



# DEMAND FOR SKILLED PROFESSIONALS IN THE HYDROGEN SECTOR



Co-funded by the European Union



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Project Number: 2023-1-PL01-KA220-VET-000159821

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# The 10-year perspective



The demand for hydrogen professionals will increase significantly in the next decade. Hydrogen will be a key element of global decarbonisation, especially in sectors such as energy, manufacturing and transport. Year on year progress in production technology and application of hydrogen requires consistent market and regulatory analysis to stay in the supply chain and create refinement to any strategies. Any regulations imposed by the European Union need to be implemented by individual member states within a dedicated timeframe: it is important for businesses to keep track of this as it can impact on their day-to-day operations. Technological advancement, strategy development and Regulatory compliance requires hydrogen specialists who can interpret complex data and legal jargon to aid in implementation of good practice.

Construction of hydrogen infrastructure, including pipelines, electrolyzers and refueling stations, will increase demand for experts who have the ability to assess market investment opportunities and regulatory compliance in the field of hydrogen in particular. The hydrogen sector, in particular the decarbonisation of carbon intensive industries as well as the increased production of green hydrogen (hydrogen produced from renewable energy) will be key in progress towards the sustainable development goals.

In addition, the European hydrogen policy framework includes binding targets for hydrogen in industry and transport by 2030. To meet such targets, the EU member states will require an increase in the number of specialists and intensification of educational programmes to support their upskilling and development.

# Supply of skilled professionals in the European Union hydrogen and energy sector

The hydrogen sector is rapidly expanding, driven by not only EU wide but also global efforts to transition to sustainable energy sources which can satisfy demand of high population densities. This robust expansion of the sector has led to demand for skilled professionals. At this time, skilled professionals are in short supply in the hydrogen industry, therefore the skills gap has to be addressed to ensure effective deployment of green hydrogen technology (Ellis, 2023) as by 2050, 5.4 million jobs will exist in the hydrogen industry in Europe (BMWK, 2025). In Poland, the demand for renewable hydrogen will reach 514,500 tons by 2035 (WBJ, 2024) and Belgium has estimated 2–6 TWh of renewable hydrogen (or derivatives) in 2030 and 100–165 TWh in 2050 will be used (PwC, 2025). Germany admits the country does not have enough renewable energy capacity to produce the necessary volumes of hydrogen and therefore will need to import green hydrogen in the long run (GH2, 2024). All these countries will require large amounts of skilled professionals.



The technological changes in the energy sector and the expansion of newer energy resources require additional reskilling and upskilling (Knutas, 2025). There appears to be significant technical expertise and uneven geographic distribution of hydrogen education programmes, highlighting the need for “targeted upskilling, equitable education resource allocation, public engagement campaigns, and stakeholder collaborations” (Ebini et al., 2022).

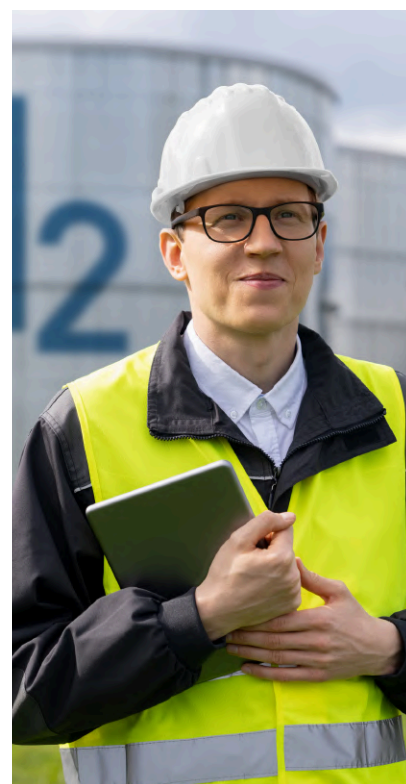


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# A need for Hydrogen Market Analysts and Regulatory Specialists

Hydrogen market analysts and regulatory specialists will be among the most sought-after experts in the coming decade as their knowledge and skills will be crucial to achieving climate goals, European Union and national targets, and supporting green and sustainable energy transformation, decarbonisation, and building of a competitive hydrogen economy. Both professionals require the competences of consistent research and its communication to appropriate stakeholders, as well as collaboration with other professionals in the creation and advisement of appropriate hydrogen strategies. Within the next decade, hydrogen market analysts and hydrogen regulatory specialists will be needed in the energy, business, education, and public sector, to aid international institutions and organisations involved in creating hydrogen policies and technologies, and subsequent strategies. The job market will require high competence and flexibility in adapting to changing regulations and market needs.



Combining market analysis with regulations and policy allows for a comprehensive approach to the development of the hydrogen economy to help in a smooth transition to a hydrogen-based energy sector. This VET project will be key for innovation and good practice. The cooperation has already shown an extensive report regarding the hydrogen sector and new professions within it, as well as a series of case studies based on the European and EU hydrogen market.

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