

Accelerating cross-border cooperation on hydrogen infrastructure North Rhine Westphalia – The Netherlands

The existing strong energy and feedstock supply relationship between industrial consumers in North-Rhine Westphalia (NRW), Dutch seaports and other supply chain partners is an important basis for the acceleration of green hydrogen supply chains between the Netherlands and NRW.

In June 2023, The Hague Centre for Strategic Studies (HCSS) facilitated a workshop hosted by the Dutch Associations of Tank Storage Companies (VOTOB) and the German independent tank storage association (UTV). Various stakeholders of the current and potential future hydrogen supply chains between NRW and Dutch seaports came together to share information, align efforts as well as discuss necessary changes and developments to accelerate investments in specific infrastructure projects.

The workshop took place at Westenergie in Essen, Germany. Its CEO and Chair of the Hydrogen Council of the German federal government, Katherina Reiche, stressed in her opening remarks the importance of joint infrastructure development as well as the need to employ a pragmatic approach to allow for a rapid market ramp-up of hydrogen as an energy carrier.



Green hydrogen is viewed as the cornerstone of clean energy and feedstock supply chains, and will contribute to reaching the European and national climate goals in both NRW and the Netherlands.

- NRW has committed to become the first climate neutral industrial region in Europe. Most industrial consumers aim to introduce green hydrogen in processes like steel production and chemicals. According to the Hydrogen Roadmap of the Ministry for Economic Affairs in NRW, the region will need 104 TWhr hydrogen to sustain itself. As announced by the European Hydrogen Strategy, a significant part of this hydrogen will be imported from non-European countries.
- The NRW Hydrogen Roadmap highlights the need to import hydrogen through the Netherlands. Given the long term strong relationship between Dutch ports and industrial consumers in NRW, it is expected that a large part of the green hydrogen needed in NRW will be supplied from or via the Netherlands.
- A shared understanding of ambitions and concrete projects is essential to enhance cooperation and accelerate the hydrogen based economy. A significant number of cross-border projects is being established in both NRW and the Netherlands. In addition, governmental bodies aim to foster cooperation through projects like the Delta Rhine Corridor and RH2INE (Rhine Hydrogen Integration Network of Excellence).

The workshop organised in June 2023 in Essen aimed to further enhance cross-border cooperation by discussing the necessary conditions to accelerate relevant infrastructure projects and achieve concrete timelines for takeoff across the hydrogen supply chain. During the workshop, participants emphasized key measures that could accelerate the development of cross-border green hydrogen supply chains.

- Cooperation between NRW & NL must be enhanced to share best practices, discuss concrete projects and ensure that joint infrastructure is developed. There are many fast-moving developments and initiatives in both NRW and NL that could be further advanced if approaches are harmonized across borders.
- A complementary approach to the transition to hydrogen is required rather than an either-or solution that chooses between carriers or transport modalities. Close policy alignment between NRW and NL governments on spatial planning for energy and transport infrastructure and licensing is required.
- In the transition period, low-carbon hydrogen types and carbon capture, utilisation and storage (CCS/CCUS) technology should be considered as important means toward green hydrogen goals.
- The various hydrogen carriers (gaseous H₂, ammonia, LOHC) can be expected to scale up on different timelines and make use of different transportation modalities. Inland shipping and railway transport of hydrogen carriers will likely play a relevant role during the scale-up and transition period as they are more readily available than pipelines.
- For final investment decisions to be taken by storage, transport and infrastructure providers, more certainty about planning, licensing and offtake is needed. Governments play a crucial role in overcoming the collective action problem by providing clear, pragmatic and long-term regulatory frameworks.
- Knowledge and expertise about handling hydrogen and its carriers must be enhanced in industry, governmental bodies and local authorities. The Netherlands and Germany should work together to establish common standards and technical specifications for the handling, storage and transportation of hydrogen and its derivatives.
- Transparent communication channels should be opened up between industry, governmental and regulatory bodies, local government, and societal groups to allow for early, constructive and positive dialogue and engagement with affected citizens and communities to ensure acceptance of new energy carriers and their safety and spatial requirements.

