Benchmarking Analysis of European Frameworks of reference

Deliverable 3.1 | April 2025

GreenVET4U

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Building the capacity of VET providers and private entities to cooperate designing and delivering innovative curricula in skills for Green Jobs in Uganda

greenvet4u.eu

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Benchmarking analysis of European frameworks of reference
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1. Introduction & Context

The Benchmarking analysis of European frameworks is a reference document designed to facilitate the transfer of good practices, knowledge and methodologies from the EU Member states to the Ugandan VET ecosystem and is led by **ASPIRE.** It is part of **WP3** *Developing the Competence Matrix Configuration for Skills for Green jobs in Uganda,* led by **NCDC.**

The Report offers an analysis of key EU frameworks used to strengthen European VET systems in preparing their workforce for a sustainable future, providing valuable insights on strengths, gaps and transferability potential, whilst considering the different contexts of Europe and Uganda.

1.1 Aims

1. Identify relevant EU VET frameworks in relation to skills for green jobs in Uganda.
2. Make recommendations on potential transferability for the Ugandan VET ecosystem
3. Analyse the frameworks across key dimensions of relevance and mapping them to the GreenVET4U Curriculum Building Blocks.
    - **Block A** - Building business-education partnerships for curriculum design and work-based learning delivery
    - **Block B** - Identifying skills for green jobs
    - **Block C** - Introducing green entrepreneurship skills in curricula
    - **Block D** - Integrating digital technologies and educational contents in the curriculum
    - **Block E** - Addressing Inclusion and diversity, common values, civic engagement and participation in curricula delivery
    - **Block F** - Quality assurance and digital supported validation of competences

1.2 Choice of EU frameworks

The criteria used to identify and choose EU frameworks were *relevance, effectiveness*, *impact* and *added value* in terms of:
- providing competences for green, digital and entrepreneurial skills
- innovating and improving quality of VET systems within state and private sector providers
- enabling VET learners to progress and have recognised portable qualifications

Using the above, the following **6** European frameworks were chosen and analysed by ASPIRE, with contributions from the Ugandan Partners.

1.3 European Context for Green Skills and Green Jobs:

The EU Green Deal underlines the critical role of green jobs and skills in achieving climate neutrality. It aims to create millions of green jobs by investing in green technologies, supporting industries, and providing training opportunities. By fostering a skilled green workforce, the EU seeks to lead the global green transition while ensuring social fairness and inclusivity which "leaves no one behind."

The EU Green Deal. represents the European roadmap to create a clean circular economy which increases the efficient use of resources, cuts pollution and restores biodiversity thus mitigating the extreme climate and environmental risks and challenges Europe and world is increasingly facing.

Figure 1 Policy areas of the EU Green Deal[1]
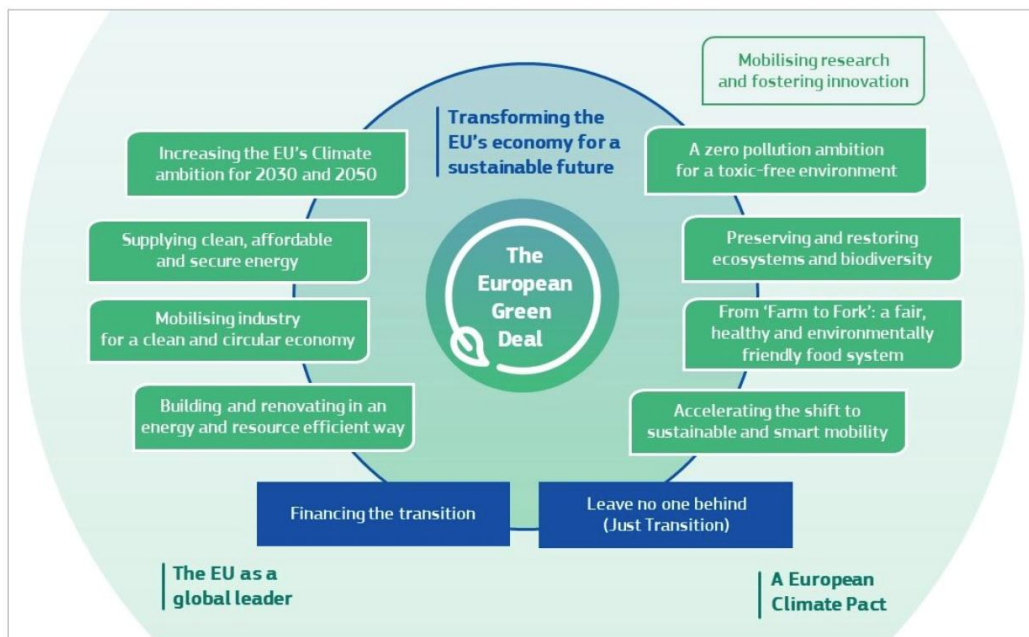
Green jobs encompass employment directly contributing to environmental protection, resource efficiency, and sustainable development. These roles span renewable energy, clean transportation, sustainable agriculture, waste management, and eco-friendly technologies. They are central to the European Green Deal's aim of a climate-neutral economy.

Green skills are the knowledge, abilities, and attitudes necessary to perform green jobs effectively. They include technical expertise in sustainable technologies, environmental management, and energy efficiency. Equally important are transferable skills like problem-

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[1] https://www.researchgate.net/publication/372497112_Towards_greening_-
benefits_and_challenges_of_the_green_revolution

solving, innovation, and digital literacy. The EU emphasizes upskilling and reskilling to equip the workforce for the green transition.

1.4 The Ugandan Context for Green Growth & Jobs

Uganda Green Growth Development Strategy (UGGDS)

The Uganda Green Growth Development Strategy (UGGDS) serves as a foundational policy, outlining the nation's ambition to operationalize a green economy and recognizing the potential to generate up to four million jobs through such a transition. This strategic direction underscores the importance of identifying and fostering employment opportunities that contribute to environmental preservation and sustainable resource utilization. This strategy emphasizes inclusive low-emission economic growth, decent green jobs, and social inclusiveness.

The UGGDS identifies five focal implementation areas with high growth potential that can best contribute to the development of a green economy: sustainable transport; Green cities (which includes waste management); natural resources management (which includes tourism) energy for green growth and sustainable agriculture. It defines green growth in the Ugandan context as follows:

> *"An inclusive low emissions economic growth pathway that emphasizes effective and efficient use of the country's natural, human, and physical capital while ensuring that natural assets continue to provide for present and future generations."*

Uganda's Latest National Development Plan (NDP)

The National Development Plans (NDPs) further reinforce Uganda's commitment to green growth and sustainable development. Uganda's National Development Plan IV (NDP IV) for the fiscal years 2025/26 – 2029/30 is the fourth in a series of six five-year plans designed to achieve Uganda's Vision 2040. The overarching goal of NDP IV is to achieve higher household incomes, full monetization of the economy, and employment for sustainable socio-economic transformation, under the theme "Sustainable Industrialization for Inclusive Growth, Employment, and Wealth Creation." NDP IV's emphasis on sustainable industrialization inherently supports green growth principles by promoting value addition in sectors like agriculture and mineral extraction in an environmentally conscious manner. NDP IV also seeks to create green jobs and promote investments in sectors that are both economically viable and environmentally sound, thus contributing to the broader goals of Uganda's green growth agenda.

Ugandan latest TVET Reform

The recent passing of the **Technical and Vocational Education and Training (TVET) Bill, 2024**, signals that the TVET sector in Uganda is undergoing significant reforms in structure and standards. They aim to address serious problems associated with the implementation of TVET in the country which are also a result of insufficient funding, fragmentation and lack of

coordination across the skills sectors. Highlighted is the fact that in Uganda there is "an insufficient number of trainers with the required CBET (Competence-Based Education and Training) trainers' competences "and" limited industry participation" . [2]

Uganda's TVET Policy aims to streamline governance and regulation and centralize authority under a new TVET Council at which industry employers would make up 67% of members. This council will be the central authority for regulating and accrediting TVET institutions. While this bill has been passed, the full implementation and the exact roles of the new entities are still unfolding. It sets implementation standards for Curriculum and Training Content; Assessment and Qualification standards and identifies competences linked to Uganda's emerging National Qualifications Framework.

However, the National Curriculum Development Centre (NCDC) is expected to continue to play a crucial role in the development and review of TVET curricula. Its expertise in curriculum design, particularly in Competence-Based Education and Training (CBET), will be vital for achieving the objectives of the new TVET Act, such as producing a skilled and competent workforce that meets the demands of the labour market.

2. European Qualifications Framework

2.1 Overview

The European Qualifications Framework (EQF) categorised at eight levels, applies to all types and levels of education, training, and qualifications. This includes general education, vocational education and training (VET), higher education, as well as qualifications awarded through validation of non-formal and informal learning, and by the private sector or national organisations.

In other words, the EQF applies to a wide range of learning experiences, regardless of how or where they took place. This could include things like attending a university course, getting a vocational qualification, or learning a new skill through an online course or on the job.

The EQF is designed to make qualifications from different countries more comparable. This is because each level of the EQF is described by a set of learning outcomes. These learning outcomes describe the knowledge, skills, responsibility and autonomy that a learner should have at a particular level. By comparing the learning outcomes of qualifications from different countries, it is possible to see how equivalent they are. This can be helpful for people who want to work or study in another European country. It can also be helpful for employers who are looking to hire people with a certain level of qualification.

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[2] The Technical Vocational Education And Training (TVET) Policy (2019), Ministry of Education and Sports, The Republic of Uganda

Figure 2   EQF levels and achieved education and maintenance personnel positions [3]
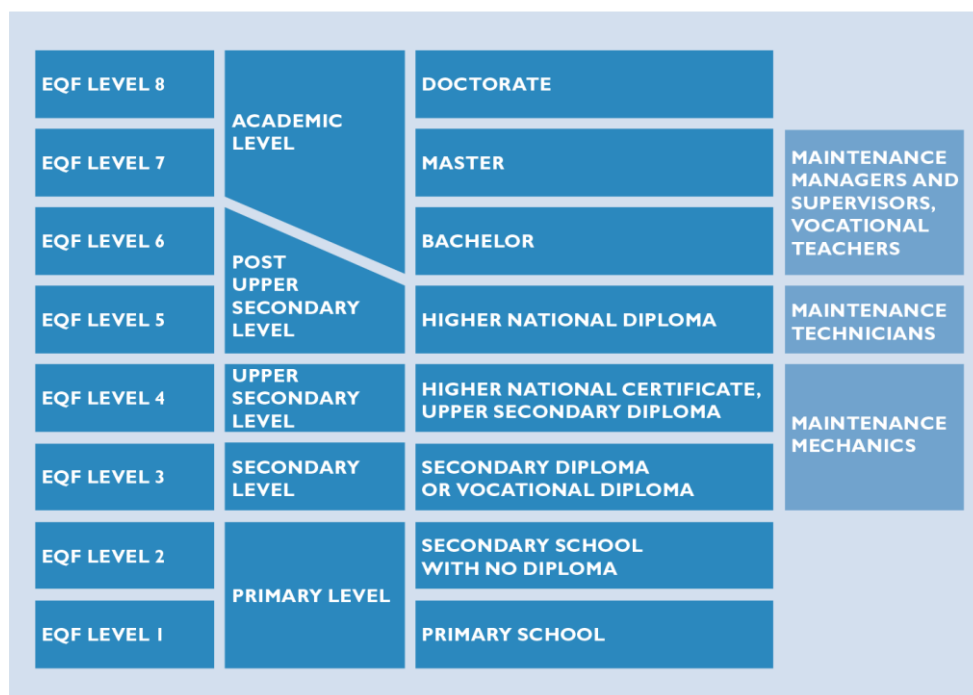
In other words, the EQF **encourages recognition of qualifications and mobility of workers across European states.**

The EQF defines Learning outcomes at 8 different levels according to the following:
- **Knowledge** is described as **theoretical** and/or **factual**.
- **Skills** are described as **cognitive** (involving the use of logical, intuitive and creative thinking) and **practical** (involving manual dexterity and the use of methods, materials, tools and instruments).
- **Responsibility and autonomy** are described as the ability of the learner to apply knowledge and skills autonomously and with responsibility.

2.2 Knowledge, Skills, Responsibility & Autonomy

Figure 3 : THE EUROPEAN QUALIFICATION FRAMEWORK

Learning Outcome	Knowledge	Skills	Responsibility & Autonomy
Level 1	Basic general knowledge	Basic skills required to carry out simple tasks	Work or study under direct supervision in a structured context

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[3] Joint Curriculum Guide in Eco-Design in Textile and Fashion Sectors Towards a Circular Textile Industry

Level 2	Basic factual knowledge of a field of work or study	Basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools	Work or study under supervision with some autonomy
Level 3	Knowledge of facts, principles, processes and general concepts, in a field of work or study	A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information	Take responsibility for completion of tasks in work or study; adapt own behaviour to circumstances in solving problems
Level 4	Factual and theoretical knowledge in broad contexts within a field of work or study	A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study	Exercise self-management within the guidelines of work or study contexts that are usually predictable, but are subject to change; supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities
Level 5	Comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge	A comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems	Exercise management and supervision in contexts of work or study activities where there is unpredictable change; review and develop performance of self and others
Level 6	Advanced knowledge of a field of work or study, involving a critical understanding of theories and principles	Advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study	Manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts; take responsibility for managing professional development of individuals and groups

Level 7	Highly specialised knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research Critical awareness of knowledge issues in a field and at the interface between different fields	Specialised problem-solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields	Manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches; take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams
Level 8	Knowledge at the most advanced frontier of a field of work or study and at the interface between fields	The most advanced and specialised skills and techniques, including synthesis and evaluation, required to solve critical problems in research and/or innovation and to extend and redefine existing knowledge or professional practice	Demonstrate substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to the development of new ideas or processes at the forefront of work or study contexts including research

2.3 Comparison with Uganda Vocational Qualifications Framework

In Uganda, the accreditation standards for Vocational Education and Training (VET) were primarily governed and offered through the **Uganda Vocational Qualifications Framework (UVQF)** which was established by the BTVET Act of 2008. At that time, it represented a significant step towards structuring and enhancing vocational education and training in Uganda. However, benchmarking it against the EQF, reveals both strengths and areas for potential development.

- **Competence-Based Approach:** Both the UVQF and the EQF are fundamentally based on learning outcomes defined in terms of knowledge, skills, and competences. This ensures that qualifications are relevant to the needs of the labour market and that assessment focuses on what individuals can *do*. The UVQF explicitly emphasizes Competence-Based Education and Training (CBET) principles.

- **Level Descriptors:** The UVQF, like the EQF, utilizes a system of levels to classify qualifications based on increasing levels of learning achievement, autonomy, and

responsibility. However, the UVQF currently has **5** levels (Level 1 to Level 5), while the EQF has eight. This provides a basis for comparing and potentially aligning qualification levels.

- **Recognition of Prior Learning (RPL):** The UVQF, similar in principle to the EQF's emphasis on validation of non-formal and informal learning. The "Worker's PAS (Practically Acquired Skills)" within the UVQF is a specific mechanism for this, particularly as they represent majority of vocational learners in Uganda. Therefore, recognizing skills and competences acquired outside formal education is crucial for integrating, including and recognizing individuals with practical and craftmanship experience acquired informally at work into the formal qualification system as in Uganda.

- **Stakeholder Involvement:** The development of occupational standards and training packages under the UVQF involves collaboration with industry and employers, mirroring the EQF's encouragement of stakeholder participation to ensure relevance.

- **Modularization:** The UVQF promotes modular training, allowing for flexible learning pathways and recognition of partial qualifications, a feature also supported by the EQF to enhance accessibility and cater to diverse learning needs.

2.4 National TVET Qualifications Framework for Uganda

The Technical Vocational Education & Training (TVET) Policy: Implementation Standards (2020) from the Ministry of Education and Sports, includes the National TVET Qualifications Framework for Uganda identifying existing qualifications and **8** levels descriptors to those comparable to the EQF. In addition, **10** competences are articulated for the learning achievement to be demonstrated at each of the 8 levels of qualification. It goes further to identify three constituent elements of applied competence namely:

- **foundational competence** embracing the intellectual /academic skills of knowledge together with analysis, synthesis and evaluation, which includes information processing and problem solving

- **practical competence** which includes the concept of operational context

- **reflexive competence** incorporates learner autonomy

Figure 4 : THE UGANDAN NATIONAL TVET QUALIFICATIONS FRAMEWORK [4]

EIGHT MOST COMMON LEVEL DESCRIPTORS

Level	Examples of qualifications and related competences
8	**Doctoral degree**; Senior Manager VQ - jobs requiring the knowledge, creativity and leadership skills to deal with complex and unpredictable situations.
7	**Master degree**; Specialist Professional Qualifications; Senior Manager VQ - specialist knowledge-based professional work; high-level management responsibilities.
6	**Bachelor's degree**/ Honours degree; Professional Qualifications; Middle Manager VQ - knowledge-based professional work; management responsibilities.
5	**Higher Education Certificate and Diploma**; Technician/Specialist VQ; Para-professional Qualification; Advanced Vocational Qualification - highly skilled employment; management training.
4	Senior School Exit Qualification; Advanced Craft VQ; Supervisory VQ - fully skilled employment; independent operative; supervisory responsibilities.
3	Junior School Exit Qualification; Intermediate VQ - skilled/semi-skilled employment.
2	Basic VQ - skills required to function in the workplace.
1	Literacy and Numeracy Qualification - skills required to enter the workplace and undertake vocational training.

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[4] Technical Vocational Education and Training (TVET) Policy : Implementation Standards (2020) p45

3 The European Sustainability Competence Framework

Figure 5 : Visual Representation of GreenComp[5]

3.1 Overview

Green Comp – **The European Sustainability Competence Framework** is a framework for sustainability education responding to the European Green Deal. It outlines competences to equip learners with the knowledge, skills, and values to act responsibly towards environmental and public health issues.

GreenComp seeks to cultivate a profound understanding of environmental sustainability from a young age. Recognizing the interconnectedness between humans and nature, it equips learners with the necessary knowledge, skills, and values to become active participants in creating a more sustainable future. By fostering a sustainability mindset,

A **sustainability competence** is defined by **GreenComp** as one that "*empowers learners to embody sustainability values, and embrace complex systems, in order to take or request action that restores and maintains eco- system health and enhances justice, generating visions for sustainable futures.*"

3.2 Competences

GreenComp consists of 12 competences organised into four areas , which are relevant for lifelong learning in sustainability as well as training for sustainable green jobs.

-Embodying sustainability values, includes the competences
* *valuing sustainability*
* *supporting fairness*
* *promoting nature*

-Embracing complexity in sustainability, includes the competences
* *systems thinking*
* *critical thinking*
* *problem framing*

- Envisioning sustainable futures includes the competences
* *futures literacy*
* *adaptability*
* *exploratory thinking*

- *Acting for sustainability,* including the competences
* *political agency*
* *collective action*
* *individual initiative*

The **12** competences are then further broken down into Knowledge, Skills and Attitudes

Figure 6 : GreenComp Competence Descriptors[6]

AREA	COMPETENCE	DESCRIPTOR
1. Embodying sustainability values	1.1 **Valuing sustainability**	To reflect on personal values; identify and explain how values vary among people and over time, while critically evaluating how they align with sustainability values.
	1.2 **Supporting fairness**	To support equity and justice for current and future generations and learn from previous generations for sustainability.
	1.3 **Promoting nature**	To acknowledge that humans are part of nature; and to respect the needs and rights of other species and of nature itself in order to restore and regenerate healthy and resilient ecosystems.
2. Embracing complexity in sustainability	2.1 **Systems thinking**	To approach a sustainability problem from all sides; to consider time, space and context in order to understand how elements interact within and between systems.
	2.2 **Critical thinking**	To assess information and arguments, identify assumptions, challenge the status quo, and reflect on how personal, social and cultural backgrounds influence thinking and conclusions.
	2.3 **Problem framing**	To formulate current or potential challenges as a sustainability problem in terms of difficulty, people involved, time and geographical scope, in order to identify suitable approaches to anticipating and preventing problems, and to mitigating and adapting to already existing problems.

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[6] https://storyline.education/resources/greencomp

3. Envisioning sustainable futures	**3.1 Futures literacy**	To envision alternative sustainable futures by imagining and developing alternative scenarios and identifying the steps needed to achieve a preferred sustainable future.
	3.2 Adaptability	To manage transitions and challenges in complex sustainability situations and make decisions related to the future in the face of uncertainty, ambiguity and risk.
	3.3 Exploratory thinking	To adopt a relational way of thinking by exploring and linking different disciplines, using creativity and experimentation with novel ideas or methods.
4. Acting for sustainability	**4.1 Political agency**	To navigate the political system, identify political responsibility and accountability for unsustainable behaviour, and demand effective policies for sustainability.
	4.2 Collective action	To act for change in collaboration with others.
	4.3 Individual initiative	To identify own potential for sustainability and to actively contribute to improving prospects for the community and the planet.

3.3 Delivery methods & Assessment

Possible approaches for delivery and assessment of the GreenComp competences

- active learning.
- student-centred, design-based, project-based, transformative (situated) learning contexts.
- gamification
- role plays, experimental games and simulations
- analysis of real-world case studies taken from the local context
- blended and online learning
- project-based learning
- outdoor approaches
- collaborative approaches (cooperation with external partners).

- Project-Based Assessments with Sustainability Focus:
- Scenario-Based Assessments and Problem-Solving Tasks
- Use the competences to design new forms of certification for green competences.

3.4 Some Practical Examples

*A **schoolteacher** promotes student outdoor learning to improve awareness of environmental risks in their local school community. She encourages her students to produce education posters which are judged and then the best displayed within their local community about responsible consumption and waste reduction.*

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> *A young VET trainee* overcomes his eco-anxiety by joining the **Trash Hero movement** clean-up effort in a local area to prevent and clean up plastic waste and rebuilds his confidence by taking personal initiative and engaging in collective action with his peers.

Both case studies used critical, systems and exploratory thinking, personal initiative and collective action which demonstrated many of the Greencomp competences. They also help their community to transition towards a more circular model, where inclusiveness and safety are promoted, together with (toxic) waste reduction, plastic clean-up and responsible consumption.

3.5 Private Sector and Social Partner Inclusion

GreenComp was based on a consensus of experts on sustainability education and lifelong learning from academia and research institutions, youth representatives, educators, policy representatives from EU Member States and NGOs. It is not explicitly stated that private sector organisations nor other social partners such as trade unions, women's organisations, migrant or disabled worker groups were consulted for greater inclusion.

3.6 Potential Transferability for Uganda

As a reference tool, *GreenComp* could serve a wide range of purposes, including acting as competency standards in Uganda to:

- "Green" existing VET curricula.
- re-design of "green" teacher education in schools and vocational trainer programmes.
- (self-) assessment/reflection of education and training professionals.
- Green policy development for VET
- Develop new green VET certification and assessment
- Monitoring and evaluation of "green VET"

2. The European Quality Assurance in Vocational Education and Training Framework:

4.1 Overview

The European Quality Assurance in Vocational Education & Training Framework **EQAVET** offers a common quality assurance framework for Vocational Education and Training (VET) across Europe. It applies to various learning environments and providers, including public schools, private institutions, and work-based learning schemes.

Figure 7 : EQAVET Indicators for Quality Cycle Phases: Provider Level

Indicators for each phase of the quality cycle: provider level

1. Planning	2. Implementation	3. Evaluation	4. Review
• European, national and regional VET policy goals/objectives are reflected in the local targets set by the VET providers • Explicit goals/objectives and targets are set and monitored, and programmes are designed to meet them • Ongoing consultation with social partners and all other relevant stakeholders takes place to identify specific local/ individual needs • Responsibilities in quality management and development have been explicitly allocated • There is an early involvement of staff in planning, including with regard to quality development • Providers plan cooperative initiatives with relevant stakeholders • The relevant stakeholders participate in the process of analysing local needs • VET providers have an explicit and transparent quality assurance system in place • Measures are designed to ensure compliance with data protection rules	• Resources are appropriately internally aligned/assigned with a view to achieving the targets set in the implementation plans • Relevant and inclusive partnerships, including those between teachers and trainers, are explicitly supported to implement the actions planned • The strategic plan for staff competence development specifies the need for training for teachers and trainers • Staff undertake regular training and develop cooperation with relevant external stakeholders to support capacity building and quality improvement, and to enhance performance • VET providers' programmes enable learners to meet the expected learning outcomes and become involved in the learning process • VET providers respond to the learning needs of individuals by using a learner – centred approach which enable learners to achieve the expected learning outcomes • VET providers promote innovation in teaching and learning methods, in school and in the workplace, supported by the use of digital technologies and online-learning tools • VET providers use valid, accurate and reliable methods to assess individuals' learning outcomes	• Self-assessment/self-evaluation is periodically carried out under national and regional regulations/frameworks or at the initiative of VET providers, covering also the digital readiness and environmental sustainability of VET institutions • Evaluation and review covers processes and results/outcomes of education and training including the assessment of learner satisfaction as well as staff performance and satisfaction • Evaluation and review includes the collection and use of data, and adequate and effective mechanisms to involve internal and external stakeholders • Early warning systems are implemented	• Learners' feedback is gathered on their individual learning experience and on the learning and teaching environment. Together with teachers', trainers' and all other relevant stakeholders' feedback this is used to inform further actions • Information on the outcomes of the review is widely and publicly available • Procedures on feedback and review are part of a strategic learning process in the organisation, support the development of high-quality provision, and improve opportunities for learners. • Results/outcomes of the evaluation process are discussed with relevant stakeholders and appropriate action plans are put in place

The framework uses indicative descriptors with contrasting statements to help countries assess their VET quality assurance systems and identify areas for improvement. Additionally, reference indicators help evaluate and improve both national VET systems and individual VET providers.

The quality cycle has 4 main phases: PLAN, IMPLEMENT, EVALUATE, REVIEW (P.I.E.R)and the EQAVET indicators and descriptors are aligned to these phases both at system and provider level.

4.2 The 10 reference indicators

Indicator 1: Relevance of quality assurance systems for VET providers
Indicator 2: Investment in training of teachers and trainers
Indicator 3: Participation rate in VET programmes
Indicator 4: Completion rate in VET programmes
Indicator 5: Placement rate of graduates from VET programmes
Indicator 6: Utilisation of acquired skills at the workplace
Indicator 7: Unemployment rate in the country
Indicator 8: Prevalence of vulnerable groups
Indicator 9: Mechanisms to identify training needs in the labour market
Indicator 10: Schemes used to promote better access to VET and provide guidance to (potential) VET learners

Descriptors related to these indicators have been aligned with the Quality Cycle with the result that there are very compact one-page guides for both VET providers as well as VET systems at country wide level.

Figure 8 : EQAVET Indicators for Quality Cycle Phases: System Level

Indicators for each phase of the quality cycle: system level

1. Planning	2. Implementation	3. Evaluation	4. Review
• Goals/objectives of VET are described for the medium and long terms, and linked to European and Sustainable Development Goals taking into account environmental sustainability considerations • Social partners and all other relevant stakeholders participate in setting VET goals and objectives at the different levels • Targets are established and monitored through specific indicators (success criteria) • Mechanisms and procedures have been established to identify the training needs of the labour market and society • An information policy has been devised to ensure optimum disclosure of quality results/outcomes subject to national/regional data protection requirements • Standards and guidelines for recognition, validation and certification of competences of individuals have been defined • VET qualifications are described using learning outcomes • Mechanisms are established for the quality assurance of the design, assessment and review of qualifications • VET programmes are designed to allow flexible learning pathways and to respond quickly to changing labour market needs	• Implementation plans are established in cooperation with social partners, VET providers and other relevant stakeholders at the different levels • Implementation plans include consideration of the resources required, the capacity of the users and the tools and guidelines needed for support • Guidelines and standards have been devised for implementation at different levels. These guidelines and standards include assessment, validation and certification of qualifications • Implementation plans include specific support towards the training of teachers and trainers, including for digital skills and environmental sustainability • VET providers' responsibilities in the implementation process are explicitly described and made transparent • A national and/or regional quality assurance framework has been devised and includes guidelines and quality standards at VET-provider level to promote continuous improvement and self-regulation	• A methodology for evaluation has been devised, covering internal and external evaluation • Stakeholder involvement in the monitoring and evaluation process is agreed and clearly described • The national/regional standards and processes for improving and assuring quality are relevant and proportionate to the needs of the sector • Systems are subject to self-evaluation, internal and external review, as appropriate • Early warning systems are implemented • Performance indicators are applied • Relevant, regular and coherent data collection takes place, in order to measure success and identify areas for improvement. Appropriate data collection methodologies have been devised, e.g., questionnaires and indicators/metrics	• Procedures, mechanisms and instruments for undertaking reviews are defined and used to improve the quality of provision at all levels • Processes are regularly reviewed and action plans for change devised. Systems are adjusted accordingly • Information on the outcomes of evaluation is made publicly available

4.3 Potential Transferability for Uganda

Integration of EQAVET Principles: A more explicit adoption and adaptation of the principles and indicators of the European Quality Assurance Reference Framework for Vocational Education and Training (EQAVET) could further strengthen the quality assurance mechanisms within the Ugandan VET system. This could involve a systematic approach to planning, implementation, evaluation, and review of VET provision at both system and provider levels.

Data Collection and Analysis: Strengthening the systematic collection and analysis of data related to the UVQF, such as completion rates, graduate employment, and employer satisfaction, would provide valuable evidence for continuous improvement, aligning with the EQAVET emphasis on evidence-based quality assurance.

Figure 9: The Entrepreneurship Competence Framework[7]
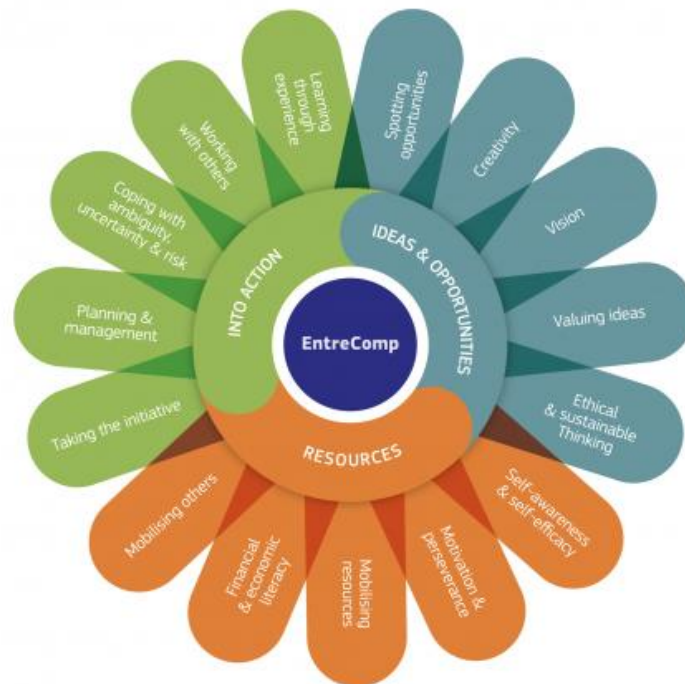
5.1 Overview

Purpose

The purpose of the framework is to develop the entrepreneurial capacity of European citizens and organizations. The framework can be applied to formal, non-formal, and informal learning contexts, including education, work, and civic engagement. The EntreComp Framework, is designed to foster entrepreneurial skills and mindsets across various contexts. According to the framework, entrepreneurship is seen as a lifelong skill that can be developed and applied in various aspects of life. It emphasizes creating value for others, which can be financial, cultural, or social. The framework is designed to be used across different sectors and learning environments, breaking down barriers between education, work, and civic engagement.

Components of the Framework

The framework is divided into three interrelated competence areas:

a) **Ideas and Opportunities**

This area focuses on spotting opportunities, creativity, vision, valuing ideas, and ethical and sustainable thinking.

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[7] https://www.gzs.si/entrecompfood/vsebina/Entrepreneurship/About-EntreComp

b) **Resources**
This includes mobilizing resources, financial and economic literacy, mobilizing others, and self-awareness and self-efficacy.

c) **Into Action**
This area covers taking the initiative, planning and management, coping with uncertainty, learning through experience, and working with others.

The framework has **15** competencies which are intertwined and unfold into **442** learning outcomes. As part of the framework, there is a progression model. The EntreComp Progression Model outlines the development of entrepreneurial proficiency across four main levels: Foundation, Intermediate, Advanced, and Expert.

Each level is divided into two sub-levels. At the **Foundation level**, entrepreneurial value is created with external support. As one progresses to the **Intermediate level,** value creation occurs with increasing autonomy. The Advanced level focuses on developing the responsibility to transform ideas into action. Finally, at the Expert level, the value created has a considerable impact within its reference domain. This model provides a structured pathway from initial value creation with support to achieving significant, independent impact.

5.2 Delivery Methods & Assessment

The delivery methods for most of the time in Uganda utilise classroom-based approaches, less on peer and work-based learning. There is limited use of gamified digital tools.

A few institutions are applying project-based learning e.g. in MUBS this is being used. Skills of learners are evaluated largely through formal exams. In VET institutions, skills are also evaluated based on the practical projects that the students undertake.

In the lower secondary education, the competence-based curriculum evaluates students based on class projects.

In higher education like MUBS. Student do field based work and are assessed accordingly. Other students also do internship (Field Attachment) with maximum credit units.

The major gap here is field supervisors and academic supervisors need to familiarise themselves with green practices

5.3 Potential Transferability for Uganda

1. Ethical and Sustainable Thinking
Learning Outcome: Recognize the impact of entrepreneurial actions on the environment and society, and act responsibly.

- *VET (Vocational Education and Training):* Trainees can learn to integrate sustainable practices in their trades, such as using eco-friendly materials in construction or adopting energy-efficient and climate smart techniques in agriculture.
- *Higher Education:* Students can engage in projects that focus on sustainable development, such as designing renewable energy solutions or developing green business models that prioritize environmental sustainability.

2. Mobilizing Resources
Learning Outcome: Identify and responsibly manage the resources needed to turn ideas into action.

- *VET:* Trainees can learn to source and utilize local, sustainable materials for their projects, reducing costs and environmental impact. For example, using locally available bamboo for construction instead of imported materials.
- *Higher Education:* Students can develop skills in securing funding and partnerships for green initiatives, such as grants for renewable energy projects or collaborations with NGOs focused on environmental conservation**.**

Create awareness about the need to conserve the environment in the process of resource acquisition and exploitation eg the new EU requirement on coffee certification by local authorities in Uganda against cutting trees in coffee plantations.

5.4 Private Sector Partnership

This happens mostly in oil and gas and banking and joint ventures are increasingly occurring. It is a requirement for education institutions to involve industry when developing or revising programmes (courses).

For training delivery, the private sector participates by accommodating students for a given period (1 – 3 months) depending on the profession/sector.

For VET, students do get assessed on projects undertaken practically(practicum). This course is jointly assessed by academics and sector experts.

For Higher Education, specifically in MUBS, students in specific programmes like Bachelor of Business Computing do final year projects (Capstones). Students may choose to translate these into start-ups supported by the MUBS EIIC and the Faculty and industry philanthropy.

In the Bachelor of Tourism and Hospitality programmes, they are jointly assessed by academics and industry during the annual hospitality day. In other programmes, like the Bachelor of Entrepreneurship (BENT), students are lectured by entrepreneurs in addition to field visits to enterprises at least once in a semester.

5.5 Social Partner Inclusion

We have none here. In MUBS however, we have been engaged in redesign of academic programmes at master's level and that's where we have had industry participating in these. Even then, we have not had refugees or other forms of vulnerable groups engage in this exercise.

6. The European Credit System for Vocational Education and Training

6.1 Overview

The European Credit System for Vocational Education and Training (ECVET) is a European Union initiative established to facilitate the recognition and transfer of learning outcomes achieved by individuals in vocational education and training (VET) across different countries and learning contexts.

6.2 Learning Outcomes & Qualifications

Qualifications are described in terms of **Learning Outcomes**, in other words what a learner knows, understands, and can do upon completion of a learning process, rather than solely focusing on the duration of study or the type of institution.

Qualifications are broken down into smaller, self-contained **Units of Learning outcomes**, each that can be assessed, validated, and recognized independently.

ECVET Points: These are numerical values allocated to qualifications and units of learning outcomes to indicate the volume of learning and the relative weight of the units within a qualification.

60 ECVET points generally represent the learning outcomes achieved in one year of full-time VET.

Credit Transfer and Accumulation: Learners can have their assessed and validated learning outcomes (expressed in units and ECVET points) recognized and transferred towards a qualification in another context or country. This allows for the accumulation of credits from different learning experiences to achieve a full qualification.

6.3 Private Sector & Social Partner Inclusion

The European Credit system for Vocational Education and Training (ECVET) was designed and implemented with significant involvement from the private sector. Recognizing the crucial role of VET providers, which include both public and private training centres and enterprises, ECVET's development emphasized broad stakeholder engagement. Private training organizations and companies actively participated in pilot projects, testing and refining the system's practical application in real-world vocational settings.

Social partners, representing both public and private sector interests, contributed to aligning qualifications and learning outcome recognition with labour market demands. Industry representatives provided insights into skills needs and the role of ECVET in facilitating mobility relevant to their sectors. The perspectives of VET providers, both public and private, were central to the development of ECVET guidance and tools, ensuring the system's practicality and effectiveness for its primary users.

6.3 Potential Transferability for Uganda

Support lifelong learning: Enable individuals of all genders to accumulate and transfer learning outcomes acquired through formal, non-formal, and informal learning towards achieving recognized and validated qualifications in Uganda

Promote mobility: Make it easier for learners and workers, including those who may be disabled to move between different educational institutions, training systems and sectors, within Uganda, within the 8 East African Community Member States and The African Continental Free Trade Area (AfCFTA)

Increase transparency and quality: Make qualifications and learning outcomes more understandable and comparable across different sectors and systems. i.e. Ugandan state and private vocational training institutions .

Foster cooperation: Encourage partnerships between VET institutions and employers and other stakeholders at national, regional, Pan African and international levels.

The Digital Competences Framework for Educators

Figure 10: The DigiCompEdu Framework[8]
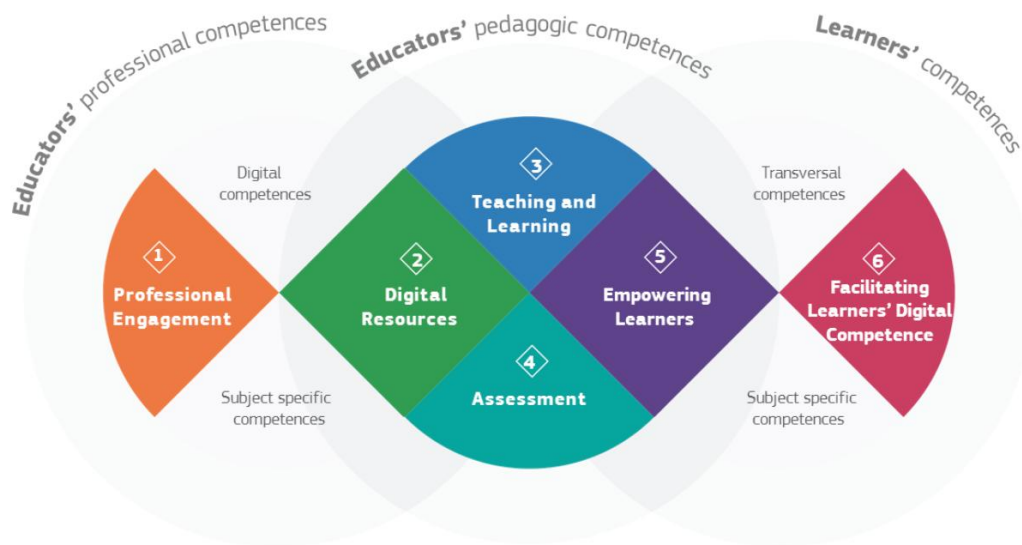
7.1 Overview

DigCompEdu provides a robust and nuanced understanding of the digital competences that are essential for educators in the 21st century. It moves beyond basic IT skills to focus on the effective and innovative use of digital technologies to enhance teaching, support learning, and empower both educators and students in a rapidly evolving digital world. **It** serves as a valuable tool for individual educators, educational institutions, and policymakers in promoting digital literacy and pedagogical innovation within the education sector.

The **European Framework for the Digital Competence of Educators (DigCompEdu)** is a comprehensive and scientifically sound framework developed by the European Commission's Joint Research Centre (JRC). It aims to define and describe what it means for educators to be digitally competent. Unlike the DigComp framework, which focuses on the digital competence of citizens, DigCompEdu is specifically tailored to the needs and professional context of educators across all levels of education, from early childhood to higher and adult education, including vocational training and special needs education.

With a focus on Pedagogical application, DigCompEdu goes beyond basic technical skills. Its primary focus is on how educators can effectively leverage digital technologies to enhance

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[8] https://joint-research-centre.ec.europa.eu/digcompedu_en

and innovate their teaching and learning practices. It emphasizes the pedagogical use of technology rather than mere technical proficiency.

7.2 Competency Areas

The framework identifies 22 specific competences organized into six interconnected areas:

- **Professional Engagement:** This area focuses on how educators use digital technologies for professional development, communication, collaboration with colleagues, and managing their professional digital identity. Examples include participating in online professional networks, using digital tools for reflective practice, and understanding the implications of digital transformation in education.
- **Digital Resources:** This area concerns the selection, creation, and management of digital resources for teaching and learning. It includes skills like searching for and evaluating digital content, adapting and modifying resources, understanding copyright and licensing, and managing digital learning environments. For instance, an educator might learn to curate open educational resources (OERs) or create interactive digital exercises.
- **Teaching and Learning:** This is a core area focusing on the pedagogical integration of digital technologies in the classroom. It encompasses designing and planning technology-enhanced learning activities, managing and orchestrating digital tools in the classroom, promoting collaboration and self-regulated learning through digital means, and using digital technologies to cater to diverse learners. An example is using online platforms for blended learning or employing digital storytelling techniques.
- **Assessment:** This area addresses the use of digital technologies for assessment purposes. It includes employing digital tools for formative and summative assessment, providing feedback electronically, analysing learning data to inform teaching, and understanding the ethical considerations of digital assessment. For example, using online quizzes for instant feedback or analysing student performance data from a learning management system.
- **Empowering Learners:** This area highlights the importance of using digital technologies to enhance learners' autonomy, accessibility, and creativity. It includes fostering digital inclusion, personalizing learning experiences with technology, promoting digital collaboration among students, and encouraging learners' digital creativity and problem-solving skills. An example is using assistive technologies to support students with special needs or employing digital tools for student-led projects.
- **Facilitating Learners' Digital Competence:** This crucial area focuses on the educator's role in developing their students' digital competence. It involves teaching students how to find and evaluate online information, communicate and collaborate digitally, create digital content responsibly, ensure online safety and well-being, and solve technical problems. An example is guiding students on evaluating the reliability of online sources or teaching them about digital citizenship and online safety.

Proficiency Progression Model:

DigCompEdu includes a progression model with six proficiency levels (A1 - Newcomer, A2 - Explorer, B1 - Integrator, B2 - Expert, C1 - Leader, C2 - Pioneer) for each of the 22 competences. This allows educators to self-assess their current level of digital competence and identify areas for development.

The framework is designed to action oriented, providing a basis for developing training programmes, self-assessment tools, and policies aimed at enhancing educators' digital competence. It encourages educators to reflect on their practices and identify ways to integrate digital technologies more effectively.

7.3 Potential Transferability for Uganda

While the digital divide and infrastructural limitations present real obstacles, the adoption of DigCompEdu in Uganda's vocational training sector holds immense promise. By acknowledging the challenges and creatively leveraging the opportunities, with a strong focus on contextualization, language and foundational skills, Uganda can empower its vocational trainers to shape a digitally skilled future workforce via the following:

- **Focus on Foundational Skills:** Prioritize building basic digital literacy skills among educators before focusing on more advanced DigCompEdu competences.
- **Leverage Mobile Technologies:** Recognize the widespread use of mobile phones and explore mobile learning solutions for professional development and resource access.
- **Invest in Infrastructure Development:** Advocate for and support initiatives aimed at improving internet connectivity, electricity access, and the availability of affordable digital devices in educational and vocational training institutions.

8. Gender Mainstreaming, Disability and Social Inclusion for skills for green jobs in Uganda.

8.1 Overview

"…*there* is *an insufficient number of trainers with the required CBET trainers' competences; limited industry participation; and inadequate research support services. Other challenges include poor geographical distribution and location of TVET institutions; negative perceptions of TVET; low enrolment for females in Science, Technology, Engineering and Mathematics (STEM) related courses and unfriendly environment for people with special needs.*"[9]

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[9] The Republic of Uganda, Ministry of Education and Sports, The Technical Vocational Education and Training (TVET) Policy : Implementation Standards (2020)-Problem Statement.

The opening quote sums up the various challenges and barriers hindering successful TVET implementation in Uganda, highlighting the urgent need for building the capacities of trainers, actively involving the private sector and improving the data and research services as well as gender equality mainstreaming, disability and social inclusion of vulnerable members of the population. This would include refugees from conflicts as well the increasing number of internally displaced people because of climate related disasters within the country. All of these factors would need to be consciously mainstreamed into Ugandan frameworks and policies for VET.

It is also crucial to recognize the intersection of gender and disability for example for women with disabilities as well as teenage mothers for example, may face unique and compounded barriers. Mainstreaming efforts within VET should therefore consider these intersections and develop inclusive strategies that address the specific needs of individuals facing multiple forms of discrimination. This would include access of rural and urban youth to TVET due to the poor geographical distribution and location of TVET institutions.

https://mastercardfdn.org/en/articles/light-for-the-world-and-mastercard-foundation-partner-to-enable-youth-employment-for-young-africans-with-disabilities/

Therefore, by integrating a gender and disability sensitive or even transformative approach and perspectives into all stages of the VET lifecycle in Africa would ensure that the diverse needs and experiences of all learners, particularly women and individuals with disabilities, are addressed. In this way, VET frameworks, policies and implementation can become a powerful tool for promoting greater equity, inclusion, and ultimately, a more diverse and skilled workforce. This requires a conscious and ongoing effort from all stakeholders involved in the design, implementation, and evaluation of VET policy.

For instance, **Gender-transformative practices in VET,** combined with capture of **gender and disability disaggregated data**, offer powerful tools for achieving greater access and outcomes for these groups . Gender-transformative approaches actively challenge traditional gender norms and power imbalances, going beyond simply increasing access and participation.

8.2 Socially Inclusive VET approaches

This is a short overview of some key areas that can be adopted during the VET life cycle to be made more socially inclusive for learners, who are women or who are disabled, (being aware that not all disabilities are physical of visible) or maybe both. However, as our Ugandan partners also highlighted there are pertinent differences between rural and urban VET colleges.

Curriculum Design: Revise VET learning and training materials to eliminate gender stereotypes in occupational roles and promote inclusive language. Use the expertise of NGO's and advocacy groups actively supporting women and/or disabled people into employment and enterprise. For instance, showcasing successful women in traditionally male-dominated fields like STEM and providing diverse examples in entrepreneurship case studies.

Teaching Methodologies: Use inclusive pedagogies that cater to diverse learning styles and needs, including those of learners with disabilities. This could involve flexible learning options, accessible digital tools, and differentiated instruction. Being informed and vigilant from research as well as those sharing their lived experience on how existing teaching methodologies tend to disadvantage and or exclude. VET trainers who are positive role models from these disadvantaged groups can make all the difference and are a testament of VET organisations and businesses walking the talk of gender and disability equity and inclusion.

Assessment: Utilise assessment methods that are fair and accessible to all learners, avoiding biases related to gender as well as disability. This may involve offering alternative assessment formats and providing necessary accommodations for special learning needs, not all of which are visible. In addition, looking at the gender and disability breakdown on the assessors themselves to avoid unconscious biases impacting assessments.

Quality Assurance: Collecting and analysing gender and disability disaggregated data on participation, achievement, and progression to identify disparities and inform targeted interventions. For example, tracking the enrolment and completion rates of women and individuals with disabilities in different VET programme and taking corrective steps to address them in the existing or next iteration of the VET programme.

8.3 Potential for Uganda

Adopting gender and disability transformative approaches within Uganda's Vocational Education and Training (VET) sector is both a matter of equity and a strategic imperative for realizing the nation's Green Growth Development Strategy (UGGDS) 2017/18 – 2030/31.

Enhanced Human Capital and Innovation: By actively dismantling gender stereotypes and removing barriers for individuals with disabilities, Uganda can tap into a wider pool of talent for the burgeoning green economy. Women and persons with disabilities possess unique perspectives and skills that can drive innovation in areas like renewable energy, sustainable agriculture, and waste management. For instance, involving women in the design and implementation of sustainable farming techniques can leverage their traditional ecological knowledge, while the problem-solving skills of persons with disabilities can lead to creative solutions in accessible green technologies.

More Equitable and Inclusive Green Economy: A gender and disability transformative approach ensures that the opportunities created by the green transition are accessible to all segments of society. Without such an approach, green jobs risk replicating existing inequalities, with men dominating technical roles and persons with disabilities facing exclusion due to inaccessible training and workplaces. Targeted VET programs that address specific barriers faced by women (e.g., teenage pregnancy, gendered childcare, cultural norms) and persons with disabilities (e.g., accessible infrastructure, assistive technologies) can lead to a more just and equitable distribution of green economic benefits, aligning with the UGGDS's focus on social inclusiveness and poverty reduction.

Increased Effectiveness of Green Initiatives: Integrating diverse perspectives from the outset leads to the development and implementation of more effective and sustainable green initiatives. For example, involving women in the planning of water management projects can ensure that the needs of all water users are considered, leading to more resilient and equitable outcomes. Similarly, ensuring that green technologies are designed to be universally accessible can increase their adoption and impact across the population. This holistic approach strengthens the likelihood of achieving the UGGDS's goals of climate change adaptation and mitigation, and sustainable natural resource management.

Alignment with National and SDG's: Mainstreaming gender and disability in VET for green jobs directly supports Uganda's commitment to the UGGDS and aligns with broader international frameworks like the Sustainable Development Goals (SDGs), particularly SDG 5 (Gender Equality) and SDG 10 (Reduced Inequalities). Demonstrating progress in these areas can also attract international partnerships and funding for green growth initiatives.

Long-Term Sustainability and Resilience: By equipping a diverse population with skills for green jobs, Uganda can build a more resilient and sustainable economy. A workforce that reflects the diversity of the population is better positioned to adapt to the challenges of climate change and contribute to long-term environmental sustainability. For example, training both men and women in renewable energy technologies creates a larger and more adaptable workforce for this crucial sector. Furthermore, including persons with disabilities in green value chains can foster economic independence and reduce vulnerability within this population.

9.Relevance of European Frameworks for GreenVET4 Curriculum Building Blocks

Using the criteria indicated at the beginning of the report, the 6 chosen EU frameworks were further mapped against the 6 building blocks of the GreenVET4U Curriculum framework:

Mapping of EU Frameworks against GreenVET4U Building Blocks

European Framework	GreenVET4U Building Blocks	Relevance
The European Qualifications Framework : EQF	**A & B**	Enables VET learners to progress and have recognized portable qualifications and skills Helps "green" employers engage workers at a particular qualification and skill level
The European Sustainability Competence Framework : Green Comp	**B & C**	Providing competences for skills development for green jobs and enterprises
The Entrepreneurship Competence Framework : EntreComp	**C**	Providing competences for entrepreneurial skills development for green enterprises
The European Quality Assurance in Vocational Education and Training Framework : EQAVET	**D & F**	Innovating and improving quality of green skills VET systems within state and private sector providers
European Credit System for Vocational Education & Training : ECVET	**A**	Enables VET learners to progress, have recognized portable "green micro credentials", qualifications and lifelong learning
The Digital Competences Framework for Educators : DigCompEDU	**D & F**	Providing competences for digital skills development for green jobs

10. Conclusions

A direct transfer of European framework models without adaptation to Uganda's unique socioeconomic realities as well as their own national priorities and goals is likely at best to be ineffective. For instance, Uganda also needs to address infrastructural challenges such as the limited number of state VET institutions versus the numbers of its burgeoning youth population lacking jobs and skills; shortages of technical and digital equipment for VET providers and access to green finance to encourage private sector companies to invest in and provide decent green jobs.

Nevertheless, the development of contextually relevant VET curricula for green skills and jobs in Uganda, with defined knowledge, skills and competency progression from foundational to mastery levels, is highly relevant to the country and Uganda's Green Growth Strategy. This can be achieved by strategically leveraging its existing National Qualifications Framework (NQF), potentially aligning it with the European Qualifications Framework (EQF). Furthermore, frameworks like GreenComp offer valuable inspiration for integrating sustainability competencies across all educational levels, from primary and secondary schooling to VET curricula within state and private institutions.

The established principles of EQAVET are crucial for fostering lifelong learning within this green VET context. These principles—promoting mobility, enhancing transparency and quality, and cultivating robust cooperation and partnerships among VET institutions and stakeholders at national, regional (East African), continental (Pan African), and international levels—are key enablers.

To cultivate a culture of green entrepreneurship, EntreComp can serve as a blueprint for designing entrepreneurship modules integrated into all green skills VET curricula. This will empower graduates to establish their own green businesses and generate employment opportunities within their communities.

Moreover, effective green skills development necessitates a focus on learner-centred, socially inclusive and gender-transformative approaches, combined with practical, hands-on training. This includes adopting learner-centred pedagogies, offering flexible learning pathways and personalized support, and prioritizing experiential learning in green skills acquisition, all underpinned by appropriate quality standards.

The GreenVET4U project, with its focus on curriculum design and skills development for green jobs and work-based learning in Uganda, can attempt to harness some of these key competencies and to draw out the learning for scalability and sustainability. This strategic integration will be instrumental in ensuring the relevance, social inclusion, and overall quality of green skills training within the Ugandan context.