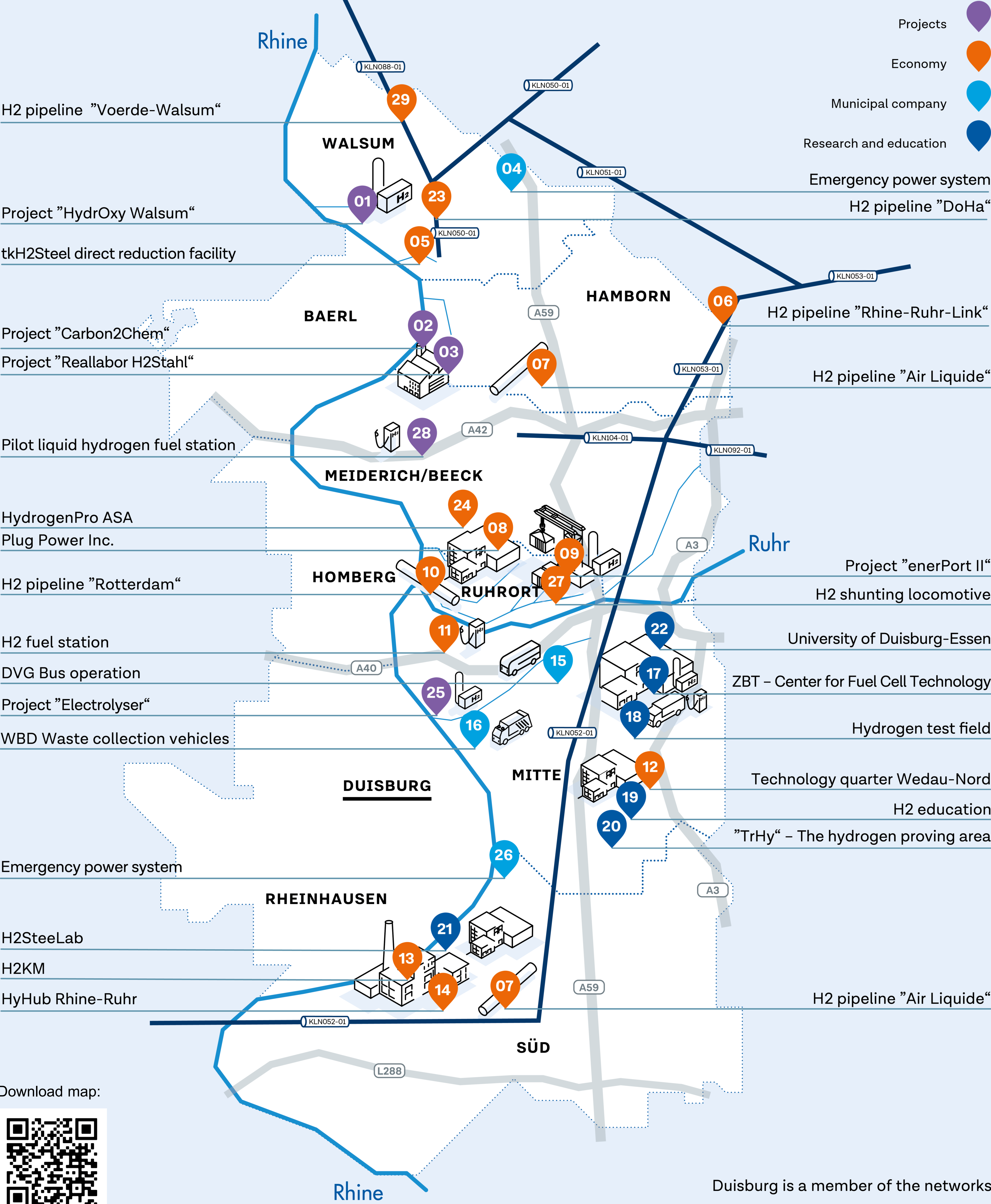


HYDROGEN ACTIVITIES DUISBURG



Duisburg is a member of the networks:





- 01

Project “HydrOxy Walsum”

Iqony GmbH, formerly STEAG GmbH, is planning a plant for the generation of green hydrogen of up to 500 MW and a supplementary large battery system for better market and grid integration of green electricity at the traditional power plant site in Duisburg-Walsum. The hydrogen produced is intended to help regional customers from industry and the mobility sector to decarbonize their processes.

Status: Positive feasibility study; Conclusion of a contract for funding from the EU Innovation Fund “LSC-2022”; EPC tender process; Planning approval preparation underway
- 02

Project “Carbon2Chem”

Convert metallurgical gases from the steel production into valuable primary products for fuels, plastics or fertilisers. Since 2017 thyssenkrupp nucera has been using an alkaline electrolyser with a capacity of 2 MW for this project.

Status: Project start in 2016; 3rd Projectphase started in 03/2025
- 03

Project “Reallabor H2Stahl”

thyssenkrupp Steel/ Air Liquide Deutschland/ VDEh Betriebsforschungsinstitut (BFI) are cooperating (1) in order to apply the use of hydrogen to the entire blast furnace 9, (2) to construct a pipeline to test the large-scale industrial use of hydrogen in steel production and the construction and (3) to construct and test the operation of a direct reduction test plant.

Status: Project duration 09/2021 – 08/2026
- 04

Emergency power system for water transfer station

Securing of the watersupply through a fuel cell-powered emergency power system. The system is built by SFC Energy.

Status: In trial operation since 01/2024
- 05

thyssenkrupp Steel Europe AG (tkSE)

tkH2Steel – First-time construction of a direct reduction plant (DR) with a smelter in the iron sector.

Status: Contract awarded to SMS Group for the construction of the DR facility at the end of February 2023; Funding of around €2 billion from the state and federal government approved by the EU in July 2023; District government has granted approval for early start of construction (01/2024); Production start expected at the end of 2027
- 06

H2 pipeline “Rhine-Ruhr-Link”

Open Grid Europe (OGE) new pipeline from Werne throughout the Ruhr area to the north of Duisburg. It continues to run further to the south of Duisburg across the River Rhine up to the city of Krefeld. This project is part of the national H2 core network.

Status: In planning – Commissioning expected by the end of 2032
- 07

H2 pipeline - Air Liquide

Air Liquide private H2 pipeline-network from Oberhausen to Duisburg.

Status: Active; Connection to tkSE steelworks 12/2022
- 08

Plug Power Inc.

The US-American hydrogen fuel cell specialist operates a European service and logistics centre in the Freeport of Duisburg.

Status: Opened 04/2022
- 09

Duisburger Hafen - Project “enerPort II”

In the Port of Duisburg, “enerPort II” is not only the largest container terminal in the European hinterland – it is also the first to be operated with the help of hydrogen, photovoltaics and battery storage systems. This container terminal operates completely climate-neutral, is connected intelligently and supplies city districts of Duisburg with energy.

Status: Commissioning 09/2024
- 10

H2 pipeline “Rotterdam”

The Pipeline runs from Rotterdam to Gelsenkirchen with an optional link to Duisburg.

Status: In planning
- 11

H2 fuel station

Public filling station of H2 MOBILITY Deutschland GmbH & Co. KG

Status: Opened 06/2019
- 12

Technology Center Wedau

The TZ Wedau is a key project for promoting the digital and green transformation in Duisburg. As an interface between science and business, it offers space for knowledge transfer, supports spin-offs from the university and promotes start-ups in scaling up their innovations. The focus is on the competence fields of Smart Engineering and Clean Industry.

Status: Project company founded 06/2024
- 13

Hüttenwerke Krupp Mannesmann GmbH (HKM)

H2KM sustainability strategy: Reduction of CO2 emissions in the existing plant fleet (status: In implementation) and development of a decarbonised generation route (status: In planning).
- 14

HyHub Rhine-Ruhr

Attracting companies related to the hydrogen industry

Status: In planning
- 15

Duisburger Verkehrsgesellschaft AG (DVG)

Currently, there are 100 hydrogen-powered fuel cell buses in acquisition in addition to the established H2-infrastructure (Decision of the City Council 11/2022).

Status: The first 11 FC solo buses from Solaris arrived in 09/2024 and have been in regular service since 02/2025. A further 14 FC articulated buses have arrived in 07/2025 and have been in regular service since 09/2025. A mobile H2 filling station from Air Liquide will take over the supply at the depot until the stationary H2 filling station is completed. The procurement of additional climate-friendly buses is planned successively until the end of 2030.

- 16

Wirtschaftsbetriebe Duisburg - AöR (WBD)

In 2021, the first hydrogen-powered waste collection vehicle in Germany was put into operation.

Status: Seven waste collection vehicles are currently in use in the municipal area. Refueling takes place via the public filling station in DU-Kaßlerfeld.
- 17

ZBT – Center of Fuel Cell Technology

As a leading application-oriented research institution of Europe-wide significance, the ZBT supports industry in introducing products for fuel cells, electrolysers, and hydrogen systems.

Status: Established in 2001; “HyTechLab4NRW” opened in 09/2024
- 18

Hydrogen test field

The entire chain, from hydrogen generation to filling station technology (including compression, storage, cooling and nozzles) to the delivery of vehicles is illustrated.

Status: Opened in 06/2019
- 19

H2 education

Development of a concept for continuing vocational training in the field of hydrogen technology with specific training and retraining opportunities for companies in the region.

Status: In planning (implemented via TrHy)
- 20

“TrHy” – The hydrogen proving area

As part of “ITZ West,” TrHy will be one of four hydrogen innovation centers in Germany focusing on: Establishing a training, testing, and inspection center for hydrogen-based components and systems in mobility and infrastructure in the Wedau technology district. Together with scientific partners, rentable laboratories and qualification infrastructure will be made available.

Status: Project in the application phase
- 21

H2SteelLab

Centre of excellence for steel in the hydrogen economy. The hydrogen laboratory of Salzgitter Mannesmann Forschung GmbH puts its focus on steel pipes for hydrogen infrastructure and mobility.

Status: Active; Completion of new extension in 04/2024
- 22

University of Duisburg-Essen (UDE)

Hydrogen research in the areas of:

 1. Storage, transport, (mobility) and logistics
 2. Sensors, security and system control
 3. Energy conversion systems and materials

Status: see www.uni-due.de/wasserstoff/
- 23

H2 Pipeline “DoHa” (GET H2)

New pipeline of Open Grid Europe (OGE) and Thyssengas from Dorsten to Duisburg-Hamborn with a direct connection to tkSE. This pipeline is part of GET H2, IPCEI and the national H2 core network.

Status: Spatial planning process (Regional planning procedure) completed 12/2022; Application for planning approval submitted to the Düsseldorf district authority on 23/08/2024; Construction expected to start in 04/2027; Commissioning expected by the end of 2027
- 24

HydrogenPro ASA

Location for redistributing alkaline high-pressure electrolysers in cooperation with global partners and suppliers.

Status: Opening 06/2023
- 25

Duisburg Hydrogen GmbH (Lhyfe)

duisport and Lhyfe are planning to establish a plant with a production capacity of green hydrogen up to 10 MW in the port area located in DU-Hochfeld. The plant could be commissioned by mid-2027. Possible customers are DVV, Wirtschaftsbetriebe Duisburg and the “Duisburg Gateway Terminal”.

Status: Feasibility study completed
- 26

Emergency power system for gas pressure regulator

Replacement of a diesel genset with a fuel cell-powered backup power system in the cogeneration plant in DU-Wanheim

Status: In planning
- 27

H2 shunting locomotive “Modula BFC”

The hydrogen-powered hybrid shunting locomotive “Modula BFC”, which uses hydrogen fuel cell technology to offer an emission-free alternative to conventional diesel drives, is to be used on the site of the “Duisburg Gateway Terminal” of Duisburger Hafen AG.

Status: The use of the shunting locomotive in hydrogen operation is planned for 2026/2027 at the earliest.
- 28

Pilot liquid hydrogen fuel station

First pilot liquid hydrogen (sLH₂) refueling station by Air Products. Supporting the pioneering pilot project by Daimler Truck AG to test the Mercedes-Benz GenH2 Trucks. Testing the technology of liquid hydrogen refueling as well as the practical use of the trucks.

Status: Commissioned in 05/2025
- 29

H2 Pipeline “Voerde-Walsum”

New pipeline construction by Thyssengas, approximately 8 km in length. Route from Voerde to Duisburg-Walsum with connection to the “DoHa” pipeline. This pipeline is part of the national hydrogen core network.

Status: Planning approval preparation underway, submission scheduled for Q4/2025; Construction begin expected in early 2027; Commissioning expected by the end of 2027