the other parties involved.

5. The measures necessary for adapting a waterway to allow efficient operation of inland navigation vessels in terms of energy consumption are the responsibility of the relevant administrations.
6. The measures to be given priority are:
 - cost-efficient measures;
 - individual initiatives and voluntary measures;
 - measures with significant added value, in particular a reduction in pollutant emissions and more efficient use of resources.
7. The fleet currently in service must be taken into account.
8. The measures to be adopted must not run counter to other targets for preventing emissions, or affect the safety and good order of navigation.
9. Pertinent measures that have already been developed and are already being applied in certain states must be checked and if necessary adapted with a view to international implementation.
10. Current gaps in knowledge need to be filled if they are necessary for well-informed decision-making on the part of the CCNR and other parties involved.
11. Pilot projects (such as the use of alternative sources of energy) should be encouraged with a view to general application to navigation on the Rhine.
12. Intermediate stages achieving the global targets referred to above need to be determined.
13. The CCNR will periodically update its report on the situation regarding greenhouse gas emissions.
14. A periodic appraisal of the success of the work is needed in order to ensure that the targets set are being achieved.

D. Specific work that could be carried out by CCNR bodies

The CCNR has already embarked on initial and important groundwork aimed at reducing fuel consumption and greenhouse gas emissions by inland navigation, and particular mention may be made of its fundamental report on this topic. To achieve its targets while adhering to the principles listed above, the CCNR plans to carry out the following tasks:

1. Concertation with participants, particularly the international associations in the inland navigation industry, on the work to be carried out and the measures to be adopted

2. Expansion of the data basis – closing gaps in knowledge
 - 2.1 Supplementary report on passenger shipping (estimation of the greenhouse gas emissions, presentation of peculiarities in comparison to freight shipping)
 - 2.2 Preparation of scenarios and verification of the quantitative targets for reduction of greenhouse gas emissions from inland navigation
 - 2.3 Determination of the carbon footprint of inland navigation by analysing CDNI data
3. Adaptation of the technical regulations for inland vessels with regard to the approval of alternative energy sources
 - 3.1 Adaptation with regard to the approval of liquefied natural gas
 - 3.2 Adaptation with a view to using diesel-electric propulsion systems
 - 3.3 Formulation of recommendations for other alternative energy sources (e.g. fuel cells for passenger vessels or for the production of electricity)
 - 3.4 Examination of the possibility of completely banning in the medium / long term the use of substances that are damaging to the climate (e.g. banning certain fire-extinguishing agents, refrigerants, etc)
4. General examination of the (mandatory) introduction of indicators, including:
 - 4.1 an Energy Efficiency Design Index (EEDI)
 - 4.2 a mandatory standard for the Energy Efficiency Operational Indicator (EEOI) or another energy classification for inland navigation
5. Examination of the effectiveness of measures for optimising traffic using systems on land and on board (extension of the AIS application, lock management, on-board computer, etc)
6. Support for the development and international application of a “smart steaming” programme
7. Provision of relevant information for the inland navigation sector
8. Support for pilot projects on the use of alternative sources of energy
9. Preparation and implementation of other measures aimed at reducing fuel consumption and greenhouse gas emissions by inland navigation, as a result of the examination conducted and the work as it progresses
10. Development of a monitoring system for fuel consumption and greenhouse gas emissions by inland navigation on the Rhine and in Europe as part of the CCNR’s observatory
11. Examination of the possibility of incorporating inland navigation in the systems for calculating emissions and possibly proposals for improvements.

Annex 2