



Professions in the French hydrogen economy

The hydrogen sector in France is playing an increasingly important role as a key element of the energy transition and the fight against climate change. The applications of hydrogen as a clean energy carrier have a significant impact on a variety of economic sectors, from transport to industry, and represent an important step towards achieving a sustainable future. France's entry into the decarbonization of industry and transport requires the development of the hydrogen sector as an effective alternative to traditional, high-emission energy sources, enabling the reduction of CO₂ emissions and improvement of energy efficiency.

The government's plan to decarbonize the industry with the intention of significantly reducing CO₂ emissions by 2050 poses new challenges and opportunities for the sector. The implementation of decarbonized hydrogen responds to these challenges while opening new economic, strategic and technological perspectives for the country. The increase in investments in the hydrogen sector indicates the need to develop new qualifications and skills for work in this industry. Both new, emerging and traditional professions are identified that need to be adapted to new technologies and the challenges of decarbonization. In the context of emerging professions, there is a need to

to educate gas engineers and technicians involved in the design of gas networks with thermoelectricity. However, traditional industrial professions such as welders and mechanics remain important players, although they require updating of skills in line with new technologies and procedures. The development of the hydrogen sector also creates a need to strengthen the competences of technicians, such as electronics, electromechanics and maintenance technicians. Their specializations must be tailored to the requirements of the hydrogen sector, which may include mechanics, pipeline installations and the operation of specialized equipment. Appropriate preparation and support for employees who will participate in the energy transformation process is also important. Internal and external training and business incubator programs can support the development of skills and qualifications necessary for employees in the hydrogen industry.



The growing role of the hydrogen sector in France is crucial to achieving the Sustainable Development Goals, fighting climate change and creating a greener and more efficient economy. Investment in this sector is essential to ensure the future stability and competitiveness of the French economy, while contributing to global efforts to protect the environment and climate.

Professions of the future in the hydrogen sector.

As the hydrogen sector develops and becomes an increasingly integral part of the global energy transition, promising new job opportunities are emerging in a variety of fields. One of the main challenges for the labor market in France is the adaptation of traditional industrial professions to new technologies related to the hydrogen sector. The existing skills and experience of industrial employees may prove to be insufficient given the changing requirements of the hydrogen sector. It is therefore necessary to retrain and adapt the skills of employees to operate new technologies, such as hydrogen electrolyzers, hydrogen storage systems or hydrogen fuel stations. This also requires

adapting safety standards and work procedures to the specificity of the hydrogen sector.

On the other hand, the development of the hydrogen sector in France also creates new employment opportunities through the creation of new professions related to this industry. With the growing demand for hydrogen technologies, there are staffing needs that must be met. The development of the hydrogen sector can therefore contribute to the creation of new jobs and career opportunities for workers in France. Below are the various professions that are gaining importance due to the development of the hydrogen sector in France:



Gas Engineers: Gas engineers play a key role in the design, construction, and maintenance of gas infrastructure, which is an essential component of the hydrogen sector. Their tasks include the design of hydrogen distribution networks, the development of storage and transport facilities, and the supervision of the operation and maintenance of existing installations.




Electrolyser technicians: Electrolyser technicians are involved in the operation, maintenance, and repair of electrolyzers, which are a key equipment for the production of hydrogen by electrolysis of water. Their tasks include diagnosing faults, carrying out repairs, monitoring the operation of electrolyzers and maintaining appropriate safety standards.



Hydrogen storage specialists: Hydrogen storage specialists are involved in the planning, design and supervision of hydrogen storage facilities that enable the storage and distribution of this energy carrier. Their tasks include identifying appropriate storage technologies, assessing the efficiency and safety of storage facilities, and developing strategies for managing hydrogen stocks.



Hydrogen fuelling station operators: Hydrogen fuelling station operators are responsible for the day-to-day operation and operation of charging stations where customers can refuel hydrogen-powered vehicles. Their tasks include monitoring station operation, ensuring the safety of refueling operations, serving customers, and maintaining and upholding equipment.



The jobs of the future in the hydrogen sector in France include a variety of specializations, from engineers and technicians to filling station operators. The development of these professions is crucial for the successful implementation of hydrogen technology and achieving sustainable development goals.

Appropriate training and qualifications are essential for employees to effectively contribute to the development of the hydrogen sector in France. Career prospects in the hydrogen sector are broad and varied. People with the appropriate qualifications can find employment in various areas, such as engineering, research and development, design, production, installation and operation of hydrogen infrastructure. Moreover, the growing demand for experts in fields related to electrolysis, hydrogen storage, fuel technologies and environmental protection opens a wide range of career development opportunities for specialists. As the hydrogen sector in France develops, wages for employees related to this industry can also be expected to increase. The high demand for specialists in the field of hydrogen technologies and the growing competition on the labor market contribute to increasing the attractiveness of the offered remuneration and benefit packages for employees. In the context of the global energy transformation, the demand for hydrogen technology specialists will continue to grow. The hydrogen sector is a key part of the decarbonization strategy and the fight against climate change, and hydrogen specialists will play an increasingly important role in supporting the transition to greener and more sustainable energy sources.

In conclusion, the hydrogen sector in France offers promising career prospects for those seeking a career in the booming energy industry. The increase in investments, the growing demand for specialists and the prospects for further development of the sector make working in the hydrogen industry an attractive option for people with appropriate qualifications and interests.

Bibliography:

<https://hub.vet4eu2.eu/blog/2022/05/12/skills-and-professions-in-the-hydrogen-sector/>

The project is co-financed by the European Union. All results developed as part of the "Professionals and their skills in hydrogen" project are made available under open licenses (CC BY-SA 4.0 DEED). They can be used free of charge and without restrictions. Copying or processing these materials in whole or in part without the author's consent is prohibited. If the results are used, it is necessary to provide the source of funding and its authors.