



## JOINT DECLARATION ON SKILLS IN THE CLEAN ENERGY SECTOR

The European energy system has been severely shaken following Russia's invasion of Ukraine. As a response, the Commission adopted a REPowerEU Communication in March and a REPowerEU Plan on 18 May 2022 to phase out the EU dependence on Russian fossil fuels. Massive and accelerated deployment of renewables is at the heart of this initiative. The Plan proposes actions on renewables on both the supply and demand side. It puts forward EU's increased 2030 renewable energy target of 45% and a permitting initiative to accelerate the uptake of renewables well before 2030. It also foresees action on the supply side, involving the EU renewable industry, including as regards the skilled workforce necessary for such acceleration.

The EU had already set ambitious policies under the European Green Deal and the ambitious objective to become climate neutral by 2050. Moreover, the 'Fit for 55' package tabled in July 2021 proposed to increase the EU renewable energy target to 40% by 2030 and set specific sectoral targets for the uptake of renewables deployment in industry, buildings, heating and cooling and emissions targets in transport. The important role of renewables, the ambition and the implementation of the 'Fit for 55' proposals become even more crucial in the context of the current geopolitical crisis.

The actions put forward under the REPowerEU Plan call for frontloading and increasing renewables deployment. In particular, the EU Solar Energy Strategy<sup>1</sup> and the Commission initiatives on permitting<sup>2</sup> will be the cornerstone to underpin this acceleration via a set of measures to support Member States and stakeholders in a coordinated way.

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<sup>1</sup> Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions EU solar energy strategy, com/2022/221 final.

<sup>2</sup> Commission Recommendation on speeding up permit-granting procedures for renewable energy projects and facilitating Power Purchase Agreements, C/2022/3219 final; Commission Staff Working Document Guidance to Member States on good practices to speed up permit-granting procedures for renewable energy projects and on facilitating Power Purchase Agreements Accompanying the document Commission Recommendation on speeding up permit-granting procedures for renewable energy projects and facilitating Power Purchase Agreements, SWD/2022/0149 final and Proposal for a Directive of the European Parliament and of the Council amending Directive (EU) 2018/2001 on the promotion of the use of energy from renewable sources, Directive

The European clean energy industry has a key role in this accelerated transition and its contribution will be vital to deliver and integrate the volumes of renewable energy required to achieve the REPowerEU objectives and the European Green Deal aim to deliver the reliable, affordable and sustainable clean energy for all.

A sufficient number of staff with the necessary skills - particularly in technical and STEM (Science, Technology, Engineering and Mathematics) fields - will be critical to ensure a fast, steady and equitable deployment of clean energy solutions and to make sure that this is done in a timely and professional way, both upstream and downstream in the value chain.

Shortage of skills and lack of an adequate workforce in the various segments of clean energy technologies' value chains could disrupt the necessary pace for development of renewable energy and thus put at risk the achievement of the REPowerEU goals and the proposed EU renewable energy target for 2030. The lack of workforce with adequate skills risks being a significant barrier to investments and is recognised as one of the most serious concerns by the industry. The REPowerEU Plan calls for additional efforts to overcome the shortage of skilled workforce to enable the acceleration of renewables deployment and announces support to skills through ERASMUS + and the Joint Undertaking on Clean Hydrogen, with the launch of a large project to develop skills for the hydrogen economy. Specific actions on addressing shortage of skills are also proposed in the EU Solar Energy Strategy and in the “Commission Recommendation on speeding up permit-granting procedures for renewable energy projects and facilitating Power Purchase Agreements”.

Considering that a well-trained and sufficient clean energy workforce is a major factor of competitiveness for the clean energy industry and a decisive condition for the manufacturing, deployment and management of the clean energy technologies needed to achieve the EU energy and climate objectives, the participants of the Clean Energy Industrial Forum:

- Commit and call on all stakeholders in the clean energy sector to **step up their efforts and investment in the development of the skills required by the energy transition**. Both public and private stakeholders are asked to plan in advance future skills and workforce needs and urgently roll out the necessary initiatives to make sure that there are sufficient and skilled workers to deliver the energy transition towards reaching the 2030 energy and climate targets;
- Commit and call on all stakeholders in the clean energy sector to **strengthen their reskilling and upskilling programmes** by investing more in education and training programmes and actions to match job offer and demand;

- Call on **public authorities at Member States and local level to take urgent action** for putting forward the targeted training and education programmes and for providing the right financial support for these programmes, setting clear targets for the upskilling and reskilling of workers in strategic value-chains in line with the REPowerEU Plan;
- Call on **public authorities to make the best possible use of existing EU financing instruments** - such as the Recovery and Resilience Facility, the European Social Fund, the European Regional Development Fund and all other EU and national funds that can support urgent action to address the shortage of skills – and exploit their potential at best to bring the necessary skills into the clean energy sector;
- Considers the **upskilling of civil servants**, coupled with a simultaneous modernisation process of the public sector, **of most urgent importance to speed up the permitting procedures** for renewable energy installations. Therefore, they strongly welcome the Commission’s recommendation for Member States<sup>3</sup> to “use the Union and national funding opportunities available for upskilling and reskilling, in particular at regional and local level, and consider setting up an Alliance for sectoral cooperation on skills to bridge the skills gap of staff working on permit-granting procedures and on environmental assessments”;
- **Support the Pact for Skills**, welcome the creation of a Large Scale Partnership for Skills in the Offshore Renewable Energy and call on all stakeholders in the clean energy sector to work together, supported by the European Commission and Member States, for the **creation of a similar Partnership for onshore renewable energy**, the importance of which was highlighted in the REPowerEU Plan and, in particular, in the EU Solar Energy Strategy;
- Support the strengthened provisions of **Article 18 of the proposal amending the Renewable Energy Directive EU/2018/2001**<sup>4</sup> and call on Member States to implement swiftly these provisions by making sure that adequate measures and incentives are put in place.

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<sup>3</sup> Commission Recommendation on speeding up permit-granting procedures for renewable energy projects and facilitating Power Purchase Agreements, COM(2022)3219.

<sup>4</sup> Proposal for a Directive of the European Parliament and of the Council amending Directive (EU) 2018/2001 of the European Parliament and of the Council, Regulation (EU) 2018/1999 of the European Parliament and of the Council and Directive 98/70/EC of the European Parliament and of the Council as regards the promotion of energy from renewable sources, and repealing Council Directive (EU) 2015/652, COM/2021/557 final, which provides that “*Member States shall ensure that trained and qualified installers of renewable heating and cooling systems are available in sufficient numbers for the relevant technologies*”.

## ANNEX

### **Skills and workers needed for the energy transition**

The Clean Energy Industrial Forum, which brings together leaders from the entire spectrum of the clean energy value chain, considers skills as a major topic for discussion and for action. Skills and just transition were already discussed by the Forum at its high-level meeting of 3 December 2021, where its Members provided a first overview of critical aspects and opportunities. That discussion concluded that all stakeholders need to engage on ensuring an adequate number of sufficiently skilled workers covering both public authorities in charge of handling renewable energy dossiers and all the segments of the value chain: from raw material processing to manufacturing, planning, deployment, operation & management and recycling.

The Forum identifies the following main categories of skills that are necessary for the clean energy industry workforce:

- Administrative, legal and technical/digital skills for staff in permitting authorities to process project permits and evaluate environmental impact assessments;
- Skills for the manufacturing of clean energy technologies, including engineering, digital, automation and scientific skills;
- Skills for the design, installation and maintenance of renewable heating and cooling systems;
- Skills for the installation, operation and maintenance of renewable energy technologies;
- Skills linked to the installation, operation and management of district heating and cooling systems;
- Skills for the exploration, prospection, drilling, installation, control and maintenance of geothermal energy plants;
- Renewables planning and project development skills (mainly for municipalities);
- Planning skills for renewable energy developers;
- Offshore and maritime technology skills;
- Circular economy skills;
- Skills to integrate clean energy solutions in buildings, including building-integrated solar energy equipment;
- Skills for the design and management of flexible supply, transmission, distribution and storage infrastructure, to enable high levels of flexible renewable supply 24/7;
- Commercial skills for commercial energy buyers, to increase corporate participation in new and complex renewable electricity markets;

- Skills related to community engagement, outreach and organisation, as well as coaching for households and local communities on adopting sustainable behavioural change, uptake and ownership of clean energy technologies, project development and professionalization.

Overall, around 1.3 million persons were directly or indirectly employed in the European Union renewable energy sector in 2020. From 2019 to 2020 there was a gross increase of 65 000 jobs (+5.2%), notwithstanding the Covid-19 pandemic.

This number is set to increase following the accelerated deployment of clean energy solutions under Fit for 55 and the REPowerEU Plan. The transition would also generate important social co-benefits, notably by reducing existing socio-economic inequalities, promoting access to affordable energy and mobility, improving air quality, health, and well-being. The renewable energy targets laid down in the proposal to amend the Renewable Energy Directive and the acceleration foreseen under the REPowerEU Plan will be achieved only with a sufficiently numerous, well-trained workforce.

The lack of workers with an adequate background – particularly in technical and in STEM fields - is a potential critical bottleneck for the industry. This is a structural issue that could affect all EU Member States and all sectors of the clean energy industry. It goes beyond the need to upskill or reskill the existing workforce as it stems from a general shortage of professionals with technical and scientific background<sup>5</sup>.

Women accounted only for 32% of the workforce in the renewables sector in 2019. Attracting more women to clean energy related jobs and fostering their representation and retaining them in technical and in STEM fields and later in the related workforce will not only help the industry cope with jobs needs but also support the inclusion of women in these work fields and increase their employment rate. Furthermore, striving for equal employment opportunities for all social categories across EU countries and across firms could further help boost workforce availability to contribute to the energy transition, whilst also improving equity prospects.

The Commission estimates that to realise the employment potential of EU's low-carbon transition, large-scale investments of around EUR 12 billion between 2015 and 2030 will be needed on retraining (reskilling and upskilling).

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<sup>5</sup> To give some examples: it is estimated that 800.000 workers will need to be trained – reskilled or upskilled – and equipped with battery-specific expertise across the batteries value chain; 250 000 people need to acquire skilling and upskilling in the field of offshore renewable energy; the solar heating and cooling sector will require an additional 130 000 skilled workforce, for manufacturing, design, installation and maintenance of solar thermal systems supplying buildings, district heating and industrial processes; about 400 000 workers will have to be trained and upskilled in the heat pump value chain, not including those experts currently working in heat pumps and facing retirement in the next few years.

## Education and training needed for the energy transition

Education and training are fundamental for both providing the basic skills to future workers and reskilling/upskilling the existing workforce, which could transition to the clean energy sector from other industries, including the fossil fuel sector. Skills must be developed at all qualification levels, for technical workers and high-skilled professionals alike, to create new jobs or bring innovation into existing ones.

However, technical education and training pathways, which are indispensable to concretely implement the energy transition, are not always sufficiently developed and generally suffer from a poor image compared to academic education. Vocational education and training as well as technical degrees for the clean energy sector needs to be promoted already from primary education, and reinforced and adapted to meet current skills and workers shortages and avert future ones.

As skills demand evolves in line with the clean energy transition, education and training need to be tailored to these new developments and they need to be made more attractive, especially for students, job seekers and people looking for reskilling opportunities but also for local communities and social economy actors that want to start activities around renewable energy production and energy savings.

In cooperation with industry stakeholders, sufficient amount of apprenticeship opportunities need to be made available, contributing to education and training scheme suitability to market needs. To support reskilling and upskilling, life-long-learning and adult learning schemes need to be developed and implemented. These need to be designed to best suit the needs of recipients (on-site training at work places, free and easily accessible training materials, e-learning platforms).

It is also important to foster cross-sectorial education and training, not only between different energy technologies but also between the energy and other sectors, such as transport, buildings and industry.

The clean energy industry represented by the Clean Energy Industrial Forum has already put in place some examples of initiatives aiming to strengthen the skill basis of European workers<sup>6</sup>, but more needs to be done from all relevant actors.

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<sup>6</sup> The #SolarWorks campaign from SolarPower Europe, which raises awareness on growing solar job opportunities in Europe and aims to connect potential solar workers with the right training to get them started. SolarPower Europe is also planning to launch the first online solar jobs platform, connecting job seekers to solar companies and education programmes. The European Master in Renewable Energy (EMRE) and the European Master in Sustainable Energy Management (SESyM) coordinated by EUREC are good examples of post-graduate programmes taught across 9 European countries that offers specialisation on a renewable energy technology of choice. The courses include practical experience in industry and a streamlined programme of 3 semesters, helping engineers from the fossil industry and other related sectors to make a career switch into renewables. The German electrical contractors' sector set up a [new apprenticeship](#) to train future professionals that can integrate renewable technologies together. The Finnish electrical contractors and wholesalers and trade unions partnered to launch a [new media campaign](#) on jobs for the energy transition. They aim to double the number of candidates for electro-tech careers and raise the share of female candidates to 50% by 2030. The German heat pump association in cooperation with the national engineering association VDI have compiled a training program for heat pumps installers. GeoTrainet is the organisation behind the European wide training and certification programme for shallow geothermal installers, specifically designers (those who carry out feasibility

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and design studies, including geology) and drillers (who make the boreholes and insert the tubes). Its aim is to ensure high quality installations for a sustainable market. EIT InnoEnergy provides an innovative solution in addressing STEM skills identified in clean energy and the green transition, with Master degree programmes across top universities Europe, which include collaboration with the industry as well as entrepreneurial aspects. EIT InnoEnergy Master programmes are supported by the EIT, a body of the European Union. The Commission has recently awarded EIT [€10 million in funding](#) for a grant agreement with EIT InnoEnergy to develop, scale, and operate the European Battery Alliance (EBA) Academy in order to help bridge the skills gap in the battery industry. The EBA Academy aims to effectively coordinate reskilling and upskilling efforts at European level. The Romanian wind industry created two training centres for renewables in traditional coal mining regions: the Monsson-Renewable Energy School of Skills in Constanta and the RenewAcad centre in Petroşani.