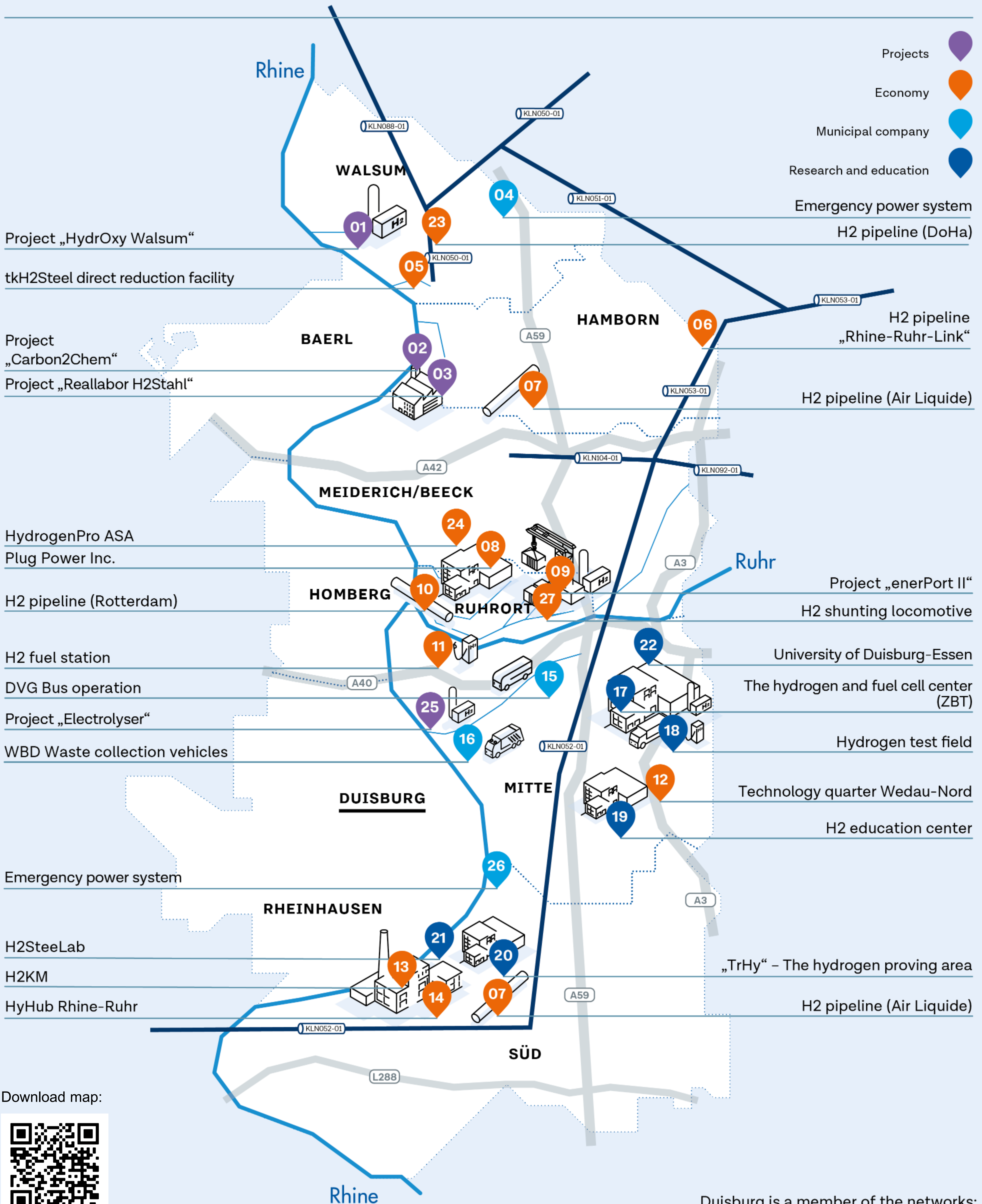


HYDROGEN ACTIVITIES DUISBURG



Project „HydrOxy Walsum“

tkH2Steel direct reduction facility

Project „Carbon2Chem“

Project „Reallabor H2Stahl“

HydrogenPro ASA
Plug Power Inc.

H2 pipeline (Rotterdam)

H2 fuel station

DVG Bus operation

Project „Electrolyser“

WBD Waste collection vehicles

Emergency power system

H2SteeLab

H2KM

HyHub Rhine-Ruhr

Projects

Economy

Municipal company

Research and education

Emergency power system

H2 pipeline (DoHa)

H2 pipeline
„Rhine-Ruhr-Link“

H2 pipeline (Air Liquide)

Project „enerPort II“

H2 shunting locomotive

University of Duisburg-Essen

The hydrogen and fuel cell center
(ZBT)

Hydrogen test field

Technology quarter Wedau-Nord

H2 education center

„TrHy“ – The hydrogen proving area

H2 pipeline (Air Liquide)

Download map:



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 520 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; preparation of approval planning
- 02 Project „Carbon2Chem“**
 Convert metallurgical gases from 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.
 Status: Ready for operation
- 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 2026
- 06 H2 pipeline - „Rhine-Ruhr-Link“**
 Open Grid Europe (OGE) new-build 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 2030
- 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.**
 US-American hydrogen fuel cell specialist operates a European service and logistics centre in the Freeport of Duisburg
 Status: opened 04/2022; The construction of an electrolyser on site with a capacity of 1 MW is in planning.
- 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 green 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 arrived in 09/2024 and are being prepared for service. A further 14 FC articulated buses have been ordered and are expected to arrive by the end of 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 further procurement of the 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 Zentrum für BrennstoffzellenTechnik GmbH (ZBT)**
 As a Europe-wide important application-oriented research institution, the ZBT supports the industry in the product launch for fuel cells, electrolysers and hydrogen plants.
 Status: Established in 2001
- 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 center**
 Setting up of a centre for advanced vocational training in hydrogen technology. Furthermore, the training and retraining of industrial companies in the region.
 Status: In planning (5-StandorteProgramm)
- 20 TrHy – The hydrogen proving area**
 “ITZ West” is one of four hydrogen innovation centres in Germany developing norms and standards as well as innovations for hydrogen solutions in mobility (heavy duty). It also works as an independent testing centre for hydrogen. There are more satellites.
 Status: Foundation of the company
- 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 by 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 - Dorsten-Hamborn „DoHa“ (GET-H2)**
 New-build pipeline of Open Grid Europe (OGE) and Thyssengas. Route from Dorsten to Duisburg-Hamborn with 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 of the pipeline expected to start in 04/2027; Expected launch 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 2026/27 at the earliest.