



Employers entrusted to deliver
Sustainability Growth Innovation

A stylized icon for the "Green Skills in VET" logo, featuring a green triangle on the left and a white, blue, and yellow curved line on the right.

Green Skills in VET

GREEN SKILLS IN VET

POLITICAL REPORT

INTRODUCTION

This report provides an overview of key findings and evidence from the “Green Skills in VET” project, co-funded by the European Commission, and implemented by SGI Europe and the European Federation of Education Employers (EFEE). It focuses on the needs of providers of services of general interest (SGI) operating in the water, energy, and transport sector in selected **countries** (Belgium, France, Germany, the Netherlands, Spain, and Portugal). In the context of this project, the research also investigated the possible cooperation between vocational education and training (VET) institutions and SGI enterprises. The main findings are the followings:

Sustainability and employment: as highlighted in a recent forecast analysis by the European Centre for the Development of Vocational Training (CEDEFOP), the EU Green Deal will lead to an increase of employment equal to 63,2% in the water sector, 17,2% in the energy sector, and 0,4% in the transport sector, highlighting a wide range of impacts of the transition to the sectors. The water, energy and transport sectors face very different challenges in relation to the EU Green Deal targets.

Specifically, the water sector has reported a decrease in the levels of biodiversity, an increase in pollution and the emergence of new forms of natural resource management. The energy sector calls for investment in research and development to support the transition to sustainable, clean and renewable sources, as well as of innovative and enabling technologies for environmental sustainability processes. Finally, the transport industry aims at reducing emissions equal to 90% by 2050 and using of alternative fuels.

Skills and VET: a strategy of economic growth and social inclusion (as well as environmental sustainability policies) through training for skills development is necessary to achieve the objectives of the EU Green Deal. The importance of such approach has been acknowledged in several recent European policy proposals related to VET, such as the Council Recommendation of 24 November 2020 on vocational education and training for sustainable competitiveness, social equity and resilience, and the European Skills Agenda, which recognize the centrality of vocational training for the green transition.



WHICH SKILLS ARE NEEDED FOR THE GREEN TRANSITION?

Green jobs on a 'continuum'. The goals of the green transition cannot be achieved without investing in workers' skills. The research highlighted how, for some time, analyses have focused mainly on green jobs, i.e., trying to identify new occupations resulting from the introduction of new technologies and the evolution of existing jobs. What emerged was that all jobs are impacted by the transition, albeit in different ways. Rather than a separation between "green jobs" and "brown jobs", one should speak of a "green continuum", to indicate the varying intensity with which all jobs can be green. A holistic approach is therefore needed that also considers green skills affecting all professions to achieve the objectives sought by the green transition.

What are green skills? Amongst the key findings of the project, the absence of a clear definition of green skills has emerged, as the focus has mostly been put so far on identifying skills among the technical and specialised ones. This approach is now being challenged: beyond their technical dimensions, green skills are also cross-cutting and address the needs of a new mindset to face changes to production (critical thinking, teamwork, and the identification of innovative solutions).

It is a paradigm shift: beyond updating existing professions through the introduction of certain technical skills, green skills should lead to rethinking education and training in order to promote a new way of thinking, adopting sustainable behaviors and strategies.

Different skills and shades of green. Technical and transversal green skills should be complementary to each other, as they are both necessary to promote the green transition. Moreover, as in the case of green jobs, a holistic approach is useful, as it highlights the different 'shades of green' that characterises the skills required by the transition. They include those directly connected to the use of innovative technologies for environmental sustainability, and those apparently unrelated to the changes underway, but are also important. In this sense, digital skills play a major role and reassert the close link between the green and the digital transitions.

Green skills vary by sector and occupation. As seen, skills needs are mainly related to professionals in engineering, but the transition impacts the entire world of work. VET is therefore asked to diversify provision, which should include shorter courses for retraining workers, more structured ones for developing intermediate skills, as well as courses in the context of H-VET and tertiary education. This diversification will make it possible to find employment for outplaced workers, giving them the skills needed in the relevant sector.

How are green skills developed? The research highlighted that it is necessary to enhance dual training by involving companies and promote learning developed while on the job, both in a formal and informal way. The research then focused on the emerging needs of the sectors considered, the main challenges and the strategies adopted for the construction of (new) skills thanks to the cooperation between SGI providers and VET providers.

GREEN SKILLS DEFINITIONS – A PROPOSAL

Green Skills	Any skill - both technical and transversal - that enables the (technological, economic, productive, social, cultural) processes related to the green transition, either directly or indirectly. Green skills can either be an update on the professional background of already existing occupations or form part of entirely new knowledge sets, characterising new professional profiles.
Green Technical Skills	Skills that promote, from a technical and technological perspective, the green transition through the provision of scientific knowledge and abilities.
Green Transversal Skills	Competencies, knowledge, and skills that form a mindset and a set of attitudes oriented toward promoting green transition.

THE IMPACT OF THE TRANSITION AT SECTORAL LEVEL AND THE NEEDS FOR GREEN SKILLS AND PROFESSIONS

Target sectors and employment prospects. Thanks to data made available by international observatories, it emerged that employment growth varies greatly in the countries and sectors studied (Table 1). For example, in the water sector, the employment prospects (2020-2030) expect a 5% increase across the target countries, against forecast 1,3% decrease at EU level. The energy sector is the one reporting the highest growth in terms of employment: 8,8% in average in the target countries, and 6,7% across the EU. Generally, all countries report a positive trend, re-asserting the centrality of this sector for the policies promoting environmental sustainability. Regarding the transport sector, a 1,6% increase is anticipated in the transport sector, against 5,3% in Europe.

EMPLOYMENT GROWTH IN TARGET SECTORS (2020-2030)

Sector	Employment growth (average)*	EU
Water	4,9	-1,3
Energy	8,8	6,7
Transport	1,6	5,3

Source: Fondazione ADAPT on CEDEFOP data

* Project target countries employment growth (average) (2020-2030) Project targetcountries: BE, FR, DE, NL, PT, ES

The employment prospects are thus different according to the sectors and the countries considered.

Most in-demand green and “low-carbon” jobs: As for most in-demand jobs in the context of the green transition, the holistic approach is recommended. Green skills do not only concern a limited group of workers, but everyone. The results of the ‘Green Skills in VET’ project are summarized in the following table, where a selection of the most in-demand jobs with green skills is presented.

JOBS NEEDED TO PROMOTE THE TRANSITION: THE MOST IN-DEMAND OCCUPATIONS IN TARGET SECTORS

Sector	Most in-demand Jobs
Water	• Agricultural operators with sustainability knowledge and skills • Water plant operators • Managerial professional profiles • Process engineers in wastewater treatment and in groundwater management
Energy	• Technicians, Project managers • Electrical/Electronics engineering technicians • Manufacturers of wind turbines
Transport	• Transport engineers • Hardware-software engineers • Hydrogen technicians

Source: Fondazione ADAPT elaboration.

See, “Green Skills in VET. Final Report” (2022)

The most in-demand professions are those in the engineering sector, though more operational occupations are also needed. The importance of green skills for all workers was also emphasized by the SGI employers interviewed.

REASONS AND PROSPECTS FOR COLLABORATION BETWEEN SGI PROVIDERS AND VET PROVIDERS IN THE LIGHT OF THE BEST PRACTICES IDENTIFIED

The difficult generational turnover due to an ageing workforce and the struggle to retain younger people have been highlighted by SGI employers amongst the key difficulties in the sectors analysed. Together, these two challenges highlight how VET providers should work together. This cooperation is important to help students familiarize themselves with the relevant sectors and overcome certain prejudices, improving their attractiveness, and to develop skills in line with labour market needs.

The main findings on the challenges concerning the different sectors and the green skills required are presented below. This information was obtained through surveys, interviews, and workshops.

After highlighting the specificities and needs of the different sectors, the research pointed out how SGI and VET providers can cooperate for the development of green skills. From the good practices collected, it was also possible to identify how the collaboration between SGI providers and VET providers is strengthened to promote the EU sustainability objectives.

A FOCUS ON BEST PRACTICES

Best practices in the field of green oriented initiatives across target countries, selection criteria and their variety in terms of scope and actors involved responded to two main objectives: on the one hand it was considered appropriate to underline the concrete examples of collaboration between SGI providers and VET organizations regarding the construction of professional profiles (curriculum) and green skills.

These practices constitute the majority of the examples outlined. Other examples focused more on sectoral social dialogue, where employers' organisations and workers representatives were directly involved for enabling a better matching between supply and demand of green skills (both in terms of negotiations and with reference to skills forecast studies). The table below provides an overview of the best practices mapped and illustrated in the "Green Skills in VET. Final Report" publication.

BEST PRACTICES: IMPLEMENTATION OF GREEN-ORIENTED VOCATIONAL EDUCATION AND TRAINING ACROSS TARGET MEMBER STATES

Water sector

- The Centre for Innovative craftsmanship Water (CIV Water) (NL)
- The "Escuela del Agua" - AGBAR (ES)

Energy sector

- The "Etude prospective emplois et compétences de la filière électrique" (Forecast study jobs and skills in the electrical sector) led by UFE and the "CyberSelect" project in the Brittany region (FR)
- Social dialogue and industrial relations for closing the energy sector skill shortages (FR)
- The Syntra West Center (BE)

Transport sector

- The Association of German Transport Companies - VDV Academy (DE)
- The secondary Vocational Education and Training (VET) in the Netherlands - MBO Raad (NL)
- The Instituto Profissional de Transportes - IPTrans (PT)

Source: Fondazione ADAPT elaboration. See, "Green Skills in VET. Final Report" (2022)

POLICY RECOMMENDATIONS

TO THE EUROPEAN COMMISSION

- **Promote the strategic role of VET in meeting the objectives of the European Green Deal,** where VET is no longer a training segment called upon to respond to labour market needs, but an element of collaborative network where research, innovation, training and work are intertwined and where VET becomes a tool to manage and govern the change taking place.
- **Set up a European alliance for green skills.** The research highlighted the need for a multilevel approach to green skills. A common European framework, which identifies both technical and transversal green skills – thus integrating GreenComp – bringing together training, industrial, and R&D policies, can be a driver for the green transition at the national and sectoral level, according to specificities and common standards. A European strategy can also foster the recognition of green skills at the international level, promoting the goals set at the EU level with respect to training and VET, and encouraging countries that do not have tools to invest in this direction.
- **Intensify the technical assistance offered to the Member States** for the new funds made available at European level for skills, education, and training, including the European Social Fund+, the Just Transition Fund, the Recovery and Resilience Facility, and Erasmus+ to address the lack of awareness and understanding on EU funds available for local authorities and smaller companies, as well as the new support schemes.

TO MEMBER STATES

- **Modernize the skills strategies and training programs** through collaboration with the social partners, as well as facilitating training for the VET providers' staff, focusing on updating the models of curricula and new ways of teaching. Updating the curricula of training paths thanks to the information gathered from skills intelligence activities is fundamental to promote the effectiveness of the training of new professional skills,
- **Develop national green skills plans with the involvement of the social partners.** These plans can serve as a reference for bottom-up approaches developed at the local level but in line with the green skills taking place at the European level. These should aim to deal with socio-economic challenges, optimize employment and competitiveness opportunities for workers and enterprises, and contribute to inclusive and fair transitions
- **Ensure quality and inclusive lifelong learning systems** for supporting workers adapting their skills and knowledge suitable to support them in the green transition and achieve the EU headline target of 60% of adults participating in training every year by 2030. This should also include encouraging and financing the development of Centers of Vocational Excellence, which can act as intermediary bodies and facilitate the collaboration between employers and VET providers, bringing sectoral developments faster into training programs and reducing costs for VET providers.
- **Build synergies and coordinate integration between industrial and training policies,** through investments and development plans which consider the design of training paths aimed at building skills that enable green innovation and avoiding a 'one-sided' transition limited to companies that already had advanced forms of collaboration with education providers.
- **Enhancing a framework that ensures the good development of national social dialogue,** considering the different context of each Member States, and allowing different training solutions according to the skills shortages and mismatches within sector or occupation.

TO SOCIAL PARTNERS

- **Raise awareness of local and regional industries and boost the capacity to upgrade skills of the companies at local level** to pool the needs of the sector, to participate in the design of paths that favor the attractiveness of companies in the sector and avoid brain-drain processes at the local level.
- **Communicate and raise awareness on skills needs:** In the context of demographic changes and low attractiveness of some sectors especially for young people, social partners should initiate and led communication and awareness campaigns, in collaboration with local authorities and other stakeholders, devoted at raising awareness about occupational opportunities and career prospects within services of general interest.
- **Adopt a holistic approach when designing employee training:** social partners should consider that the segregation between occupations decreased within sectors, requiring employees to broaden their area of expertise including problem solving, digital and ICT skills, communication, creative thinking and learning skills.
- **Use social dialogue to boost sustainable development.** The social partners have a decisive role in this process, thanks to collective bargaining and social dialogue. They can foster the participation of local entities, the integration of top-down and bottom-up approaches, and the cooperation between EU and national policies, supporting them with specific activities. The participatory method that characterizes the social partners is also useful to prevent new polarizations and fragmentations, thanks to an inclusive approach that can trigger diversified and large-scale training.

TO VET PROVIDERS

- **Establish a deeper level of collaboration between VET providers and SGI enterprises** to provide employees with the necessary green skills in the mentioned holistic approach. These partnerships will grant VET institutions the necessary resources and financial means that they sometimes lack while rewarding SGI enterprises with highly skilled workers that can lead the green transition.
- **Adapt the curricula** to the new context. All professions are affected, directly or indirectly, by the green transition and, therefore, all of them can be green. Thus, rather than focusing on the building of new profiles that fit the green transition, VET providers should update the curricula by adopting new learning methods and tools and providing instruction on different green skills for each type of jobs.
- **Increase the enrollment rates** by boosting the attractiveness of VET careers. The general shortage in qualified technicians and the struggle to retain young workers in the three sectors analysed in this project calls for an urgent boost of their appeal. By accommodating the educational programs to fit the needs and wants of future students and helping these prospect pupils and their families to better understand what these activities consist of, an escalation in the enlistment rates is foreseen.
- **Certify green skills** and insert them in workers curricula. These competences are transversal and prepare workers to adapt to and thrive in the green transition. The possession of green skills allows higher mobility within domains and better connectivity and collaboration among the sectors.
- **Train VET providers in the green transition.** Instructors must be acquainted with the green transition and green skills and be able to transmit them and relate them with the content of their lessons.



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