

Meeting skill needs for the green transition

Greening TVET for a greener future

Overview

Technical and Vocational Education and Training (TVET) plays a crucial role in the green economy by equipping individuals with skills for sustainable practices. As industries shift towards eco-friendly operations, TVET adapts its curriculum to focus on eco-friendly technologies and sustainable development. This prepares students for green careers and fosters a deeper understanding of sustainability, promoting environmentally conscious behaviours. By connecting education to the labour market, TVET shapes a capable workforce committed to supporting the green transition.

Where we are

TVET has undergone significant changes (UNESCO, 2022). The most prominent change is digitalization, accelerated by remote learning during the COVID-19 pandemic and the advent of new tools in data analytics and artificial intelligence (AI). Additionally, there have been shifts towards competency-based approaches, learner-centred and personalized teaching practices and greater involvement of TVET institutions in regional development and partnerships.

Institutional approaches for a green future



Institutional planning and culture

Greening principles and values need to be embedded in TVET institutions' everyday culture, not just in formal plans and learning activities.



Curriculum and pedagogy

Curricula need to be attuned to the society's and the changing economy's requirements. New pedagogies are needed to support TVET learners in being equipped with the technical knowledge and skills to work effectively and the behaviours to help shape sustainable societies.



Teachers' and trainers' professional development

Teachers and trainers need to be provided with opportunities to upgrade their skills, whether through formal learning or by making opportunities available to them to develop their roles and cultivate skills and practices among learners and peers.



Campus and learning environment

TVET schools and training institutions should not only be places of practice-based instruction but also green spaces where people can learn about environmental topics and trends in the professions, exercise sustainability principles, and apply skills for demonstrating green practices.



Community, workplace and lifelong learning

TVET institutions can engage with their wider community of business stakeholders, including in the informal economy, and community leaders, supporting them to tackle environmental challenges whilst developing learners' skills.



Research, innovation and enterprise

TVET institutions can engage in research or collaborate with research-orientated partners to collect and disseminate data linked to skills and employment in green occupations. To support green goals and regional development strategies, the role of TVET in research and innovation development must be strengthened and made more accessible to support enterprise's thriving in the developing green economy.

Areas for action	Policy enabler	Institutional action
Institutional planning and culture	- Well-defined national objectives for the green transition - Provision of opportunities for the management to develop clear vision, objectives and change programmes - Support for green initiatives of institutions through funding provisions - Support teachers in developing their role	- Strategic frameworks & vision - Resource allocation - Stakeholder engagement - Leadership autonomy & commitment - Curriculum planning and development - Institutional progress and performance monitoring
Curriculum and pedagogy	- National or regional skills anticipation methods - Systematic adoption of programmes and qualifications to meet skills needs - Clear upskilling and reskilling policies - Enabled local adaptations to national programmes and qualifications	- Identification of skills for the green transition - Flexible integration of green skills and competencies - Industry-relevant curricula - Provision of practical training - Adaptable pedagogy - Curriculum alignment with global trends and local climate
Teacher professional training and development	- Teachers' and trainers' professional development integrated into national and sectoral green policies - Green competencies and criteria in formal teacher requirements for professional certifications - Support for continuous professional development (CPD) efforts at institutional level	- Teacher competency gap assessments - Teachers' standards and continuous training and professional development - Tailored professional development programmes (hands-on, experiential, etc.) - Collaboration and peer networking opportunities - Evaluation and feedback mechanisms - Up-to-date training and facilitation materials
Campus and learning environment	- Provision of autonomy - where needed - to enable institutions exercise adaptations of green methods into local practice and their learning environment - Provision of support for the local implementation of new laws or regulations - New programmes supportive of green practices	- Green-conscious campus operations and sustainable practices - Sustainable infrastructure - Green learning spaces - Green local technology integration in campus operations - Community engagement - Relevant skill integration in the curriculum - School community awareness building
Community, the workplace and lifelong learning	- Recognition of the wider role of TVET institutions as local agents of change - Adequate national policy and funding frameworks to support synergies with communities and businesses - Systematic cascade of national policies that links informal/non-formal and other lifelong learning opportunities with formal qualifications	- Community engagement - School-based livelihood creation - Work-based training integration - Partnerships and own initiatives for the creation of lifelong learning opportunities - Stakeholder collaboration - Promotion of school sustainable practices to community and external partners
Research, innovation and enterprise	- Recognition and support for the role of TVET in research, innovation and enterprise development in national policies and strategies - Promotion and support for TVET institutions to strive for excellence in their niche areas or fields of competence - Acknowledgment of the role of TVET in regional development partnerships	- Local research projects and initiatives - Green curriculum innovation - Green entrepreneurship learning and development of institution's support for enterprise development - Funding and grants for sustainable project creation - Evaluation and impact assessment



Greening the institutional planning and culture

- There is a charter/vision/mission statement for greening;
- The institution's strategic plan has goals for greening;
- Environmental reviews/audits are regularly conducted;
- Criteria for the assessment of green practices are integrated into quality assurance standards;
- Institution implements awareness-raising activities;
- Students are involved in designing the institution's approach to greening.



Greening the curriculum and pedagogy

- The institution adheres to a set of sustainability competences aligned with national curricula or state/local standards in place;
- Processes are in place for consulting with employers, social partners and the community on skill needs and skills anticipation;
- Skills intelligence on local jobs are used to inform curricula;
- Learner-centred pedagogy and assessment are being used to support skills development.



Greening teachers' and trainers' professional development

- Training needs analysis is conducted amongst teachers and trainers;
- Resources are allocated for professional development to learn about green topics and competencies;
- The institution's approach to greening is included in teacher/trainer induction;
- The institution ensures teachers' engagement with the industry by implementing green practices.



Greening the campus and learning environment

- The institution regularly conducts a review of its physical facilities regarding resource usage, water consumption, waste management, etc. as part of a plan with a concrete target;
- The institution has a plan for green campus services and procurement;
- Awareness-raising training is available for non-teaching staff;
- Inclusive learning is part of the sustainability approach of the institution.



Greening the community, the workplace and lifelong learning

- The institution actively reviews opportunities to support the local community in tackling environmental issues;
- Partnerships are being developed with businesses, including in the informal sector;
- The institution actively seeks out funding opportunities to support projects in partnership with local businesses;
- Informal learning courses and recognition of prior learning are offered and adapted for people in informal employment.



Greening research, innovation and enterprise

- The institution incorporates research into operational activities to enhance the sustainability agenda of institutional activities and objectives;
- The institution is part of regional/local partnerships for social and economic development and innovation;
- The institution actively engages in green development projects with local partners or enterprises;
- The institution is a valued member of regional partnerships.

Planning a concrete action will require understanding the input expected from institutions and the impact projected to be created on different levels.

