18 November 2021

Hydrogen Europe & Hydrogen Europe Research

A Common Answer to the Call for evidence on a Council Recommendation on addressing social and labour aspects of the just transition towards climate neutrality

Hydrogen Europe and Hydrogen Europe Research are two European associations bringing together a broad array of stakeholders related to the European hydrogen ecosystem, encompassing large companies, SMEs, national associations, research organisations and universities. Both associations cover the entire hydrogen value chain, from production to end uses and promote clean and low carbon hydrogen as the enabler of a zero-emission society.

THE CHALLENGE OF SKILLS FOR THE HYDROGEN SECTOR

The European Union has sent a bold political signal to kick-start a clean hydrogen economy in Europe by 2030 through strategical policy initiatives such as the European Green Deal, the Recovery and Resilience Facility (RRF) and the first ever European Hydrogen Strategy. The European climate strategy and the transition to a decarbonised economy will indeed entail deep transformations of the production, storage, and consumption of energy in Europe by the means of carbon-free power generation, bolstered energy efficiency, and the deep decarbonisation of transport, buildings, and industry. This transition will require hydrogen deployment on a large scale, with internationally competitive prices, and in particular clean hydrogen.

The roadmap for the rollout of Hydrogen in Europe is fast paced, with the sector poised for rapid expansion over the coming years to meet the ambitious 2030 and 2050 targets, while creating huge economic and employment opportunities for the whole European Union. With this rapid development the European Hydrogen value chain is expected to employ more than one million people by 2030, and up to 5.4 million by 2050[1].

Based on current knowledge, 2030 employment expectations are the following:

- Around 500,000 jobs are expected to be created in the manufacturing of hydrogen production and distribution equipment, as well as in infrastructure setup for end use applications. Jobs in these fields will require qualified people with engineering capabilities and/or specialized technical know-how. Concerning the occupation profiles that may already exist on the job market and across different industries, working in the hydrogen ecosystem would require additional skills and an adaptation of existing training programmes to address the specific requirements and technologies of the hydrogen sector.

[1] FCH JU (2019) Hydrogen Roadmap Europe, Fuel Cells and Hydrogen Joint Undertaking, available at https://www.fch.europa.eu/sites/default/files/Hydrogen%20Roadmap%20Europe_Report.pdf

- Roughly 350,000 additional highly skilled jobs would be directed towards value added solutions, such as fuel cells, specialised components, and end use applications. For example, the production of vehicles based on a fuel cell powertrain or in equipment retrofit for industrial heating would be sectors where highly skilled employment would be most required.

Therefore, developing appropriate trainings and lifelong learning opportunities is of utmost importance for the deployment of the sector, which is already confronted to very short-term needs and milestones, considering the 2024 objective of 6 GW of renewable hydrogen capacity foreseen by the European Hydrogen Strategy.

Ensuring that workers will have the requested skills for the hydrogen sector is a central concern for companies. This is a specific challenge for SMEs that are not in the capacity to invest massively in up-skilling and reskilling of their workforce.

Regions that are highly dependent on fossil fuels are also at the forefront of the energy transition and they are particularly concerned by the adaptation and preparation of the workforce to sustainable economic activities. The reskilling and/or upskilling of the workforce towards hydrogen activities is both a challenge and an opportunity in transitioning regions. This broadly demonstrates that social and labour aspects are essential to make the green transition a reality.

To this end, **Hydrogen Europe and Hydrogen Europe Research welcome the initiative of a Council Recommendation addressing social and labour aspects of the just transition towards climate neutrality**. This proposal is both timely and meaningful to ensure that no one is left behind in the green transition and to reach climate neutrality by 2050.

OUR KEY MESSAGES

1. *Build a European Hydrogen Skills strategy that is supported at Member state's level, ensuring that the competent workforce follows the pace of hydrogen deployment*

It is important to raise political awareness on the impacts of the deployment and industrialisation of the hydrogen sector on jobs and skills across a wide variety of activities in the value chain, from production, to transport and end-use (e.g., industry, mobility, and buildings).

Whilst the ambitions for hydrogen are high both at European and national levels, the strategies for skills development in the EU and the Member States still need to be aligned. The development of relevant skills and trainings requires a concerted vision and actions at all levels:

i. The EU Hydrogen Strategy needs to be accompanied by an EU-wide Skills Strategy based on a clear understanding of skills needs. This knowledge will help developing quality and inclusive and innovative education, training, and life-long learning throughout the hydrogen value chain that will benefit the overall FCH sector. The Strategy should enhance the convergence and recognition of skills at European level and favour the implementation of quality standards. For workers, this recognition of skills will foster their flexibility and capability to be employed in different parts of the hydrogen value chain.

ii. Member States are invited to support the potentialities of jobs and skills linked to the hydrogen sector, designing adequate policies and roadmaps as means to contribute to the

EU Green Deal and the energy transition. Eleven (11) Member States and EEA countries[2] have adopted national hydrogen strategies in the past months, and at least ten (10)[3] others are under preparation.

2. *Unleash the full potential of available funds: enhancing synergies between European, national, and regional funds on education and trainings*

To ensure the optimal use of public funding, we believe that EU financial support to upskilling and reskilling in the hydrogen sector should be enhanced. This includes the European Social Fund+, the Just Transition Fund and the Erasmus programme, already underlined by the European Climate Pact. The European Regional Development Fund (ERDF) and the Cohesion Fund (CF) can also be further streamlined for education and training. Hydrogen is not specifically mentioned among the objectives of the ERDF and CF, although they have respectively specific targets of 30% and 37% to support entrepreneurship in the transition to climate neutral economy. Thus, it is a Member States endeavour to harmonise these objectives with the priorities of the relevant programmes/Smart Specialization Strategies (S3) of EU countries or regions where potential needs and beneficiaries are located.

The Recovery and Resilience Plans proposed by Member States represent an additional key lever. They often reflect the growing importance given to hydrogen and green skills in the future EU's energy landscape, but this opportunity needs yet to be developed to its full potential.

Synergies are also needed between European and national funding opportunities in the field of education, trainings and lifelong learning, to maximise the impact of investments and contribute to the overarching objective of the European green transition: leaving no one behind. Transitioning regions would largely benefit from a coordinated approach on upskilling and reskilling: the latter will provide relevant opportunities for workers which would be most affected by the green transition.

3. *Support to scale up best practices and build a knowledge sharing community on hydrogen skills*

We propose to back the abovementioned European Hydrogen Skills strategy through a wide community that brings together the broadest array of hydrogen stakeholders: this will include education and training organisations, Member states' ministries of education and employment, industry, and SMEs, just to mention a few.

The hydrogen skills community will facilitate scaling up of existing and new best practices, disseminate and communicate results of projects financed with public fundings, and contribute to the creation of a hydrogen-related jobs market.

4. *Ensure that the hydrogen dimension of skills is considered across relevant ecosystems in a coherent manner*

The emergency of a hydrogen economy requires synchronised actions across the whole value chain. Hydrogen is indeed an essential lever of the renewable energy ecosystem that offers a versatile, clean, and flexible energy vector. It has the potential to allow the large-scale integration of renewable energy by converting and storing of renewable energy in the form of a dispatchable, easily transportable and energy dense gaseous energy carrier. It can be used for energy distribution across sectors and regions, also providing an effective mean to decarbonize hard-to-abate segments of the economy, such as transport, industry and buildings.

[2] Belgium, Czechia, France, Germany, Hungary, Luxembourg, Netherlands, Norway, Portugal, Slovakia, and Spain.
[3] Austria, Bulgaria, Croatia, Denmark, Greece, Italy, Sweden, Lithuania, Poland, Romania.

However, the current industrial ecosystem approach - as defined by European Commission's Industrial strategy[4] - divides hydrogen activities into several ecosystems (e.g., renewable energy, mobility, energy intensive industry, construction, aerospace…). In this context, the deployment of a coherent and cross-cutting skills hydrogen strategy remains highly challenging. For this reason, in order to avoid fragmentation of the European Hydrogen Skills strategy across the different ecosystems, we need a strong coordination exercise along the value chain: first, to avoid overlapping, and second, to nurture relevant skills and to foster smart synergies.

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**Hydrogen Europe is the leading European Hydrogen and Fuel Cell association which promotes global carbon neutrality by accelerating European hydrogen industry and enabling the adoption of an abundant and reliable energy which efficiently fuels Europe's low carbon economy. Hydrogen Europe brings together more than 300 industry players, large companies, and SMEs, and includes 30 national Associations, which support the delivery of hydrogen and fuel cells technologies across the entire hydrogen value chain, from production to transport, distribution and final end-use of hydrogen. The association, together with Hydrogen Europe Research, partners with the European Commission in the innovation program Clean Hydrogen Partnership for Europe.*

Hydrogen Europe Research is an international non–profit association composed of 97 universities and Research & Technology Organisations (RTO) from 26 countries all over Europe and beyond. Our members are active within the European hydrogen and fuel cell sector.

[4] European Commission (2020), Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions, A New Industrial Strategy for Europe, COM (2020) 102 final.