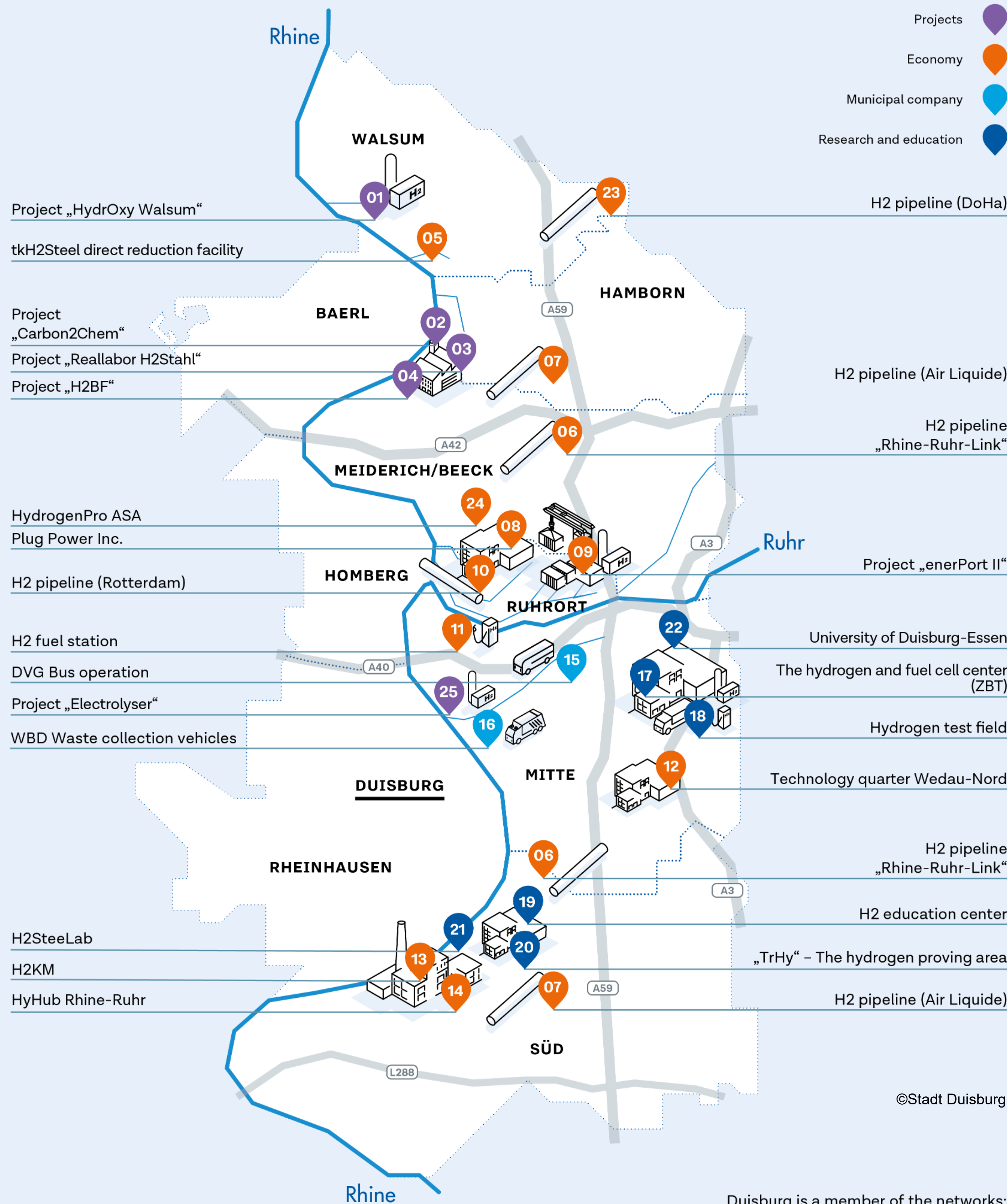


HYDROGEN ACTIVITIES DUISBURG



- Projects ●
- Economy ●
- Municipal company ●
- Research and education ●

- Project „HydrOxy Walsum“
- tkH2Steel direct reduction facility
- Project „Carbon2Chem“
- Project „Reallabor H2Stahl“
- Project „H2BF“
- H2 pipeline (DoHa)
- H2 pipeline (Air Liquide)
- H2 pipeline „Rhine-Ruhr-Link“
- HydrogenPro ASA
- Plug Power Inc.
- H2 pipeline (Rotterdam)
- Project „enerPort II“
- H2 fuel station
- DVG Bus operation
- Project „Electrolyser“
- WBD Waste collection vehicles
- University of Duisburg-Essen
- The hydrogen and fuel cell center (ZBT)
- Hydrogen test field
- Technology quarter Wedau-Nord
- H2 pipeline „Rhine-Ruhr-Link“
- H2 education center
- „TrHy“ – The hydrogen proving area
- H2 pipeline (Air Liquide)

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Duisburg is a member of the networks:



- 01 Project „HydrOxy Walsum“**
Tlqony 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 thyssenkrupp Steel Europa AG and other customers from industry and the mobility sector to decarbonise their processes.
Status: Positive feasibility study; Commitment of EU funding
- 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 launch in 2021
- 04 Project „H2BF“**
thyssenkrupp Steel/ Air Liquide Germany/ VDEh Operational Research Institute (BFI) are investigating the reduction of CO2 by injecting H2 directly into the blast furnace No 9.
Status: Completed 2022
- 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; Production start expected at the end of 2026
- 06 H2 pipeline - „Rhine-Ruhr-Link“**
Open Grid Europe (OGE) 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.
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 on 22.12.2022
- 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 (Status: Commissioning expected at the end of 2023).
- 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: Under construction (completion is planned early 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 in 06/2019
- 12 Technology quarter Wedau-Nord**
Establishment of technology-oriented companies related to the hydrogen industry.
Status: In planning
- 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: Currently 25 FC buses are in acquisition:
→ Delivery of 11 FC solo buses expected by the end of 2024
→ Delivery of 14 FC articulated buses expected by the end of 2025
Successive acquisition is planned by 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: Two waste collection vehicles in operation, five more will be delivered.
- 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 eight 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)**
Pipeline of Open Grid Europe (OGE) and Thyssengas. Route from Dorsten to Duisburg-Hamborn with connection to tkSE.
Status: - Spatial planning process (Regional planning procedure) completed on 23.12.2022
- Planning approval process expected to be completed by end of 2025
- Construction of the pipeline by 2026
- Expected launch by the end of 2026
- 24 HydrogenPro ASA**
Location for redistributing alkaline high pressure electrolysers in cooperation with global partners and suppliers.
Status: Opening on 14.06.2023
- 25 Duisburg Hydrogen GmbH (Lhyfe)**
duisport and Lhyfe are planning to establish a plant with a production capacity of green hydrogen up to 20 MW in the port area located in Duisburg-Hochfeld. The plant could be commissioned (completed) by mid-2025. Customers are DVV, Wirtschaftsbetriebe Duisburg and the Duisburg Gateway Terminal.
Status: Conduct of a feasibility study